

How am I generating a living theory of environmental activism with inclusionality?

by

Philip J. Tattersall

Dip. Lab. Tech., Grad. Dip. Sust. Ag.

M.Sc. (Honours)

A Thesis submitted in fulfilment of the requirements for the
award of the degree of

DOCTOR OF PHILOSOPHY

From

The University of Western Sydney

School of Natural Sciences

October, 2011

Statement of Authentication

The work presented in thesis is, to the best of my knowledge and belief, original except as acknowledged in the text.

I hereby declare that I have not submitted this material, either in whole or in part, for a degree at this or any other institution.

.....

Philip J. Tattersall

ABSTRACT

This thesis is a self-study of my development as an environmental activist. I trace the generation of my living theory of environmental activism over a period of 37 years, working and researching within the cultural context of a 6th generation Tasmanian. The originality of the thesis lies in both its methodological inventiveness and original contribution to knowledge in explaining the development of an environmental activist through propositional, dialectic and inclusional phases of inquiry and understanding.

Methodologically the thesis uses insights from ethnomethodology in a life history narrative that shows the importance of creative responses to both family relationships and scientific enquiry in growing through a dialectical process towards an inclusional self-awareness of oppressive colonising influences. The development of my 'activist' approaches and styles are described and analysed in terms of two transitional phases, firstly into a young scientist using detached, propositional methods of inquiry, then into environmental activism, using dialectical methods, prior to my on-going emergence into natural inclusional approaches. The analysis includes categories from traditional learning theories.

In an analysis of my values and standards of judgement Living Theory is used to describe, analyse and discuss a series of 'Living Contradictions' leading to my unexpected appreciation of 'Natural Inclusional ways of knowing'. I see Natural Inclusionality as having possible future application in social activism. Natural Inclusional standards of judgement of environmental activism are used as a fluid creation to evaluate the quality of the thesis, including its contribution to living epistemologies and ontologies.

This thesis offers an original contribution to knowledge of a new form of social activism, Community Based Auditing (CBA), as a methodology conceived within what is described as 'Post Normal Science'. The need for further development and refinement of this methodology is discussed, along with the case for its use and illustrative examples of its application.

ACKNOWLEDGEMENTS

The thesis is a distillation of an odyssey lasting nearly 40 years. The research reported here represents some 7 years work and it too has been an odyssey of sorts. Like all journeys it is much more than the deeds of a single person. I owe much to those who have supported and encouraged me.

My thanks go to Maree Gruppetta, my Principal Supervisor, for her invaluable support and encouragement during thesis production and editing. Thanks also to Gavin Ramsay and Tony Webb for their advice during the early stages of my research.

I thank the University of Western Sydney for making available a Research Training Scheme Placement.

Without the insights and guidance from my mentor Professor Jack Whitehead the thesis would never have taken on its final form – I owe Jack so much for showing me a ‘new way’. Jack encouraged me to publish my work on Living Theory and I have grown so much through that experience. In introducing me to the ideas of Natural Inclusionality¹ (Rayner 2011a, pp.12- 124) Dr. Alan Rayner enabled me to take a new path as I continue to develop my ideas on community involvement. Alan is a true visionary and I have benefited immensely from our collaboration.

I thank Branko Bogнар, senior Editor of Educational Journal of Living Theories, for his support and guidance in the publication of my work.

My thanks also to Professor Brian Martin for his support and encouragement during the research process

¹ 'Natural inclusionality' is a new way of understanding all evolutionary organization as 'flow-form'. It arises from two fundamental innovations in thought:

1. The recognition that natural boundaries are intrinsically energetic 'dynamic interfacings' between distinct localities, not the 'inert limits' of discrete objects 2. The recognition that natural boundaries can only be dynamic through the inclusion of space as infinite, intangible, frictionless-and hence receptive presence. (http://www.inclusionality.org/index.php?option=com_content&view=article&id=3&Itemid=4)

Last but not least a big thank you to my family and friends for bearing with me as I recounted and penned my story. My wife Roxanne and daughter Emma have been my main supporters, reading work and acting as sounding board for all manner of arguments and ideas. Their tolerance has been exemplary.

Preface

This thesis is an example of 'writing from beneath', in which I build a personal theory through an examination of my lived experience. To qualify as a Doctoral thesis the researcher is expected to make an original contribution to knowledge in his or her field. This for me was the first challenge I faced when deciding upon appropriate field into which my research would fit. Writing from beneath in essentially the first person would suggest a narrative methodology. However, Doctoral research should also explore epistemological and ontological issues pertinent to the research. In a sense while research is about improving and challenging our understanding in relation to a 'research issue' (problem) it can also be about improving our understanding of the very philosophical frameworks in which research is conducted.

In the case of the research reported in this thesis I attempt to come to grips with understanding the development of my practice and at the same time seek to locate my contribution into a philosophical framing that not only brings clarity to my discoveries, but also enriches the framing itself. I argue that a narrative approach is one way to achieve these lofty ambitions. I start with the broad questions: how did I become who I am and how can I improve what I do? These, as it turns out, are questions that do not have straightforward answers.

I believe that one of my original contributions lies in enriching the framing of the living standards of judgment that can be used to evaluate the validity of the contributions to educational knowledge, made from the Living Theory perspective developed by Whitehead (2008; 2011; 2012). Here, I recognise

especially the living environment standards of judgment I have clarified and evolved in the course of my inquiry into my environmental activism. In particular I suggest that the development of Community Based Auditing with its grounding in community and Natural Inclusionality (Rayner, 2010; 2011b) makes an original and significant contribution to the knowledge-base and application of living theories. In addition, this development opens up prospects of new approaches to sustainable socio-political management of our human relationships with the natural ecosystems that we inhabit, based on a new kind of scientific praxis (combination of theory and practice).

Embracing Living Theory (Whitehead, 2008) has been a key aspect of this thesis as it has enabled me to locate my research in a theoretical framing that encourages and indeed facilitates the further development of my capacity and allowed the explication of my living standards of judgement. Seeing my life as series of 'Living Contradictions' has been of immense help in making sense of my journey leading to what I believe are useful contributions to Tasmanian environmental activism. This journey has already helped numerous people find hope in their quest for justice, and will hopefully reach many more through the development of one tool in its wake, namely Community Based Auditing.

The kernel of Community Based Auditing is accountability and sharing of responsibility through participation of interested stakeholders, not only in dealing with substantive issues of concern, but also sharing of personal development through co-learning partnerships. This thesis explores the various layers of a journey of understanding as I tell the story of the shared development and application of standards of judgement, which I ultimately apply to the thesis itself. I tell of the highs and lows of an at times very

painful journey that has taken me to the present moment in my life. In this sense the thesis is not a nice tidy story with a 'beginning and an end', rather it is open ended in many ways and relies on the reader to generate interpretations so as to give the story special meaning as the reader hopefully resonates with the narrative.

It is this flow and melding that gives the story an inclusional (Whitehead and Rayner, 2009) dimension as it seeks to loosen boundaries and restrictions between and among people, places, issues and time. In a sense each of us becomes a 'living neighbourhood' where abstract ideas of oneness and autonomy are transformed. In its arguments and discussion this thesis wrestles with this while I remain 'anchored' in the ideas of dialectic thinking and still see my life as a series of 'living contradictions'. That said I see the goal of inclusional thinking as nonetheless achievable, but will require much more work on my part as I am still a prisoner of a post-colonial moment. Thus in a sense the inquiry continues.

Disclaimer

This Thesis reports and interprets my experiences throughout my life. References to other persons (named and not named) is purely in connection to my interpretations at the time in years past. The author wishes to make it clear that he has not purposefully set out to demean, embarrass, deride nor cast aspersions or judgement on any persons, either directly or by association. Rather the writings herein are an interpretation of experiences over a period of many years and the author stresses that those earlier views and interpretations did and do not necessarily hold at the time of publication.

TABLE OF CONTENTS

Statement of Authentication	i
ABSTRACT.....	ii
ACKNOWLEDGEMENTS	iii
Preface.....	iv
Disclaimer.....	vi
TABLE OF CONTENTS	vii
List of Tables	xv
List of Figures	xvi
List of Plates.....	xvii
PART 1.....	1
INTRODUCTION	1
CHAPTER 1	2
MY PROBLEM AND MY QUESTIONS	2
1.1 Introduction.....	2
1.2 Motivations and context for this inquiry	2
1.3 The social formations in which my activism is based	9
1.4 The problem of research when exploring questions of the self.....	17
1.5 How best to guide my inquiry into the self?	18
1.6 Style of writing used in this thesis – from the mind through the quill.....	22
1.7 The cost of looking within	23

1.8 Structure of this thesis	23
CHAPTER 2	26
PHILOSOPHICAL AND THEORETICAL FRAMINGS FOR THE INQUIRY INTO MY LIVING THEORY	26
2.1 Introduction.....	26
2.1 My Philosophy	27
2.2.1 Methods.....	30
2.2.2 Methodology.....	30
2.2.3 Theoretical perspective.....	30
2.2.4 Epistemology	30
2.2.5 Ontology.....	30
2.3 Introduction to the analysis of my research philosophy	31
2.4 Analysis of my research philosophy.....	32
2.4.1 Ontological perspective.....	35
2.4.2 Epistemological perspective	35
2.4.3 Living Theory theoretical perspective.....	36
2.4.4 My research as a story rich in metaphor.....	38
2.4.5 Axiological perspective	40
PART 2.....	42
METHODOLOGICAL APPROACH TO THE INQUIRY.....	42
CHAPTER 3	43
METHODOLOGY	43
3.1 Introduction.....	43
3.2 Choice of theoretical frame	43
3.3 Methodological Frame	45

3.3.1 Methodology.....	45
3.3.2 Locating the Narrative Approach.....	48
3.4 Defining Autoethnography.....	50
3.4.1 Autoethnography and Self Inquiry	51
3.4.2 The Action-Reflection Cycle – the core of the interpretive methodological process.....	51
3.5 I Am the Researcher and the Researched.....	52
CHAPTER 4:.....	53
METHODS AND PROCESSES USED IN THIS INQUIRY.....	53
4.1 Introduction.....	53
4.2 Data gathering methods	54
4.3 Analysis methods	57
4.3.1 Introduction	57
4.3.2 Data analysis.....	57
4.3.3 Metaphor, interpretive processes and literary devices, including thick description	58
4.3.4 Interpretation as method.....	59
4.4 A metaphor for my interpretations	59
4.4.1 The Double Helix.....	59
4.4.2 The workings of my metaphor	62
4.5 Quality control methods used during data gathering and analysis.....	65
4.6 Ethical aspects	68
PART 3.....	69
AUTOETHNOGRAPHY	69
CHAPTER 5	70

MY FORMATIVE YEARS	70
5.1 Introduction.....	70
5.2 A Child Of The Colonial Era	71
The School Years (1960-1971)	79
5.3 Gleanings from my early experiences	93
5.4 My First Transition.....	94
5.4.1 The Young Scientist (1972 – 1983)	94
5.4.2 Gleanings from my transition	104
CHAPTER 6	107
MY ACTIVIST YEARS	107
6.1 Introduction.....	107
6.2 My Progression Towards Activism 1984-1988	107
6.3 The Professional As Activist (1989 – 1998).....	116
6.4 Activism on the very personal front	119
6.4.1 What did I learn from these experiences and what was my direction?.....	124
6.4.2 What were the key outcomes for those I helped?	130
6.5 My Second Transition.....	135
6.6 The Co –Learning Approach (The Move to Community Based Science) (1999 – 2006).....	136
6.6.1 What key things did I learn from my experiences?	140
6.6.2 What were the key outcomes for those I played a role in helping?... ..	146
PART 4.....	152
MY LIVING THEORY – UNDERSTANDINGS, IMPLICATIONS AND REFLECTIONS	152
CHAPTER 7	153
AN ANALYSIS OF MY ACTIVIST STYLES.....	153

7.1 Introduction.....	153
7.2 What is Activism?	154
7.2.1 Activists and social change	155
7.2.2 The Environment movement	156
7.2.3 Environmental activism.....	157
7.3 A Typography for Classifying Activist Styles	159
7.3.1 The citizen and community change	159
7.4 The development of my activist styles	160
7.5 Understanding my current theory of activism	169
7.6 A Framing for analysing my activist theories	170
7.6.1 Genesis of my thinking about my learning.....	170
7.7 The steps toward understanding my paradigm	173
7.7.1 Getting to level 3 learning.....	178
7.8 Analysing my activist theories	182
7.9 My theories of activism down through the years	193
7.9.1 Background to my ‘theory of activism?’	193
7.9.2 My governing variables and action strategies.....	193
7.9.3 My present theory of activism	195
7.10 Good news for other activists?.....	197
CHAPTER 8	201
WHAT IS MY LIVING THEORY TO ME?.....	201
8.1 Introduction.....	201
8.2 Always Becoming	202
8.3 My philosophical journey	203
8.3.1 Evolving Philosophy in the Present ‘Moment’ of My Life	206
8.3.2 A Series of Living Theories.....	208
8.3.3 The Living Contradictions	208

8.3.4 My Living Theory Right Now as I Write This Thesis	211
8.3.5 My Standards of Judgement	211
CHAPTER 9	213
CONTRIBUTIONS TO PRACTICE AND THEORY IN THE SOCIAL FORMATIONS IN WHICH I WORK - <i>Looking Back and Looking Forward</i>.....	213
9.1 Introduction.....	213
9.2 Influences shaping community perceptions of environmentalism	216
9.2.1 The National Context.....	216
9.2 The Tasmanian Context.....	220
9.4 The Dislocation of the Tasmanian Community from Meaningful Decision-Making	227
9.5 Opportunities for the Environment Movement as it Repositions Itself to Engage Community	229
9.6 The importance of personal change.....	235
9.7 Reinvention of Tasmanian Environmental Activism – the challenge on behalf of the community.....	240
9.7.1 Introduction	240
9.7.2 The present role of the environmental activists.....	241
9.7.3 The future role of environmental activists	244
9.8 Normal Science – Only One Way To Inform Decisions	246
9.8.1 Introduction	246
9.8.2 Limitations of our present science	246
9.9 Science and the law	249
9.10 Retooling for a new era of activism	254
9.11 Bringing Science and public participation together.....	258
9.12 The scientist as facilitator and change agent	260

9.13 One Example of Applied Post Normal Science	262
9.14 What is Community Based Auditing?	263
9.14.1 Summary of experiences over the past 6 years	264
9.15 The Origin and Initial Development of Community Based Auditing (1999 to 2003)	265
9.15.1 The origins of CBA.....	265
9.16 The further development of Community Based Auditing (2003 to 2007).....	272
9.16.1 Introduction	272
9.16.2 The philosophy of Community Based Auditing.....	272
9.16.3 Methodological basis of Community Based Auditing.....	273
9.16.4 The key process within Community Based Auditing	276
9.16.5 The disconfirmation process.....	277
9.17 Auditing methods used in Community Based Auditing..	280
9.17.1 The CBA audit process occurs on 3 levels:.....	280
9.17.2 Examples of Community Based Auditing in action.....	281
CHAPTER 10.....	289
RESOLUTIONS, CONCLUSIONS AND REFLECTIONS.....	289
10.1 Introduction.....	289
10.2 At my journey's end?	290
10.3 Implications for me	291
10.3.1 My activist style and practice.....	291
10.4 Implications for activism in Tasmania and Beyond.....	292
10.5 The Future of CBA within an Inclusional Framing.....	294
10.5.1 Embracing the epistemology of Natural Inclusionality	294
10.5.2 How am I generating a living theory of environmental activism with inclusionality?	297

10.5.3 A Postscript	300
REFERENCE LIST	301
Appendix 1: Publications produced during the course of the research	318
Appendix 2: Post Normal Science	320
Appendix 3 : Community Based Auditing Training	333
Appendix 4: Letters from ‘colleagues’ I called upon as sounding boards when I was a young scientist.	335
Appendix 5 : All my activist and advocacy interventions since 1971 listed chronologically and case summaries	337
Case summaries of selected interventions in later years (1972 to present).....	344
Case 1. My First Case of Intellectual Suppression (1972 – 1973).....	344
Case 2. My Second Case of Intellectual Suppression (1978)	347
Case 3. The Years as an Activist Against Toxic Chemicals (1989 – 1993) ...	348
Case 4. The Exeter Tip Issue (1988 – 1995)	353
Case 5. My involvement with the Australian Democrats (1992-1994).....	358
Case 6. The Concerned Citizens of West Tamar Issue (1993 –1994)	360
Case 7. The Exeter Childcare Issue (1996 – 1997)	360
Case 8. The Tasmanian Organic Industry (1989 - 1999).....	366
Case 9. The Community Based Auditing Years (1999 – present)	371
Appendix 6: Colleagues and mentors	373
Appendix 7: Ethics Approval	374

List of Tables

Table 4.1 Quality control processes used in the inquiry.....	67
Table 7.1 The phases of my activist style.....	167
Table 7.2 My theories -in-use 1960-2001.....	200
Table 8.1 My living contradictions over the years.....	210

List of Figures

Figure 2.1 Elements of the research process.....	33
Figure 3.1 Elements of the research process.....	44
Figure 3.2 Methodological structure used in this inquiry.....	47
Figure 4.1 Method set used in the inquiry.....	56
Figure 4.2 My “2 sides”, visualized as a double helix.....	61
Figure 4.3 DNA structure as metaphor.....	64
Figure 7.1 The development of my social conscience and activist practice.....	168
Figure 7.2 My movement toward level 3 learning.....	177
Figure 8.1 My philosophical and methodological development.....	205
Figure 9.1 Relationships among the processes within the CBA methodology.....	275

List of Plates

Plate 1. Photo taken of family and friends at the “Barker’s Shelter”, Valleyfield, circa 1885.....	72
Plate 2. Dad and Mum (Barrie and Patricia Tattersall).....	77
Plate 3. My brother Richard, Poppy (Joe Carey) and me.....	79
Plate 4. Home laboratory founded in early 1967.....	81
Plate 5. Me aged 17 in my home laboratory 1972.....	82
Plate 6. My younger brother Roger in the home laboratory.....	82
Plate 7. TAIC laboratory team in 1971.....	83
Plate 8. My results for Term 1, first year high school.....	85
Plate 9. My model nuclear reactor.....	86
Plate 10. My “ticket to freedom” to the future.....	90
Plate 11. School report August 1971 in my final year.....	91
Plate 12. My Prefect certificate awarded in 1971.....	92
Plate 13. Richard’s report on waterhole sites 1972.....	97
Plate 14. Letter accepting me into the M.Sc. course at University of Kent U.K.....	112
Plate 15. Tasmania, Australia’s southernmost state, 42 degrees South.....	134

PART 1

INTRODUCTION

CHAPTER 1

MY PROBLEM AND MY QUESTIONS

1.1 Introduction

This chapter explains the reasons for my inquiry into my self identity and at the same time locates the inquiry within my social and cultural context. I then move on to discuss the dual purpose of the thesis as involving an exploration of the origins and nature of my practice as well as a search for a location of my contribution within a relevant scholarly theoretical frame. I then continue the chapter with a discussion of how best to guide my 'self-inquiry', finally foreshadowing the virtues of for a narrative approach as a way of achieving the dual purpose of the thesis. The chapter concludes with a discussion on the structure of the thesis.

1.2 Motivations and context for this inquiry

In stating the central problems this research seeks to tackle there are many and varied reasons that would justify my search – my need to resolve the angst, the almost rage, yet earnest desire to break with an inherited 200 year old Tasmanian mind-set that is competitive-aggressive. We are products, and at the same time, victims of our history. Just as once molten rocks retain the distant memory of the fiery furnace of their creation so too does our culture, as it retains the 'memory' of a violent and oppressive history.

Resisting oppression seems to be my mission. At home, at school and in the workplace I would see power used to oppress and manipulate. My resistance has lasted as long as I can remember. I struggle with the tension between the rhetoric about the egalitarian and 'goody-goody society' in which (so we are told) we live, juxtaposed to the reality of daily life. We are told of 'opinion leaders', 'the powers that be', our 'political masters', and the host of other non-sense terms that have contributed to our diminished sense of responsibility as citizens in this age of quest for sustainability. This reality has surfaced many times during my life, having its origins in my early life as I was confronted with family politics. As I grew older and got out into the world I could see that my personal struggles with the misuse of power were not dissimilar to those that others were experiencing, within organizations (school, environmental, sports and church groups, and the work place) and institutions. In fact, the competition and power plays were always evident whenever people gathered.

Although my heightened sensitivity meant that at times I would misread the play, I felt I was accurate in the majority of cases. I would study conversations between adults and found them to be essentially competitive, with folks talking at each other as they vied for opportunity to have their say. I also noticed this competitiveness at school as students fought for the 'top dog' spot. This ethic ran right through the school system – it was all about winning.

This norm reflected the values in the wider community, region, State, and the Nation. This then led to cliques, power groups, and ultimately forms of aggression that saw oppression and suppression used as matter of routine. This created benchmarks or standards of behaviour and an expectation as to what was or was not counted as 'success' at sport, in school or with the quality and quantity of your possessions! So there I was, caught up in yet another wave in time, swept along, doing what was done before, and what would be done after. I found it very depressing. There was such little genuine synergy and sharing – life was all about competition and survival of the fittest, where the best defence was aggression. I remember rebelling against this and would try at every turn to expose and trivialize the behaviour of those who were acting out the expectations they helped create.

It was a subtle form of sabotage promoted through the use of cynical methods that caused individuals to stop and acknowledge their behaviour - a kind of dialectic process on my part as I fought what I saw as competitive aggression. I really felt that people were allowing themselves to be swept along without so much as a thought as to what was really happening. As I grew older, I could see evidence of competitive aggression everywhere. I felt that this mind-set placed community members at a distinct disadvantage in that the very thing communities needed to progress their own betterment² was working together. At the age of 18 these views and perceptions were simply dismissed as nonsense by my family and friends, but I continued to hold on, not realizing how vitally important these ideas would be in later years.

² Dealing with poverty, making communities safe etc

The more involvement I had with community members and citizen groups the more I came to realize how serious the problem was. I soon realized that citizens were open to many forms of manipulation and exploitation. A public that seemed only too pleased to hand over full control to the experts and elected officials was finding itself left to pick up the pieces whenever things went wrong Wittenoom (site of asbestos mining in Western Australia), Maralinga (location of nuclear tests in South Australia) DDT, Thalidomide, the Stolen Generation, the War on Terror are but a few examples of this. We citizens find ourselves being told, lectured at, advised, counselled and provided for by an ever increasing array of service providers, dressed up in all sorts of titles in a bid to extract our permission and money for this, that or the other plan, strategy or initiative that is once again supposedly going save the world on our behalf.

The politicians, media, and public service all tend to manipulate what appears to be a malleable public. By manipulate I mean using the positivist reductionist tools of inquiry in this moment of post-colonial modernity there is always a 'tilt towards deception' (Guba & Lincoln 1994, p.112). I am finding communities across the State treated as if their opinions simply do not matter as government and local councils effectively serve a select few while the bulk of the community do the paying. The taking of public forests and water is one example. Public paying for infrastructure, soil loss and water purification (including the dredging of the Tamar River) while forestry and agricultural operators continue to allow riverine systems to become choked with silt from their operations. For their part, the environment movement, supposedly the advocates for the common good, do not seem to have a relationship with the community. The movement seems to me to be just another institution busily telling communities what is good for them.

The community is paying for that service too. Nearly all of the Environmental Non-Government Organizations (ENGO's) are taxpayer funded.

I also reflect on Landcare and the plethora of other community based initiatives funded by the good old taxpayer with millions paid to agriculture and forestry. My main concern centres on the way community members are expected to accept that they have to do the paying on the basis of decisions made by a select few faceless people. That said it is a two-way street in that citizens have been complicit in bringing about the present environmental crises and loss of their authority as the gatekeepers of democracy. In becoming captive to the 'competitive aggressive' norm they have unknowingly become entangled in the problems they should have been stopping in the first place. For their part the various institutions that comprise the authorities joined forces in attempt to put right the damage caused by the excesses of the past, for example Landcare, Natural Resource Management Strategies, Tas Together³ etc, all the while being unaware that the real cause of our crises lay elsewhere.

As I will show, the sources of our crises are to be found in the roots of our heritage and is to do with our way of thinking, passed down from generation to generation leading to over two hundred years of exploitation and oppression on the part Euro-Man here in the Great Southern Land. Euro-

³ Short for Tasmania Together, a Government-community effort to explore visions for Tasmanian into the future. Further details at: www.tasmaniantogether.com.au

Man⁴ has caused death and destruction wherever it has gone. The conquistadores, the Crusades, the 'take over' of the North and South Americas, the disaster of India, The Green Revolution, the atomic bomb. Mass destruction and suffering was originated by Euro-Man, usually in the name of religion, freedom and liberation! This damage and trauma inflicted by Euro-Man mirrors that found elsewhere around the globe as the white marauders saw it as their God-given right to take possession of what was not theirs.

Australia started out as a convict outpost with a select few (landed gentry) granted the best land and protected by a military and judiciary system that saw them as the "exclusives" or "pure merinos" (Williams, 1961, p.199). This nice little 'deal' meant that control of the colony was in the hands of an aristocracy who did what they liked. I assert that the influences of this colonialism are still alive in today's Tasmania. Tasmania has been isolated from change with the power of the landed gentry still being felt in the church, government bureaucracy and local and State politics. Having spent nearly 20 years in the rural northern midlands of our State, I can speak with some authority regarding the power and influence of the 'colonial rulers'. I believe this colonial state of affairs has created an implicit (but yet to be analysed) social structure here in Tasmania that is based on oppression though officially sanctioned 'invisible' power structures. In short, our community, our environment, and our culture are still suffering the 'aftershocks' of a violent and tragic past. I cannot get past the huge 'blood debt' that remains following the almost complete genocide of the original owners of Tasmania. The penning of that epitaph has barely begun. Who will

⁴ A term I use for Europeans who have continued to spearhead exploitative practices on a global scale like no other race.

speak for the original owners of this sacred land - "Lest We Forget". Again, I hope to throw further light on that later in this thesis. What I am driving at here is that a new oppressive colonialism is very much alive and well. Indeed, 'Tassie Inc.'⁵ is one big happy family of descendants of those early colonialists.

It has become clear to me that despite all the rhetoric about good community, including Tasmania Together⁶, a broadly facilitative process that has run in Tasmania over the past few years aimed at bringing communities into the debate over Tasmania's future, 'clean green' and how wonderful we all are in Tasmania we remain in the grip of power structures that prevent an examination of our culture by the citizenry. This examination is now more necessary than ever if we are to have any chance of empowering our citizens as change agents in their own right in order to take us out of our present colonial crises.

The motivation to undertake my journey of understanding is composed of two mutually interdependent aims. First, to understand my evolution as a 6th generation Tasmanian of convict stock, as I deal with the realization that my rage was forged from nearly 200 years of domination of my ancestors by the colonial oppressors. Second, the chance, in my lifetime, to play a role in changing the current state of affairs by creating opportunities to bring community into the locus of control as capable and confident leaders in their

⁵ A term (Tasmania Incorporated) I use to describe the close and some would say 'cosy' relationships between government, industry and other institutions. In my view partly due to the size of Tasmania and also to the close ties forged since colonial times. The fact that some political families are into their second and third generations as parliamentarians also tends to support this.

⁶ See www.tasmaniattogether.com.au

own right. The first part of the motivation deals with a deeply personal search for identity and location within postcolonial culture. The second part is about drawing on my personal change and emancipation in order to realize improvements in my personal effectiveness such that I can help others in their quest for change. Both are lofty ambitions!

This dissertation takes that reader on a journey into environmental activism, where I identify a number of challenges that occupy my time and energy and at the same time spur me on to further discoveries. Of interest to me is the bridging between my personal journey of change and my ideas and contributions to the next steps in environmental activism here in Tasmania. The unique nature of my journey provided me the opportunity and means to question my heritage, beliefs, motives, and practice. As an activist I could see that my 'failures' were a reflection of the context (Tasmanian activism) in which I was operating. In this way, my personal change is linked to my aspirations for changes in the context. This is 'the bridge' linking my personal change to my context. While some may think such an announcement rather cheeky, I aim to show how my personal change enabled me to contribute to setting the scene for the development of a 'new activism' that will see citizens actively involved.

1.3 The social formations in which my activism is based

Much of what the environment movement is advocating is based on stopping what it sees as irresponsible development, where the word most often used is 'No!' Activists use emotive messaging to great effect in an attempt to bring attention to issues of concern. The targets of protest are decision-makers and citizens, particularly those who may have an

attachment to the issues of concern. Traditionally the choices have been simple: “if this development goes ahead we will lose such and such species...and/or the land will be damaged beyond repair” (paraphrase of numerous pers. comms⁷. over past 30 years). In recent years there have not been the spectacular results achieved by the environment movement in the past. Since the successes of the Franklin and Wesley Vale campaigns, here in Tasmania there have been few real wins despite the large number of environmental issues and campaigns now running in the state. The huge uproar over forest destruction, loss of water (quantity and quality), the prospect of the introduction of genetic engineering technology, and what some argue to be the unfettered expansion of the forest plantation industry now feature as key issues in Tasmania.

My main area of interest is natural resource management, which includes forests, soil, water, fauna, flora, and human communities. My work within communities has revealed deep concerns over the way our resources are managed and it is clear that governments and industry much of the time dismiss legitimate community concerns almost out of hand. In fact, citizens are offered little opportunity to play any meaningful role beyond that of sounding board or perhaps involvement as part of meeting legal obligations on the part of project proponents.

What seems to be missing is some way to bring concerned community members into processes where their voices can be clearly heard. My experience with community groups shows that if given the opportunity

⁷ Personal Communications with colleagues and others.

citizens will engage and push their concerns even though there is shyness and hesitancy to speak out. For their part, activist groups, through their actions and political allegiances, have tended to cut themselves off from the average citizen. Conversations with citizens reveal comments such as, “they are okay, but they go too far...” and “the problem is they are always talking up the negatives...you never hear any positives, only what’s wrong” (pers. comms. with employees and colleagues). These are the very citizens that movement needs to have on side. In a sense then citizens have become caught between ‘a rock and a hard place’: on the one hand a lack of confidence to come forward as activists in their own right, while on the other a fear of being labelled as radical or ‘greenie’. In some communities citizens who do show their hand can be dealt with quite harshly. There are stories of people be ostracized, threatened and physically assaulted. I know from personal experience what being labelled as a ‘greenie’ can be like. Flanagan (2007) also refers to these types of incidents and experiences.

In my view, the environment movement has not recognised these dilemmas and so remains the self-appointed advocate for the environment, and is in a sense isolated. As a result, it is unclear whether in fact it has a mandate to act on behalf of the community in toto. That said it is known that around 20% of the Tasmanian Public voted Green at during the last State election. The question is how many of these people are actively involved in environmental campaigns. In my view, all of this has an impact on how community members see activism and the institutions (including political) who support them.

There are also other issues that have come into play over recent times that in my view have also had a profound impact on the effectiveness of the approaches used by activists (and the environment movement generally).

The institutions and activists (including 'lone activists') that make up the 'environment movement' termed herein as 'the movement'. Activists can be advocates and facilitators (working one to one with citizens, or with groups of citizens from a platform of sole operator or within an ENGO), or play the role of 'single issue operator'. In the single or lone operator role, activists tend to work in isolation writing submissions, letters to the editor, and speaking at public gatherings in relation to their special issue. Over the years, I moved through all the stages. Each has its own strengths and weaknesses. Whelan (2002, p.10) discusses some of these matters.

First, governments and industry have come a long way since the days of the Franklin River and Wesley Vale campaigns and have spent a lot of time and effort gaining a thorough understanding of how environmental activism works. This has led to a far more sophisticated approach to dealing with issues raised by activists and the environment movement generally.

Examples include information forums, leaflets and other forms of community consultation used by governments and corporations. As well, planning and management systems have evolved to a new level of complexity and sophistication, where nearly all development plans must now have an Environmental Impact Statement in support of an Environmental Management Plan.

As I will show, having a good planning process is not the same as having a good plan in the first place. In my experience one often sees a really good management plan supported by a fine impact statement for a site or operation that is in the *wrong place*. Refuse disposal sites and forestry operations are two examples where I see problems time after time. I might

add that these significant changes to business as usual are due at least in part to the efforts of activists in the first place!

By and large, the environment movement has not been well equipped to deal with this new complexity, and it is now clear that the old emotive-iconic formula no longer works. Whelan (2002, pp. 29-33) has grappled with some of these issues when researching the effectiveness of environmental advocacy. He sees opportunities in training and educating activist and advocates. I agree. Community Based Auditing (CBA) (initiated in 1999/2000) is a step in that direction. In short, activists are still stuck with a 'No!' approach when it comes to developments or issues with which they do not agree.

Second, there has been a subtle shift in community expectations as to what counts as a 'green issue' or indeed issues worth getting hot under the collar over. Tim Doyle (2001, pp.140-175) explains some of this in terms of what has gone on with successive federal governments who very skilfully reshaped the perceptions of environmentalism in Australia, effectively neutralizing the former power of the environment movement to sway public opinion. While interest in environmental issues remains high in Australia, it is clear that the sheer number and complexity of issues has left community members swamped in information overload, which could partly account for the lack of direct citizen involvement in environmental issues.

Given these realities activists must now work that much harder to create messages of appeal in order to capture the attention of citizens and politicians. This suggests that strategies for engagement must be much more than beginning and ending with 'No!' In order to ensure relevance and credibility environmental activists must be able to demonstrate that they

have the backing of communities. This is vitally important and something usually not that well attended to. I have seen cases where a group of community activists worked hard on their issue and while ending up with a sizable public meeting failed to secure clear mandates by a recorded show of hands. Along similar lines I have seen activists go to bat on issues without a clear directive or mandate from the community of attachment and so were not able to demonstrate a clear authority to act. Having a good argument is one thing, but even better when it is supported and indeed mandated by the community you are acting for.

For me this is an important 'hot topic' for the Tasmanian environment movement - how do we get citizens involved? After all, the buck stops with them – they are the ones ultimately responsible for what goes on. As I will show there are ways to secure citizen involvement, but they involve hard work and a commitment to innovative strategies.

Thirdly, there appear to be fundamental flaws in the beliefs that underpin the approach (methodology) utilized by environmental activists. It seems to me that the environment movement has become captive of the very tools and processes it is trying to change. As I will discuss in the main body of this thesis, the fact that the movement utilizes the canons of the same science upon which environmental management decisions are made is deeply problematic and is simply taking it deeper into a dilemma. New ways to challenge conventional science must be found that not only progress understanding, but also reshape the very nature of science itself.

As I see it, the dilemma in which the environment movement finds itself is the product of three primary crises, which include 1. The crisis of certainty, stemming from the use of reductionist science to refute the claims of the same science that is used by those it opposes. 2. The crisis of representation, as the movement struggles with the question of who it is representing and on what authority, and 3. The crisis of identity that has arisen in the wake of the manipulation of public perceptions by successive federal governments regarding what it means to be 'green' or an 'environmentalist', or for that matter what constitutes an environmental issue.

It seems to me that governments have woken up to the fact that the environment movement, in emulating current institutional contexts, is unwittingly supporting the causes of many of the problems it is striving to solve. In so doing, the movement has become bogged down in bureaucratic processes that tend to stymie and perhaps prevent the development of much needed innovative change strategies capable of taking activism to a new level. In other words, the movement has not seen the need to change and continues to be ripe for manipulation!

I felt that to continue operating in such a context would only serve to reinforce inadequacies in my own practice which in turn would feed into the greater effort, leading to further dysfunction. In short, I had to exit this self-defeating cycle where, as I saw it, my activist style was being shaped by the context in which I was operating. This is taken up further in Chapters 5 and 6.

As an activist, these realizations had an immense impact on me and led me to contemplate a change in direction during the early to mid-1990's. By 1995,

I had nearly 10 years experience in environmental activism, during which I had come through one campaign lasting over 7 years. I could see many things wrong with my approach and that of the movement generally. Typical problems I noted within the movement included, In-fighting, out of control egos, the primary drive to 'stack on the evidence' as a way of winning the arguments, 'just keep repeating the message until 'they' believe you', treating citizens as though they did not know what was good for them – they didn't know what was 'best', and so on....

My experiences enabled me to see that fruitful environmental activism must be more than 'No!' and that a new way must be found if we are to help citizens become empowered change agents in their own right. Surely, this must be the aim of our collective efforts, indeed this must be the goal! In an effort to improve my effectiveness as an activist I used what I now believe were innovative strategies (Such as Community Based Sampling and Community Based Auditing) that led to significant improvements in both my philosophical development, practice and the quality of the support I was offering citizens. I believe a theory, which arose during my early life experience, has played a significant role in shaping the trajectory of my development.

In order to confront oppression in my early life I used exposure and trust breaking (where I felt there was *false* trust) to ignite conflict within and between people in an attempt to expose what I felt to be elitism and misuse of power. In generating conflict, I worked to create a condition of unease by locating and then questioning the beliefs of my oppressors. This I cottoned onto during my teenage years. As if by pure instinct, I was able to find the 'raw nerve'. I carried this 'theory' with me into the early years of my activist

life. This later developed into a more sophisticated theory that took account of the history and political/cultural norms in Tasmania. In a sense this was similar to framework discussed by Whelan (2002, p. 159).

It was not until I revisited and reflected on my earlier writings, including diaries and letters that I realized that my 'activism' had started at a very early age. As I delved deeper, it occurred to me that I needed to understand the person I had become. In short, I had to understand what led to my need to move beyond 'No!' This in turn led to the present inquiry into the development and nature of my practice. At the same time, I felt that what I had to say might be of use to other practitioners, some of whom may also be questioning their direction and effectiveness. Indeed conversation with other grass roots activist did bring to light similar concerns, particularly among the oppressed women activist with whom I worked. This was the bridge linking *my* crisis with that of the movement itself. I therefore see my story as a useful case study that may help others to make sense of their journeys.

1.4 The problem of research when exploring questions of the self

As discussed in the Preface, this thesis is an example of 'writing from beneath', in which I build a personal theory through an examination of my lived experience. While a narrative approach brings with it methodological challenges as one unearths new knowledge, Doctoral research should also explore epistemological and ontological issues pertinent to the research. Here is one of the key entanglements of the research process as the researcher balances the apparently competing desiderata within Doctoral research. There are effectively two mutually related problems, each of which is worthy of research in its own right. One is to do with the substantive

problem one sets out to 'solve' or better understand, while the other is a much larger problem to do with the nature of reality and what it means to 'know'. My questions are broad: how did I become who I am and how can I improve what I do?

What sort of answer should one expect from such seemingly innocuous questions as these? As I will show, both the answer and the method of generating 'answers' are neither trivial nor insignificant matters; The research questions that stem from these basic questions will be answered within the framework of what is known as Living Theory (Whitehead, 2008). Matters of research philosophy including theoretical framing and methodological choice shall be discussed in Chapter 2.

Broadly then this thesis seeks to make contributions on a number of levels from the personal and social formations in which I work and the philosophical and theoretical frameworks in which the research is has been conducted.

1.5 How best to guide my inquiry into the self?

My inquiry involved tracing my journey through the key phases of my life that gave shape to my emerging practice. I show how experiences during early life shaped my choices in later life. I describe the upheavals that led to my awareness of my worldview. This discovery, I argue, was one of the most vital moments in my life and continues to propel my intellectual and professional development.

When faced with this challenge, I asked myself a number of questions in relation to the best way to make sense of my life experiences and at the same time bring out the significance of those experiences in terms of a contribution to a relevant theoretical frame. The challenge for me was to undertake a disciplined inquiry, yet not allow the means of the inquiry to unduly shape, or dictate the unfolding story. In short, I did not want the story to be a product of the methodology. This thinking was along similar lines to that of C. Wright Mills (In Ketelle, 2004, p. 454) who notes, "methods should not prescribe problems; rather, problems have to prescribe methods". My aim was to bring out the richness and deeper meanings and at the same time be true to myself.

My tilt toward a constructivist-interpretivist standpoint led me to search for a way to bring clarity and at the same time tell my story from the inside. My standpoint holds that locally constructed meaning is a valid and trustworthy way to gain insights into the way human systems function. I also hold that meaning is generated from our shared interpretations, which are the product of our own unique view of the world and how it works. Therefore, each of us constructs our own reality. These realities are the subject of on-going interpretation through discussion and debate. Over the past 2 years, I see my paradigm as moving to a position not unlike the participatory paradigm outlined by Guba and Lincoln (2005, pp. 193-196). They describe it as a

..."subjective-objective reality ontology ...critical subjectivity in participatory transaction...extended epistemology of experiential, propositional and practical knowing; cocreated findings. ..., " methodologically characterized as "political participation collaborative action inquiry; primacy of the practical; use of language grounded in shared experiential context..."

I felt, very strongly, the need to maintain a first person perspective. The alternative would be to attempt to objectify my experiences, which in my view would have diminished the credibility of my story. Besides, I wanted to tell a grounded story that was accessible and could be attended to by others and not an obtuse argument of academic interest only. I believe that trustworthy and meaningful knowledge can be gained through the telling and analysis of lived experience⁸ using ordinary language. This for me is a key challenge in completing socially relevant research.

This thesis examines the development and application of my own theory of activism that has arisen from my lived experiences here in Tasmania and therefore reports my journey toward understanding and hopefully useful and meaningful practice. Indeed this is the main theme of this thesis. My choice of a narrative style⁹ enabled me to utilize a life story approach, which tended towards the autobiographical. Having grounding in the physical sciences, this was new territory for me. By all accounts, the narrative approaches are relatively new and involve some margin of risk, particularly matters relating to peer review and publication (Holt, 2003, pp.4-13).

The dilemma of methodological choice was overtaken by ethical concerns, among the most prominent being questions of authority and possible charges of narcissism – who says my story is important enough to tell? Was the ‘problem’ (to use the research speak) I was seeking to solve a problem for anyone else? The literature does recognise that authors can over do the self, e.g. Bruner’ statement (cited in Denzin, 1997, p. 218): “guard against putting

⁸ Building theory in an inductive way, focussing on the particular to explain what works and how (Whelan,2002, p.10).

⁹ Based in Autoethnography. The autoethnographic methodology uses autobiographical data provided by the researcher, who is inquiring into his or her life and practice (Dyson, 2007; Duncan ,2004).

the personal self so deeply back into the text that it completely dominates, so that the work becomes narcissistic and egotistical". In terms of this thesis, I will leave it to the reader to decide. Given the nature of my inquiry I have tried to paint a picture of a changing self as I reveal the 'warts and all' that has been my life. If I feel did well I have said so, if I feel I have fallen short I owned up. I do not view this as narcissistic. Narcissism is a purely self-referential world view that asserts the independence of self from other and so obviates empathy or admission of vulnerability Alan Rayner (Pers. Comms, April 2011).

Notwithstanding its claim to the contrary, the rationalistic logic of the excluded middle that creates a false dichotomy between subjective and objective viewpoints is a *source* of narcissism, not the means of avoiding it. My story of moving through phases of propositional and dialectic inquiry, culminating in the understanding of my self-identity as a natural inclusion of my neighbourhood hence tells of moving out of the narcissism prevalent in modern culture, not into it. Correspondingly, I have strongly that many of the things I have come to realize and deal with are of interest to others, particularly those involved in the movement here in Tasmania (and perhaps beyond).

Why is effective social change in such short supply? Why is it always so difficult for community to be heard? Why is community being told instead of doing the telling? What is good governance and how could it work? During the early 2000's my thinking on these questions and a way forward were influenced by the work of Whelan (2002) and others. I began to see environmental activism as something much broader. This was summed up nicely by Heaney (2000), in Whelan, 2002, pp.23-24) as:

Social change references a redistribution of power and wealth favouring the disenfranchised and poorer classes and tending toward political and economic democracy. Social change aims at a shift in the relative position of classes, not in the position of individuals within one or another class. Social change is not what happens when the offspring of a working class family joins the newly emerging professional classes. It is what occurs when workers, women or other oppressed groups organize to overcome the hegemony of professional educators or bureaucrats and reclaim control over their lives.

I attempt to answer these questions and explore these matters (from my perspective) as I tell the story of my journey through nearly 30 years of activism here in Tasmania.

1.6 Style of writing used in this thesis – from the mind through the quill

My writing style is in keeping with the emerging traditions of narrative writing. I argue that to keep to the task one must write evocatively, yet clearly signpost the journey with referent material where possible. This thesis tells my story and how it interconnects with the stories of others. There are dead ends, missing steps, and unfinished stories among the myriad of tales and revelations. To me, this is just how it should be; because that is the way, our lives *are* as meandering journeys of discovery, sadness, and euphoria. The narrative is personal¹⁰ and charged with feeling as I intertwine the telling and interpretation. One of the challenges of this writing genre is to do with the way it is received by those in authority¹¹. As already mentioned the style is first person, and so brings with it certain challenges for those not schooled in the approach. For instance the at times personal and colloquial style, and raw energy will no doubt pose a challenge to the

¹⁰ Whelan (2002, p.3) has also used personal experience methods.

¹¹ We are all captives of what is expected! This dissertation is no different in that to be taken seriously it must first be accepted as plausible, it must be readable and relevant (that is it must strike a chord with the readers and hopefully get them thinking about their own journeys).

accepted norms of scholarly writing. To me, such matters are part and parcel of the broader inquiry project that calls for new revelations and new ways to interpret and understand, such is one of the elements of the mission of scholarly writing. During the thesis I will move between first and third person voice as I attempt to meld the 'objective' and 'subjective' aspects of my story into an interpretive continuum.

1.7 The cost of looking within

We are conditioned to believe, think, and act in the prospective, to move forward, focus on what we will be, and to assemble the means to achieve that. We live in a world where personal reflection, while not actively discouraged, is nonetheless not seen as worthwhile or significant. Those advocating critical reflection on the past or on the stages of their life journey are usually viewed as dwelling in the past or seen as having failed to move forward. Those concerned with self-development and praxis¹² may suffer unjust accusations of dilettantism, decadence, or narcissism. Clearly, against this backdrop I have taken a risk in choosing to write this thesis in the style of the personal narrative.

1.8 Structure of this thesis

The thesis is comprised of four parts. Part 1 (Chapters 1 and 2) details my research problems and questions and the philosophical and theoretical frames of the inquiry. Chapter 1 introduces my motivations and approach to my inquiry. The chapter sets the scene in terms of an overview as to my

¹² The term praxis involves the melding of one's practice and theory (Stewart, 2001, p. 4). It posits that practice and theory are linked much like the poles of a magnet, the two acting together to produce a unique property. Just as with magnetism, neither pole can exist on its own.

reasons for the inquiry. Chapter 2 details my research philosophy and the Living Theory theoretical framing of the research.

Part 2 deals with methodological choice. Chapter 3 describes my overarching methodology as narrative in nature, in which I employ a number of styles befitting the tone of each section. I therefore move from first to third person presentation as I engage the various levels of the research story. Chapter 4 describes the key methods in which I introduce the metaphor of a co - generative process. This arises from the intertwining of the numerous opposites within my practice, e.g. my 'subjective' versus 'objective' sides or my 'practical' versus 'theoretical' sides, which are complementary and interdependent, not mutually exclusive. I use the DNA molecule as a metaphor for this process of co - generation. This is a recurring metaphor throughout the thesis

Part 3 (Chapters 5 and 6) present my autoethnography which describes my early life from 1960 to the early 1980's. In describing my 'first transition', I show how the traumas during 1970 to 1974 set the scene for my progressive awakening. In Chapter 4 I describe my activist years from my early entry through a period of discontent and then up to the present day. I describe a second transition as well as a number of key turning points during the period 1984 to 2007.

In Part 4 (Chapters 7, 8 and 9) I begin with an analysis of my experiences, taking the opportunity to delve deeper into my activism where I seek to uncover my current theory of activism by tracing my theories across the years. In doing this I draw upon some existing theoretical frameworks to make sense of my practice and how it fits into our understanding of personal

change and community. I show how my thinking developed to the point where I embraced the notion of learning levels, which took me to a discerning analysis of my theories in action, which then became the basis for a clearer understanding of the nature of my actions as an activist. I also show how my personal change has helped me make significant contributions to Tasmanian activism. In this chapter, the DNA metaphor is once again used. In Chapter 8 I present and give further meaning to my Living Theory and how this opens the way for an Inclusional approach as my thinking further develops.

Chapter 9 discusses opportunities for beneficial changes to Tasmanian activism. In drawing on the discussion in earlier chapters, I show how the uniqueness of Tasmanian culture has provided opportunities for the environment movement to facilitate the emergence of an empowered and critically aware citizenry. It is argued that barriers to meaningful community engagement are many fold and include problems with the nature of laws, science and present forms of activism. I make the case for bringing science and public participation together using an innovative strategy (known as Community Based Auditing) within the framing of Post Normal Science. I argue that meaningful change is only possible when personal change occurs. The parallels with my own journey are then evident. In this sense, Community Based Auditing is as much about personal change as it is about solving the problem of concern out there in the world.

Chapter 10 presents my final reflections and conclusions.

Publications produced during the course of the research are presented in Appendix 1 (p.318).

CHAPTER 2

PHILOSOPHICAL AND THEORETICAL FRAMINGS FOR THE INQUIRY INTO MY LIVING THEORY

2.1 Introduction

This chapter presents an analysis of my current research philosophy in which I take the opportunity to clarify my thinking and to show how it influenced the selection of an appropriate approach to the research reported in this thesis. The remainder of the thesis examines my journey to my present philosophical position that enabled me to use a Living Theory theoretical framing to develop an explanation of my educational influences in my own learning, in the learning of others and in the learning of the social formations in which I live and work. Living Theory has been defined by Whitehead (2008, pp. 103 -104), “a living theory is an explanation produced by an individual for their educational influence in their own learning, in the learning of others and in the learning of the social formation in which they live and work”.

Living Theory explicates the meanings of the embodied values I use to give meaning and purpose to my life as an environmental activist and shows I how use these values as explanatory principles in my practice and living standards of judgment in accounting to myself and others for the life I am living. It makes an original contribution to knowledge in the development of a form of community-based audit that I include as a responsive feedback approach to integrating evaluation in the process of working to improve

practice. It also makes an original contribution to living educational theory with its focus on accounting for a life as an environmental activist.

2.1 My Philosophy

Below I will explain my research philosophy as it now stands. It is from this vantage point that I develop the thesis. It is vital that the reader understands that the research philosophy was not applied to the 'research problem' *a priori*, rather the research process is largely a product of my life journey. In this sense my research philosophy is both a product and process of my lifelong learning to date. One of my tasks therefore is to show the significance and location of my contribution to Living Theory methodology. What do we mean by our philosophy? Do we mean the underlying principles of knowledge and our being, our heritage, our beliefs and 'rules we live by', perhaps a search for truth? Certainly, it could mean all of those things. I use the term 'truth' in a broad sense. My 'truth' may not be your 'truth'. It is a very slippery term indeed. What is 'true' today may not be so tomorrow, for example, in Tasmania Indigenous people were seen as little more than vermin, today they are our brothers. 'Truth', therefore only has meaning in a local sense in terms of time and space...

Does our philosophy, our way we see the world and what we believe remain constant throughout our lives? Are we even aware of our philosophy and therefore why we value certain things and not others, or indeed why we go about doing things in one way and not another? Why bother at all with concerns or questions over our philosophy? I think it is important. In our race through time our Western culture has conditioned us to always 'look forward', to live for tomorrow and plan for the future. There seems little

time or encouragement to reflect on our past or to reflect on who we are becoming as we struggle to gain and maintain our foothold in this World. Our progression from early childhood, through schooling to career, family and later life sees us constantly preoccupied with 'now' and concerns over what the future will bring. It seems as though the only real opportunity we get to wrestle with the deeper questions is in times of crisis, such as "mid-life crisis" or sudden illness or loss of a family member, when we suddenly hit a kind of brick wall of realization. In those moments, our thoughts turn inwards as we consider what really does matter and why those things are so vital to us. In other words we begin to examine 'what it's all about' and our place in it. In these vital moments, we may begin to question our beliefs and motives. In short, our lives provide us with opportunities for change.

For me, my journey of questioning began many years ago when I began to be troubled by what I was seeing and experiencing – I had what I term early life crises. Trouble, a sense of mismatch or a feeling that things are just not quite right is always a great opportunity to explore, understand and possibly solve problems and issues. From an early age, I used trouble, crisis, and a sense of mismatch to propel questioning within and among people. In short, I was a troublemaker. I now know this approach to be what is termed dialectic inquiry (Dick, 1992-1993, pp.28-29), where one brings together apparent opposites in order to create a sense of tension and therefore a need for resolution. This natural urge for resolution (that we all have) propels dialogue, argument, and investigation. This can, with enough good will and effort, lead to personal growth and improved problem solving abilities for all concerned. This is not to say that I had these lofty intentions at a tender age, rather over time I developed what seemed to come naturally. As I will show,

these seemingly opportune moments of crisis were a lot messier and traumatic than my introductory words here would suggest.

My current philosophy is based on a continuous questioning of who I am and what I believe. I continually search for meaning and my place in the cosmos. I question my beliefs about the nature of so-called reality and how best to understand it. That is me, right now, as I write this thesis. I like to think that my philosophy is always evolving, but at the same time is always open to significant turning points, such as the one in the 1990's when I was fortunate enough to better understand my philosophy. This thesis tells of that turn as well as a number of other significant events in my life and what they have meant for my practice and life in general. Therefore, this thesis is a journey of understanding¹³ that attempts to unpack the development of my philosophy and practice and how they have mutually informed each other up until the present day and opened the door on the possibility of me undertaking this inquiry.

I feel it is wise to acknowledge the role that philosophy plays in the adoption of a particular research paradigm, including the assumptions that underpin methodological selection. Here I shall introduce the key elements of the inquiry¹⁴ process before going onto an analysis of my inquiry philosophy. This sets the scene for the subsequent discussion, dealing with methodology.

¹³ 'Understanding' for both myself and the reader as we negotiate the highs and lows of this odyssey.

¹⁴ I use the terms 'inquiry' and 'research' interchangeably.

In my view, clarity regarding one's philosophy enhances the credibility and trustworthiness of the inquiry itself. Crotty (1998, pp.1-8) suggests that qualitative researchers need to be clear, at least in their own mind, how the various elements of the research process fit together and inform each other. Crotty (1998, pp.1-10) describes the five key elements making up the inquiry process, particularly in relation to the structure of the research thesis as:

2.2.1 Methods

The techniques or procedures used to gather and analyse data related to some research question or hypothesis;

2.2.2 Methodology

The strategy, plan of action, processes or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcome;

2.2.3 Theoretical perspective

The philosophical stance informing the methodology and thus providing a context for the process and grounding its logic and criteria;

2.2.4 Epistemology

The theory of knowledge embedded in the theoretical perspective and thereby in the methodology;

2.2.5 Ontology

The study of being and what is.

2.3 Introduction to the analysis of my research philosophy

I have used the structured approach, discussed by Crotty (1998) to inform the analysis of my research philosophy, the core of which is the choice of methodology.

The choice of methodology and methods is governed by deeper assumptions we bring to the research questions. Crotty (1998, p.2) says of this,

...what methodologies and methods will we be employing in the research we propose to do? Second, how do we justify this choice and use of methodologies and methods?

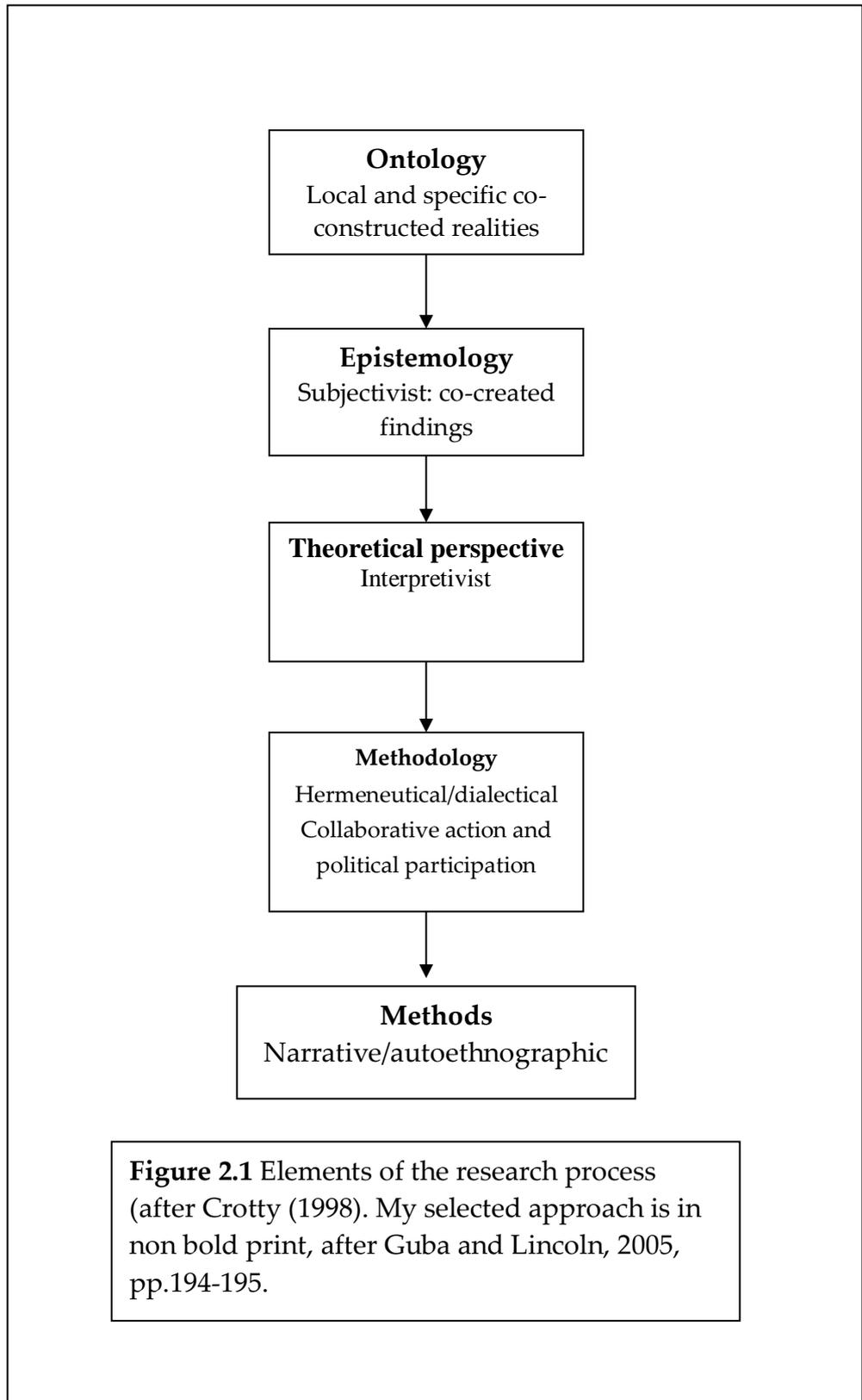
The answer to the second question lies with the purpose of our research – in other words, with the research question that our piece of inquiry is seeking to answer. It is obvious enough that we need a process capable of fulfilling those purposes and answering that question.

There is more to it than that, however. Justification of our choice and particular use of methodology and methods is something that reaches into the assumptions about reality that we bring to our work. To ask about these assumptions is to ask about our theoretical perspective. It also reaches into the understanding you and I have of what human knowledge is, what it entails, and what status can be ascribed to it. What kind of knowledge do we believe will be attained by our research? What characteristics do we believe that knowledge to have? Here we are touching upon a pivotal issue. How should observers of our research – for example, readers of our thesis or research report – regard the outcomes we lay before them? And why should our readers take these outcomes seriously? These are epistemological questions.

2.4 Analysis of my research philosophy

In order to analyse my research philosophy I have utilized the model employed by Crotty (1998) that depicts the way in which the four key elements of the research process inform each other. I have reproduced this in Figure 2.1 (p. 33). The order of the elements has been reversed to indicate how each element informs the next. I have also added a final element in my analysis, namely the axiological or ethical aspects of the research process (discussed on pages 41 and 42). I have added this at the end, not because it is of lesser importance, but more importantly to show the high practical and significant nature as the aspect itself.

My analysis is the product of many years of reflection and my lived experience as a scientist activist. The development of Community Based Auditing is a product of this action and reflection, while at the same time has influenced the development of the very methodology upon which this thesis is based. Below I explain the significance of Living Theory in creating a framing for my contribution.



Unravelling and analysing my assumptions and beliefs about my worldview and approach to understanding has been a tough process. Questioning your beliefs can be traumatic and knowing where to start even more difficult. It is one thing to 'map your paradigm from a book', but quite another to delve into your own mind in an attempt to locate what you feel is really there. Even tougher when you have come to believe that 'reality' and truth are subjective constructions that each of us carry around in our heads. In this sense this analysis is about my fundamental beliefs. I remember in my late teens having debates at school and at home as to the existence of a god. What troubled me was the nature of arguments used by others. For instance, one position held that "trees are beautiful and complex living structures and so must have been created...". In answer to this I took the position, "who says trees are beautiful and complex. And how could that justify whether or not there is a god anyway?". I remember pondering on this for some time. As my thinking matured I came to the realization that each position could be, in a sense, equally valid (who says that trees are *not* beautiful and complex?). In other words it all depends on what values and beliefs you hold as to what counts as 'truth' and what does not.

The key then to understanding is to find ways to 'meet in the middle' in order to share your views and thereby create a condition where human understanding through co-operation is possible. In short, shifting the focus of the relationship from one of conflict to that of joint inquiry would be a key goal. The challenge then would be to facilitate such processes. This is what takes us into synergistic inquiry processes such as CBA. The end result is not a search for 'truth', but a shared understanding as to what it means to be human. I believe that is all we can hope for in this earthly realm as we are, after all, not supernatural.

2.4.1 Ontological perspective

Ontology is concerned with 'what is' and the nature of existence. In my case, I took the position quite early in my life that 'reality' ceases to exist when you stop looking. In another position, that occurred to me in my early 20's, I posited that the concept of 'nothingness' was, for humans, redundant as we had no real idea as to what nothingness really was so how could we be sure. If that was the case then who says that 'something' could not come from apparent 'nothingness'? Clearly a paradox, but demonstrates that even then (early to mid-1970's) my thinking was gravitating to a constructivist-subjectivist viewpoint.

2.4.2 Epistemological perspective

Epistemology is tied to ontology in the sense that they are about 'what and why we believe'. As discussed above, while ontology is about the nature of existence and the structure of reality, epistemology is concerned with understanding what it means to know (Crotty, 1998, p. 8).

Upon reflecting on my intellectual growth I was able to discover that my early thinking (age 12 to 16) was based on inductive reasoning - that is, drawing general inferences from particular instances or observations. In a sense, I had embraced an alternative paradigm of thought from a very early age. I am now suggesting that my epistemology must have been toward subjectivism, in which I would build understanding on the basis of my interpretation of lived experience. From around age 18 I began to embrace objectivism (essentially involving a positivist stance taking in experimental science). Looking back, this was an interesting conundrum, where my love of chemistry (with me since age 11) took me into a profession where I thought

like a constructivist but acted as a positivist. This led to an uncomfortable ride, particularly in industry where my methods for making sense was so different from the norm.

My epistemology (Gill and Johnson, 1991, p.165) has tended, over the past 10 or so years, to move from a position of objectivism, where I embraced theoretical perspectives best described as positivist, to a position I would describe as subjectivism-constructionism (Guba and Lincoln, 2005, pp. 192-200). My entry into researching my paradigm was precipitated by an analysis of my learning style (Cochrane, (nd), (see Chapter 7) where I was able to determine that I was strong in reflective observations and ideas building. This led me to study my theory of action (Argyris and Schon 1974; Anderson 1997). Indeed one of the aspirations of this thesis is to further explore my epistemology.

2.4.3 Living Theory theoretical perspective

Although I have tended to move from an empirico-analytical perspective to a theoretical perspective, best described as interpretive; I still see merit in utilizing elements of the former paradigm. In a sense then I have come full circle, returning to a position of constructivism, this time with a better understanding of its significance and role in shaping my research process, including methodological choices. Constructionism posits that there is no objective truth awaiting discovery. Meaning comes into existence in and out of our engagement with the world (Crotty, 1998, pp.8-9). My approach, particularly my work with community groups (via CBA), involves a tilt towards participatory strategies (Guba and Lincoln, 2005, pp.192-196) also. It is possible therefore that my paradigm is not 'clear cut' constructivist.

The key outcomes from this analysis are that while my epistemology is essentially constructivist, I do find the need to embrace elements of objectivism. My theoretical perspective is interpretive where I seek an overall account of the contextual aspects of the situation, including the subjective meanings and intentions within and among the actors in a given situation (Higgs, 1998b, pp.6-7). I argue that while Living Theory is usually seen as a methodology through which an “individual can explain their educational influence in their own learning, in the learning of others and in the learning of the social formations in which they live and work” (Whitehead, 2008, p.104), there is an argument for it to be elevated to that of a theoretical perspective as defined by Crotty (1998, p.7).

As already discussed a Theoretical Perspective embodies the philosophical stance informing the methodology. The fact that I am ‘researching the self’ and in so doing employ an action-reflection process that draws upon a range of what I term ‘literary devices’ means while is Living Theory very much at the methodological heart of the research it is also much more. I argue that it (Living Theory) has a strong philosophical influence on the way in which methodology has been chosen and executed. Therefore in terms of this thesis I take the Theoretical Perspective to be interpretive.

In this way the Living Theory theoretical frame accommodates the full range of interpretive processes I have embraced, including the processes within CBA as well the very means of analysing and telling my story. In the next section I discuss the key attributes of the theoretical perspective of Living Theory as applied to this thesis.

2.4.4 My research as a story rich in metaphor

How best to tell a story and at the same time assure you the reader that I have taken all possible steps to produce a truthful account and that what I have written is not just some wild fantasy. To be 'truthful' my story should have internal consistency and at the same time be supported by verifiable evidence. Above all the text must be 'believable', credible and strike a chord with the reader as an account of lived experience (White 2005). Chapter 4 discusses these points in further detail. These and other questions weighed heavily on my mind as I wrestled with how to present my story. This is a key consideration that sits right at the heart of the Living Theory research perspective.

The inquiry should not only present a rich picture of my life and contributions, but should also analyse the significance of my contributions to environmental activism within the context of Tasmanian culture. However, it is more than this. I also needed to bring to the surface just how my own personal struggles and subsequent growth influenced the development of my paradigm or worldview that is me as I write this text. It is easy to tell of what we have done in our lives, and why we feel those deeds are important, but quite another to explain what led us to act the way we did. I hope this aspect of my story will strike a chord with the reader as he or she reinterprets my words and my experiences. This is after all how our lives intersect and have meaning for one another. Therefore, it was with some trepidation that I took the decision to create my story along the lines of a self narrative-life story. I struggled with the need on the one hand to create a literary work that read like a novel, while on the other I felt obligated to provide evidence in support of my claims.

To some extent then the text reads more like a textbook in places, while in others a novel. This reflects the objective and subjective sides of my philosophy. These two sides, while seemingly opposite in many ways, remain linked and mutually supportive. This idea of opposites creating a working synthesis is employed as an underlying metaphor throughout this thesis. The metaphoric structure I have used is DNA, where two strands twisting in opposite directions form a template for co-creation through influences within and beyond itself (see Chapter 4 for details). It is this idea of creative interplay that is at the core of the metaphor and is symbolic of the generation of emergent understanding.

The intertwining of theory and practice, action and reflection, logic and emotion, or indeed the coupling of any set of complementarities gives rise to emergent properties and sometimes surprise. My preferred 'method' of dialectic inquiry (used from a very young age) is an example where seeming opposites are used to create a sense of tension or mismatch. In recent years I have used the method to create a sense of 'problematique', which involved a search for my own philosophical and activist roots, and which lies at the heart of this thesis. As "spirits in the material world"¹⁵, I also touch on the problematique that is the human condition, which emerges from the tension between our angelic and animal sides.

In Chapter 4, I explain how the procedures and methods I employed articulate within the methodology. The reader will also note my use of citations and cross-referencing as well as extensive footnotes as I try to

¹⁵ A phrase from a song by the band the *Police*.

honour my contract with the reader by providing an honest, open, and well-supported account. This I hope will enhance the credibility of a story that, in the end rings true.

A story is in many ways like a building. It is one thing to see and experience the final product but quite another to learn how it came into being. In this sense, Chapters 3 and 4 take the reader behind the scenes in that it allows an opportunity to further challenge the author's honesty and credibility. Accordingly, my efforts should not be seen as an obsession with detail, but rather a sincere need to keep my promise to you the reader.

2.4.5 Axiological perspective

The term axiology as applied to qualitative inquiry (the approach used in this thesis) is to do with the notions of human values. Heron and Reason (1997) argue that axiological considerations loom as large, if not larger than questions of ontology, epistemology and methodology. While these are about the nature of 'truth' and what is real, axiology is about values of being and human flourishing, of becoming and what it means to have purpose and meaning and the ability to transform oneself as part of synergistic learning and nourishment. It is about why we do things in the first place – why inquire within and upon? I touched on these questions in the Foreword to this volume when I asked about the creed of the moment of modernity: 'moving forward, looking to the positives and when things get better....'. Purposeful, responsible, ethical actions and thoughts can lead to transformation, both personal and beyond, but first we must embrace the idea of personal change within the context of ever changing political climates

on many scales. This situates so well within the Living Theory theoretical perspective.

Throughout I have attempted to meld the axiological considerations into my design and have placed it as a central theme in the CBA process, although in not so many words. What seems clear from my constructivist standpoint may not be clear to anyone else, so my duty is to try and make clear what I believe I have discovered during my journey. In short, what is of value to me and why is it so. I try to grasp this in Chapter 1, where I introduced my reasons for the inquiry. Challenging oppression, indifference, and misuse of power simply because it seemed the 'right' thing to do seemed to come to me at such a young age, coming about because of the way I was treated in my younger life. I held onto the need to be heard, the need not to be oppressed, and the need to determine my own path in life. In carrying these 'values' through my life I was able to grow myself and help others in their growing. As I moved in the recent phase of my life, I was still able to carry forward the ideas of advocacy and activism and at the same time value participative processes. In this way, I was able to 'balance' values implicit in a constructivist worldview with those of a participatory worldview (Heron and Reason, 1997, pp.11-12).

PART 2

METHODOLOGICAL APPROACH TO THE INQUIRY

CHAPTER 3

METHODOLOGY

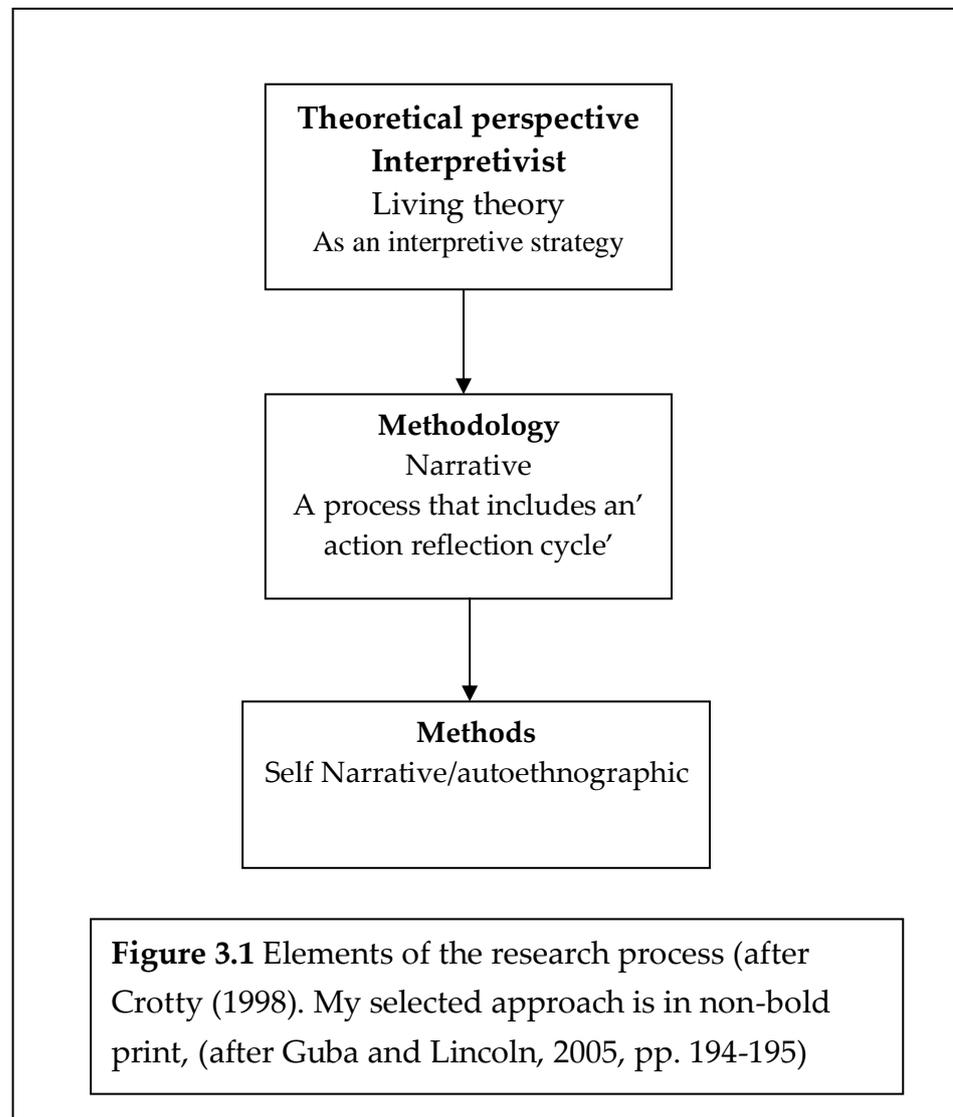
3.1 Introduction

I begin the discussion of theoretical framing in which I discuss the theoretical framing of Living Theory. I then move on to argue that a form of special narrative methodology is able to sit comfortably within the theoretical frame.

3.2 Choice of theoretical frame

As already argued in the previous chapter, I interpret Living Theory in terms of this thesis to be broadly located within the interpretivist theoretical frame and as such can accommodate a methodology best suited to the present inquiry. The nature of my inquiry is such that it is essential for meaning to be constructed through the writing process itself – essentially an inductive process of sense making through analysis and interpretation leading to the generation of personal theory, which is then further tested in the 'real world'. Living Theory invites the development of innovative methodologies within the broad church of interpretive strategies. The core methodology of Living Theory is the use of 'Action Reflection Cycles' in which the researcher not only inquires into the matters of interest but also how the inquiry was carried out in the generation of a living theory. (Whitehead, 2008) I intend to show that my choice of methodology meets this basic criterion and at the same time extends the scope of Living theory to include methodologies within narrative approaches.

Figure 3.1 shows the linkages between theoretical perspective and methodology. As I will explain, the methodological process used to generate the thesis is similar to the process I use in my practice as a scientist-environmental activist. In this sense, the methodology is a dynamic process and product of my inquiry process.



3.3 Methodological Frame

3.3.1 Methodology

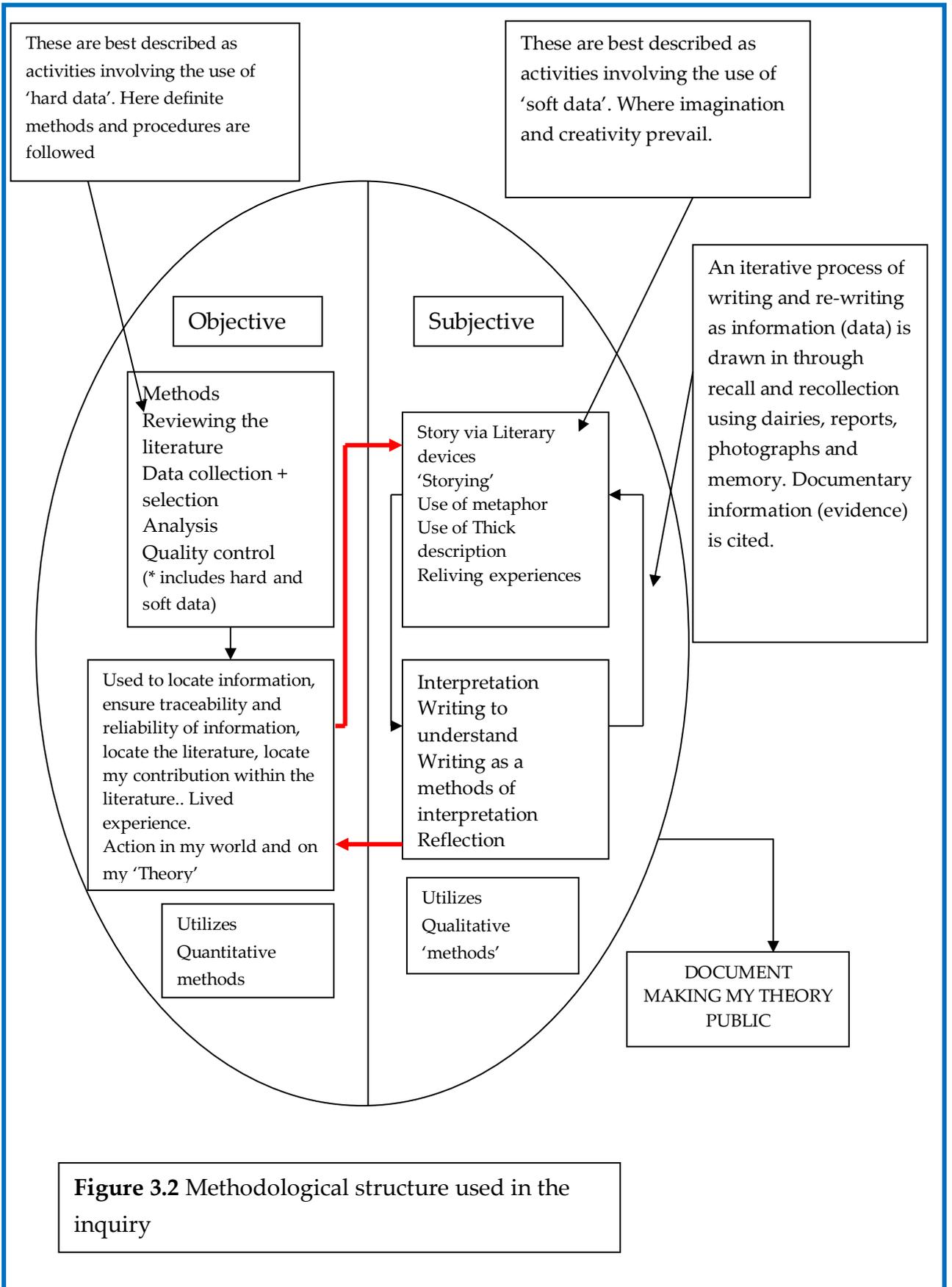
My philosophical journey has led to a situation where I can now move comfortably across epistemological positions. This has been made possible because of my on-going awareness and analysis of my research philosophy. The key events in the 1970's and 1990's saw fundamental changes in my philosophical position or inner life story. The various stages of my methodological journey envelop what I term my outer life story, that is, my approach to tackling problems.

While my selected methodology, based on a self-narrative is broadly situated in the interpretivist theoretical perspective, it does not necessarily contain components of the positivist perspective. I am using a narrative approach to inquire into my own practice. This could be described as Practitioner Based Inquiry (McIntyre 2006). By explaining what has gone on 'without' I felt the need to first explore what has gone on 'within' – the two are connected.

These are found on the left side of the model shown in Figure 3.2 (p. 47) and include the collection, selection, and quality control of information and research process. These components are methods, which are essentially quantitative in nature. Information, including quality checks, are fed into the right side, either to cross-check or supply information for the purpose of narrative process. The overall interaction between the left and right processes yields 'outer narrative' upon which this thesis is based. This intertwining is akin to the generative DNA helix metaphor which is the scaffolding unifying my arguments in this thesis. I will explain the working of the DNA metaphor in the next section.

In what follows, I will briefly discuss the flow of the methodology throughout the thesis.

The core 'method' used on the right side of Figure 3.2 (p.47) is known as Life Writing and includes autobiographical approaches, including the use of narrative. A sub-group of the narrative is the narrative of the self. The core narrative underpins my description and interpretations in Chapters 5 and 6 of this thesis. It takes the form of a thick description of the events during my life. The red arrows show the inner sense making process as an 'action reflection cycle'. These methods will be discussed further on.



3.3.2 Locating the Narrative Approach

I should point out that my methodological approach has continued to develop during the early stages of my inquiry (Richardson & Adams St. Pierre, 2005, pp. 959 - 978). The period March 2003 to December 2005 has been an important time where my understanding of both the problem and research paradigm progressively developed. This had taken me into the new territory of qualitative inquiry, thus continuing a journey that began in earnest in 1993. Qualitative research is a term used to indicate a reliance on qualitative (non-mathematical) judgements. By the same token, quantitative methods can be used in qualitative research, so there is no clear line of demarcation. Higgs (1998b, p. 9) summarizes the 5 major assumptions of the qualitative paradigm as:

There are multiple constructed realities (i.e. different people have different perceptions of reality though their attribution of meaning of events, meaning being part of the vent not separate from it);

The process of inquiry changes both the investigator and the subject/participant (i.e. these players are interdependent as opposed to the independence ascribed to the research and the researcher in quantitative research);

Knowledge is both context and time dependent. While quantitative research searches for generalizations and universal truths, qualitative research searches for deep understanding for the particular (Domholdt 1993);

It is more useful to describe and interpret events rather than controlling them (as in quantitative research) to establish cause and effect;

Inquiry is "value bound". Values appear for instance, in how questions are asked and how results are interpreted'

As discussed I see my chosen methodology as rooted in the interpretive paradigm. This paradigm is grounded in humanistic philosophy (Higgs (b) 1998). This choice has been made in recognition of the need to understand the meaning of social action in the context of the lived experiences of those who I have worked for and against. Interpretive methodologies also enable

the retention of experiential and contextual integrity (Higgs (b) 1998). Higgs (1998b, p.7) states:

They [interpretive methodologies] do not look for cause-effect relationships or use experimental method, rather they look at the whole and take account of the context of the situation, the timings, the subjective meanings and intentions within the particular situation.

Within the interpretive paradigm, there are a number of inquiry strategies, each with their own tradition and underlying theory.

The choice of narrative approach will, in my view, enable me to undertake the complex task of interpretation as I meld the outcomes from my professional development with the lived experiences of those whom I have encountered. In this way, narrative has the potential to bring forth insights and new understandings about the nature of effective community involvement.

The narrative process enables a deepening interpretation that moves progressively toward deep understanding. Goodfellow (1998b, p.61), describes the narrative process as;

Narrative may be described as a form of natural discourse in which the narrator conveys the nature of what has been experienced through the sequential telling of that experience. The story form which is used in the telling process provides structure through which sense-making of experience may occur

The proposed project represents a new and challenging area in my learning and contribution to knowledge. Indeed the experience of writing at Doctorate level is an exciting and at the same time daunting prospect (Lee, 1994).

There are two main parts that make up my inquiry; one relates to who I have become as I helped community wrestle with their awakening and questioning, and the other to do with the nature of the growth and empowerment of those who I have helped. My reflections reveal a connection between the two. As a professional, I am keen to further understand this. Exploring my research questions in what would seem a complex set of circumstances led me to conduct an extensive search of the literature and at the same search my own experiences for clues as to the best, methodological framework for the inquiry. In keeping with my view of researcher as “bricoleur” (Denzin and Lincoln, 1994; 2005 (pp.2-4)), I have crafted a methodology, based upon narrative, that I feel best meets the need at hand. This has resulted in the use of autoethnography as the central means whereby I will tell my story, which will then (in subsequent chapters) be analysed and interpreted in terms of my personal development and my contributions to the social formations in which I work. What emerges is a series of Living Theories as my understanding, learning and wisdom co-evolve.

3.4 Defining Autoethnography

Autoethnography sits broadly with the context of narrative methodologies.

Autoethnography has been defined by Dyson (2007, p.38) as :

Autoethnography as described by Ellis and Bochner is a genre of writing that “displays multiple layers of consciousness connecting the personal to the cultural” (p.739). They claim that the distinctions between the cultural and the personal become blurred as the author changes the focus and moves back and forth between looking outward and looking inwardlythey claim: “Auto ethnography has become the term of choice in describing studies and procedures that connect the personal to the cultural”.

3.4.1 Autoethnography and Self Inquiry

My autoethnography is the melding of a number of stories and is a vital centre piece to the overall thesis. While the telling and analysis of the personal and the contextual is important, so too is the linking of the stories. This linkage of multiple narratives enhances credibility and at the same time sets the scene for an on-going narrative and analysis of the self in subsequent chapters. In this way the reader can see through the eyes of the inquirer. The point about linking to the cultural is important as this takes in aspects of the political (Holman Jones, 2005, pp. pp.764 – 766) and is particularly relevant to my story.

3.4.2 The Action-Reflection Cycle – the core of the interpretive methodological process

The central process of inquiry in Figure 3.2 (p.47) is the Action-Reflection Cycle (ARC), shown as the red arrows. This process has been successfully used by Whitehead (2008). He describes the method in the following terms:

My understanding of action reflection cycles emerged from my practical question, ‘How do I improve what I am doing?’ The method emerged before my awareness of its significance as a research question. I asked this question on my first day in 1967 as a science teacher in Langdon Park School, a London Comprehensive School. I felt a passion to help my students to improve their scientific understandings. In my first lessons I could see that my pupils were not comprehending much of what I was saying and doing. However, I did not feel my concern to be

grounded in a 'deficit' model of myself. I felt a confidence that while what was going on was not as good as it could be, I would be able to contribute to improvements. My imagination worked to offer possibilities about improving what I was doing. I chose a possibility to act on, acted and evaluated the effectiveness of what I was doing in terms of my communications with my pupils. This disciplined process of problem-forming and solving is what I call an action reflection method (Whitehead, 2008, p.108)

The cycle also brings together the 'objective' and 'subjective' 'data' and at the same time develops subtle dialectic processes that drive on-going questioning and interpretation. The cyclic process is a kind of scaffolding in which the autoethnographic inquiry is situated. What emerges progressively through the telling is an explication of my Living Theory. This intermeshing of methodological processes on the surface appears complex, but as will be shown the fuel of the process is my life story, the engine is action research and the journey itself is Living Theory.

3.5 I Am the Researcher and the Researched

As the researcher and the researched I am very much central to the research process, indeed it literally has been part of me. The challenges have been enormous. As I explain in the next chapter I have gone to extreme lengths to guarantee a trustworthy account and also to attend to matters of data integrity, ethics and traceability.

CHAPTER 4:

METHODS AND PROCESSES USED IN THIS INQUIRY

4.1 Introduction

During this inquiry, I felt it necessary to take a structured approach to the development and application of methods. The nature of the work meant that special consideration had to be given to the way in which information was selected, analyzed and interpreted. As much of the data was drawn from my own experience, I felt it was incumbent upon me to ensure that I had met the quality standards expected. At the same time, I was mindful of meeting my ethical responsibilities to the readers. I felt that the inquiry could still be told in a lively, 'as it happened' way, while at the same time maintain quality using recognized methods. These for me were important matters worthy of much consideration. Accordingly, considerable effort was invested in the task of method selection and application. In what follows I present the methods used. My discussion is broad as creativity was required during the research process as the methods were to some extent crafted to best fit the applications. The use of metaphor is a case in point and will be discussed during its application in a later chapter. This 'crafting' is very important as it is rare, at these levels of complexity, for a tool to be 'fit for purpose' - straight off the shelf, so to speak. As mentioned earlier, Denzin and Lincoln (1994, p. 2) use the term "Bricoleur" to describe the operator who chooses then crafts methods to fit the application.

As a Bricoleur I have come to see the research process as one involving a crafting and careful melding in order to maintain the rigour of inquiry as

well keep to the 'reality' of the story itself, and in so doing remain true to myself. In terms of methodological choice this may mean a melding of two or more methodologies in order to develop the required tools for meaningful inquiry. Specifically, Denzin and Lincoln (1994, p. 2) describe the Bricoleur as,

The qualitative researcher – as – bricoleur uses the tools of his or her methodological trade, deploying whatever strategies , methods, or empirical materials as are at hand (Becker, 1989). If new tools have to be invented, or pieced together, then the researcher will do this. The choice of which tools to use, which research practices to employ, is not set in advance. The “choice of research practices depends upon the questions that are asked, and the questions depend on their context” (Nelson et al., 1992, p.2), what is available in the context, and what the researcher can do in the setting.

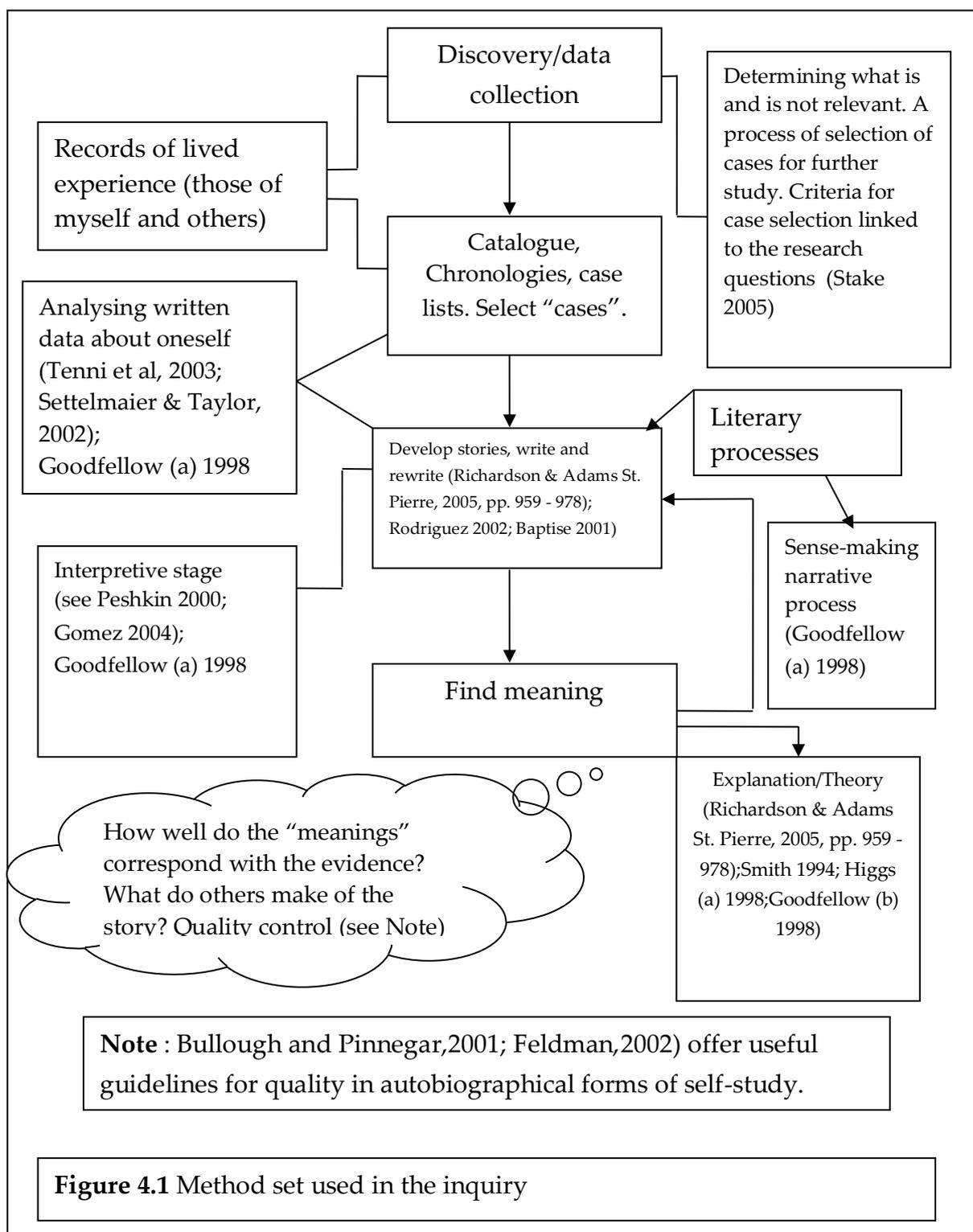
This is particularly important when using literary devices, such as metaphor and thick description. These approaches are used in Chapters 5 and 6 and, again during analysis and interpretation in Chapters 7 and 8, when 'making sense' of the revelations and understandings from my experiences.

The flow of the research process is from data collection/selection through to analysis (placing information in categories and chronological order) and finally to interpretation, where information is synthesized in order to extract meaning and significance. Figure 4.1 (p.56) shows the set of methods used in this research. Each method is discussed under the headings below.

4.2 Data gathering methods

Data gathering involved tracing and obtaining information from archives and other sources. Information was retrieved from archives and included case files, audio recordings, photographs, reports and diaries. Over a period

of four years, information was sourced from school and college records, private archives, journals and workshop proceedings. The aim was to gather as much documentary material as possible in order to allow for crosschecking my memory and at the same time provide some form of recorded evidence.



4.3 Analysis methods

4.3.1 Introduction

The analysis component involved the selection and sorting of information. Relevant material was selected for review, based upon its relevance to the key theme of the research. The review process involved reviewing information and placing it in a chronology constructed along the lines of key developmental phases in my life, which included; early childhood, adolescent years, professional years and years as an activist. The chronological sequencing also allowed for subdivisions within the developmental phases. The key aim was to place the information into a chronological framework that enabled key issues and events to emerge and where necessary provide for linkages among the issues themselves. In this way, I aimed to give emerging narrative both a chronological and thematic character.

4.3.2 Data analysis. Information relating to each of my interventions was written up as a descriptive case study (Stake, 2005, pp.443-466) and traced the development of my philosophy and style. This gave rise to a chronology of development and outcomes, which then fed into interpretation. While this process could be regarded as a form of interpretation (Goodfellow, 1998a, pp.105-106), I have used it as the first stage in converting the case material into a series of mini stories whereby I was able to identify themes and patterns. This material then became the autoethnography presented in Part three of this dissertation.

Case summaries and other evidence are presented in Appendices 4 & 5 (pp. 352-358)

4.3.3 Metaphor, interpretive processes and literary devices, including thick description

The overarching process guiding the inquiry is best visualized as a dialogue between my “inner and outer self”. The key metaphor (Kochis & Gillespie, 2006, pp.573-574) I use is the DNA helix. This is based upon the interplay of my “Espoused theory” and “Theory-in-use” (Anderson, 1997). This interplay is embedded in Figure 3.2 (p. 47, previous chapter), where the dialectical interplay is depicted as interplay between “Objective data” and “Subjective processes”. In similar vein, careful inspection of Figure 3.2 (p. 47) reveals that it too is a metaphor, this time for the left and right sides of the brain, where ‘subjective data’ (right brain) interplays with ‘objective data’ (left brain) to yield interpretations. Overall, the dialectical model reflects a recurrent theme in my life as I struggle with, ‘who I am becoming *vs.* what I do in the world’.

Embedded within this metaphoric framework are interpretive processes (Gomez, 2004, pp.2-4). They involve integration of information into stories rich in meaning as I strive to keep as close to feelings and emotion of the day. I used forms of dramatic recall to retell the stories as thick descriptions (Ponterotto, 2006, 538-542). The creation of thick descriptions was for me a process that on the one hand provided an opportunity to ‘tell it as it was’, while at the same time lay the foundation for on-going interpretation in relation to the meaning and significance of my life as a professional scientist cum activist. What emerges is once again dialectic of what I do, as a professional (espoused theory) *vs.* how I think (and occasionally act) as an activist (theory-in-use). My aim throughout the inquiry was to remain true to this ‘reality’.

4.3.4 Interpretation as method

The central “sense making” core of the interpretive process consists of writing and rewriting in narrative style (see Figure 4.1, p. 56). In terms of explicit method, I have utilized the approach recommended by Goodfellow 1998a. She refers to the process as one involving synthesis as:

...units of meaning are configured around a central theme and an interpretive account draws context, meaning and expressions of that meaning together in a narrative style. (Goodfellow (1998a, p.105).

Goodfellow (1998a) describes an 11-step process for constructing an interpretive narrative. Steps 5 to 9 are particularly relevant as they discuss the linkages among themes and stories; cross checking one’s interpretations; approaches to presentation so as to ensure clarity, relevance solid thematic linkage and ensuring ‘a good read’; ensuring that there is evidence to substantiate interpretations; and attend to the various voices that the researcher brings to the story.

4.4 A metaphor for my interpretations

4.4.1 The Double Helix

The double helix, discovered by Watson and Crick (1953) symbolizes a creative process, whereby distinctive molecules are brought together by virtue of basic biochemical reactions into a specific sequence. The helix, conceptualized as a ladder rotated through 90 degrees, has the ability to recreate itself as long a raw materials of the right biochemical kinds are available to it. To do this each side of the helix uncouples and then reforms new helicies. The ladder rungs are special chemicals known as organic bases. Only certain types can pair up – this makes the sequences unique. The

ladder sides are compounds known as phosphate sugars. These hold the structure together.

I am focussing on the co-creating aspect, and the fact that it is based upon a ladder; for me, a ladder to understanding. Each of the sides of the ladder represent my “inner” and “outer” self respectively. The rungs are my unique sets of experience and insight. But it is much more than this. It is also a representation of my ‘two sides’, which cojoin in dynamic synthesis – the reductionist, objective scientist (left) and the playful, activist, non conformer (right), who is spontaneous, holistic and adventurous. There are in a sense two people, like opposite poles of a magnet – you can’t have one without the other: without both there is no magnetic influence. See Figure 4.2 (p. 61) for a pictorial representation.

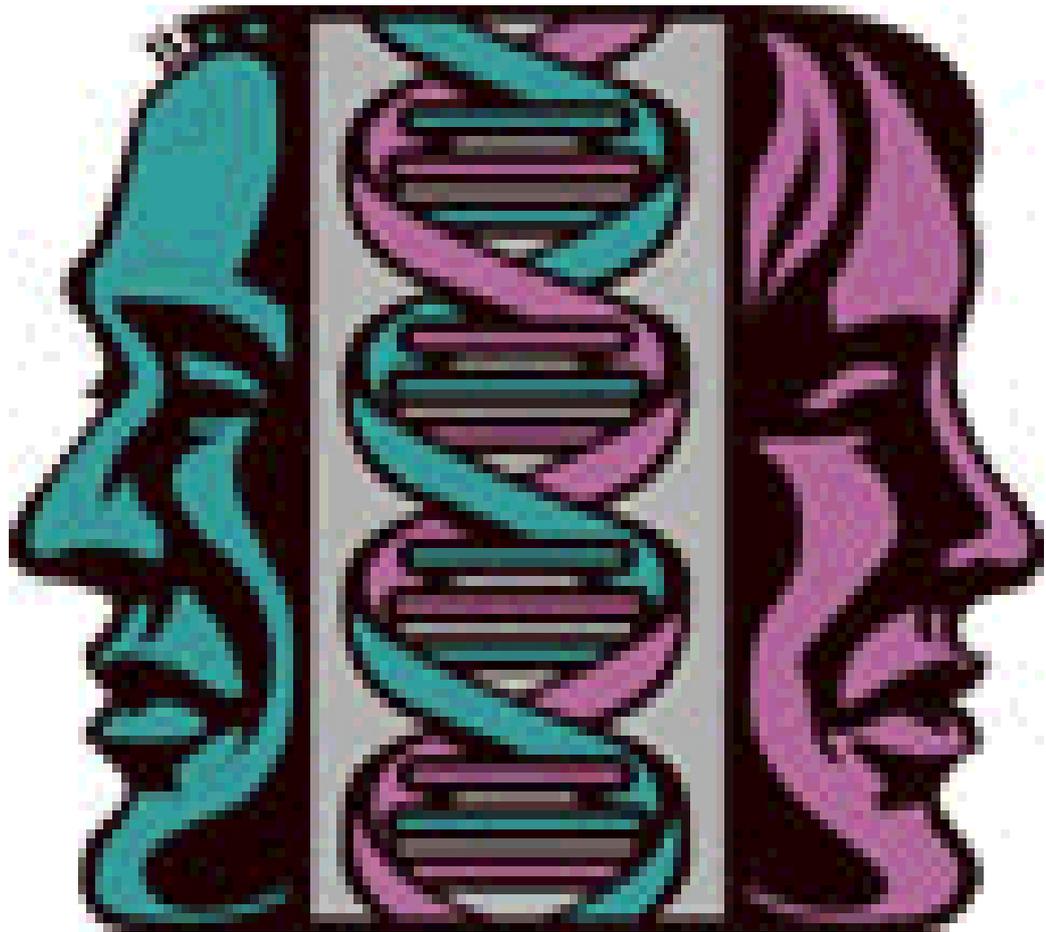


Figure 4.2 My “2 sides”, visualized as a double helix. Two sides linked to each other through co-creation.

(Source :http://www.fotosearch.com/illustration/double-helix_2.html)

4.4.2 The workings of my metaphor

The base pairs represent the fragments of my experiences and reflection (See Figure 4.3 p.64). Each base pair (ladder rung) is made up of experience coupled to reflection. The phosphate-sugar structure making up each side of the ladder is my “inner and outer” self – the substructure if you like. One-side bonds to the practice (experience side – red rung) and the other to the reflection side (blue rung). I describe this in Chapter 7 in terms of my “Theory in use” and “Espoused Theories” (Argyris and Schon, 1974). This of course provides the raw material for the development of my analysis of my stages of “Living Contradictions’ within the Living Theory Frame of the thesis where I explicate meanings and understandings as to the development of my epistemology of practice.

As indicated earlier, the double helix is a means of conceptualizing the way in which my inner and outer selves co-create each other. It follows that new stands are created through the incorporation of new DNA from the outside, which is symbolic of my interaction with the world. Likewise, I also share or pass on part of my DNA as I enrich those systems with which I interact. In this way my ‘two sides’ are in continual change, which leads to an ever changing whole. As already mentioned, the metaphor is also embedded in the methodology used in the inquiry underpinning this thesis. Figure 3.2 (p.47) (previous chapter) can be interpreted as a plan view of a human head (note the right and left brain are labelled as subjective and objective respectively).

I also use the DNA metaphor to assist in the analysis of my activist styles. I examine how my reflection and practice shaped my approach to activism

down through the years (Chapter 7). The metaphor is also used on many other levels to help explain the outcome of the complementarities, e.g. my subjective and objective 'sides' my scientist and activist sides, my conservative – middle class 'colonialist side and my rebellious non-conformist side.

I should point out that the interpretation process is an attempt to make sense out of what has happened. Accordingly, any suggestion that my thinking and practice at the time were as orderly as the analysis suggests must be ignored. It is only now, after many years, that I can make sense as to what it all means.

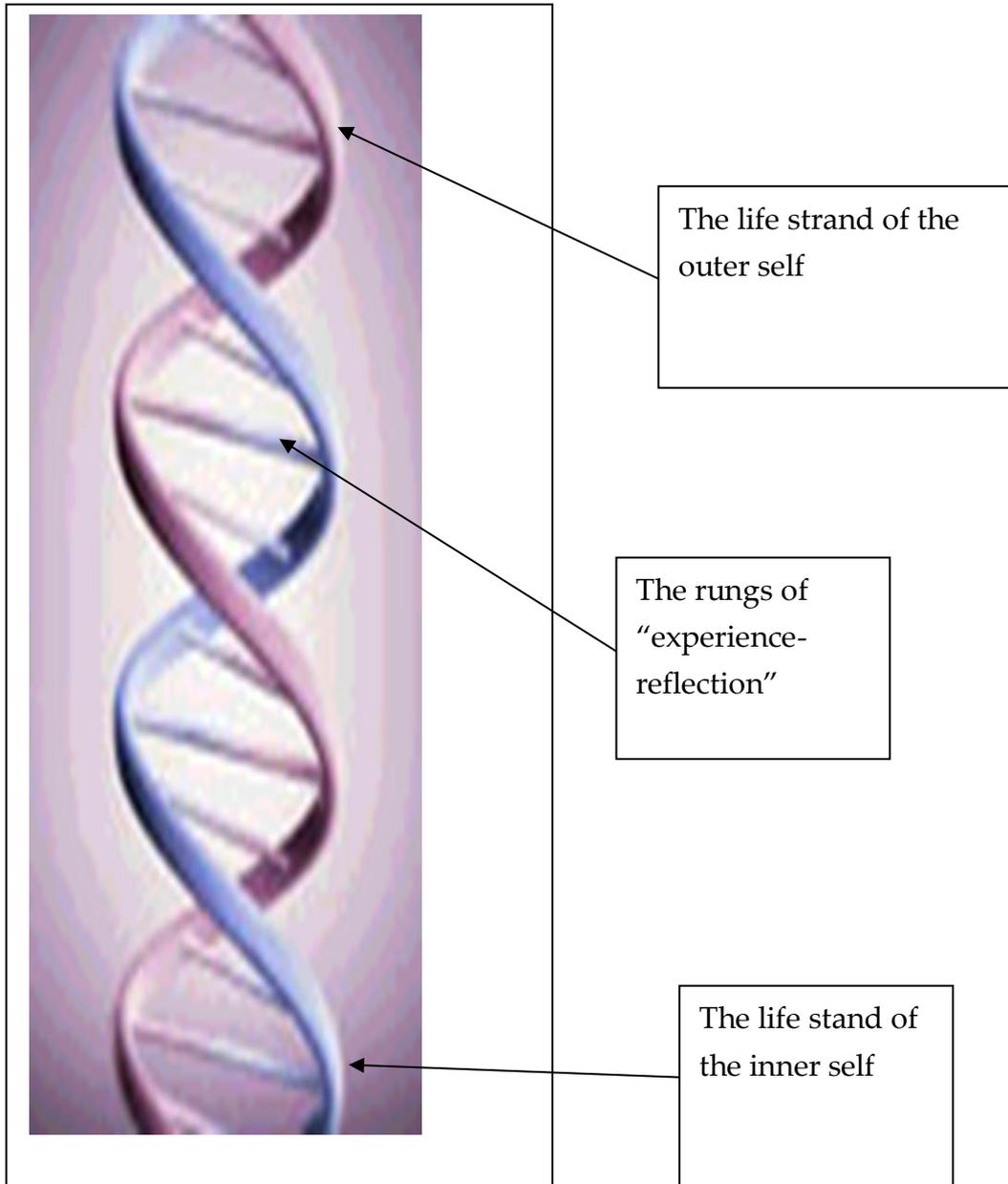


Figure 4.3 DNA structure as metaphor (Source :http://www.fotosearch.com/illustration/double-helix_2.html)

4.5 Quality control methods used during data gathering and analysis

All science, all inquiry needs as far as possible, to be able to show where data (information) were obtained and how they were treated en route to formulating conclusions and thereby building understanding. To remain true to these scholarly ideals it is incumbent upon researchers to demonstrate the nature of the safeguards they put in place in order to maintain quality. In terms of this inquiry, I have sought to group quality control into 2 main areas. The first relates to data capture and handling and involves declaring the sources of data, including cross-checking of sources and showing actual data. Group 2 relates to interpretation and construction of meaning. Here, colleagues were asked to review case stories and interpretations and conducted audits of source data. Where applicable, my interpretations were checked with colleagues and other activists and family members. The literature and university supervisors were involved in challenging ideas and assumptions during the course of the inquiry. **This** along with my presentations in peer reviewed journals and at conference and workshops contributed to the strengthening of the review process.

In building a set of quality guidelines I have adapted the approach recommended by Higgs and Adams, 1998; Bullough and Pinnegar (2001); Feldman (2003); Golafshani (2003). A key part of inquiry in qualitative research is to produce reconstructed understandings that carry with them a 'validity' in the sense that the stories are plausible and bolt back to the main story context, that is are believable, but at the same time resonate and with and move the reader who is engaged as an actor in the interpretative process. Therefore in this thesis the term "trustworthiness" replaces the term "validity" used in quantitative research.

At all stages, the research process methods must be open to public scrutiny. The overview given by Higgs and Adams (1998) has proved useful in the development of an approach to quality control. I believe that any account of research must be able to point the reader to sources of data and demonstrate trustworthy inquiry processes. I feel this is one area in which narrative and life story research could be improved. Discussion over ways to express and demonstrate quality in narrative and autobiographical forms of research abounds in the literature (Bullough and Pinnegar, 2001; Feldman, 2003). My approach, detailed in Table 4.1 (p. 67), shows how I attempted to maintain the necessary quality in keeping with scholarly enterprise. As already mentioned, the quality control methods employed fall into one of two groups. The first involved scrutiny of the methods used to gather, compile and manage data. The second involved checking (Feldman, 2003; Higgs and Adams, 1998, pp. 82-83) the processes used to interpret and construct the narrative. The processes within the first group are, by nature, closer to the quality checks used in quantitative research, while those of the second group are closer to those found in the qualitative research tradition.

Table 4.1 Quality Control Processes Used in the inquiry

Group 1 Data capture and handling			
Operation	Type of check	How reported	Audit trail*
Raw data source*	Clearly explain how and where written, audio and film data were collected. Reliable evidence	Within body of thesis	Personal workbook
Compilation of data	Describe the process used to select data. Handling the evidence. Sources shown in the thesis.	Within body of thesis	Personal workbook
Selection of cases for study	Lived experience as basis for selection of cases (Stake 2005). 'Valid' evidence that links to the research problem.	Within body of thesis	Personal workbook
Develop case Descriptions	Total cases listed and from selected cases. Show cases in Thesis Appendices (Appendix 5, pp. 337 – 370).	Within body of thesis	Personal workbook
Cross check/generation of new data	Show how the methods support cross-checking and triangulation of data (Higgs and Adams 1998). Process of reinterpretations within and across chapters.	Within body of thesis	Personal workbook
Development of key themes from the case and other data	Themes were developed from a reflective analysis/interpretation of my experiences.	Within body of thesis	Personal workbook
Group 2 Interpretation and construction of meaning			
Operation	Type of check	How reported	Audit trail*
Develop series of stories based on themes/chronology	Seek peer checking to cross-check emerging interpretations. Show “thick descriptions” (an indicator of trustworthiness and authenticity) (Higgs and Adams 1998)	Throughout the thesis. Conferences, workshops, publications	Reports of stories
Interpretive processes as stories interlink to crystallize meaning and significance as the data is transformed into artistic representation (Feldman 2003)	Clearly describe the approach used. Seek peer cross checking of this, do so in light of data. Indicator of authenticity (Higgs and Adams 1998). Is the material readable and a sound valid argument – convincing (Higgs and Adams (1998). Tenni et al (2003) recommend the use of theory to challenge ones assumptions about oneself and draw upon the robust engagement of the supervisor and others in challenging one’s assumptions and ideas. Thesis sent to supervisors and others for critique.	Main body of thesis. Conferences, workshops, publications and supervisors.	Workbook reference for developmental material

* This means the ultimate location of the raw or source data or information

4.6 Ethical aspects

Matters of confidentiality and protection of individuals have been attended to in the following ways:

Publicly available information (media-print and electronic). Permission has been sought for the use of information used in this thesis. Letter of permission remain on file and the wording of permission is printed in the thesis as requested.

Information from private individuals. In order to avoid complications only information published by activists and others has been used. For instance information published by activist in the Upper Catchment Issues Tasmania has been used extensively in the thesis, including the latest Activists Colloquium Collection (Upper Catchment Issues Tasmania (2010, vol. 6, no. 1)). Any other private emails, letters or quotes have been used with the specific permission of those persons involved.

In this way the development of community based journals and seminars brings activist inquiry into the public domain so as to allow scrutiny and promote debate and provide sources of research material and evidence for scholarly pursuits such as Doctoral research.

PART 3

AUTOETHNOGRAPHY

CHAPTER 5

MY FORMATIVE YEARS

5.1 Introduction

In this chapter I present and discuss the forces that shaped my development during my early years. In describing my family history I tell my story in terms of struggle for identity and recognition with a family context where traditional values and beliefs still prevailed. Implicit in this description and analysis is what I term the continuation of a form of colonialism that continues to affect myself and my family in ways we still do not understand. I then move to discuss my development as a young scientist and how my first transition, precipitated by a breakdown in family trust, based on events that I saw as indicative of the ever present, all pervasive colonialism.

The following life history narrative charts the sources and development of my dialectical style and awareness. At the same time I seek to acquaint the reader with complex interconnecting and branching channels of communication and relations between family and other sociohistorical and sociocultural influences that influenced my activist trajectory. Thus in keeping with the ideas laid out in Chapter 3 this personal narrative explicates meanings that are foundational to the rest of the thesis.

5.2 A Child Of The Colonial Era

The first thing to be clear on here is the fact that my family (on the paternal side) were in total denial as to their convict past. My inquiry into our family tree during the late 1970's created considerable tension within the family, particularly on Dad's side. No one knew anything concrete. The story I kept getting was that the Tattersalls' were weavers who emigrated from England in the 1800's. They also owned horse studs in England and were quite famous.

My inquiry found that the John Tattersall (a weaver) of Lancaster (our paternal ancestor) was sent as a convict in the early 1800's for what appeared to be political insurrection. He was at first sentenced to be hanged and then sent to the colony under the order of "Capital Respite"¹⁶. To this day family members recoil at such news. He was despatched from England on September 19, 1819 on the "Maria". He was given a conditional pardon in 1830. In 1833, John married Sara Waters (also a convict) and from 1834 settled down to farming and raised no less than seven children, one of whom was John (my Great, Great Grandfather) who married Harriet Jacobson. As it turned out John and Sara did very well for themselves, leasing and owning farmland at Bothwell (a district in the Tasmanian highlands) then moved the farm known as "Valleyfield" near Launceston¹⁷. Plate 1 (p. 72) shows the humble beginnings.

¹⁶ In England John was mixed up in the rebellion at the time (1815 to 1819) and was sentenced to be hung, but was later sent to the colony.

¹⁷ The Ravenswood school in Launceston Tasmania is now located on or near the site of the farm.



Plate 1 Photo taken of family and friends at the “Barkers Shelter”, “Valleyfield” circa 1885

My Great Grandfather (John Henry Tattersall) was a ranger and looked after the Mowbray Race Course during the 1900’s. In 1914 he died, supposedly of self-inflicted gunshot wounds. The family story has it that he was accidentally killed by a fellow shooter when out kangaroo hunting. He left behind four children and his wife Henrietta (nee Donnithorne) lived on for many years in Burn Street Invermay, a suburb of Launceston.

My Grandfather (Dessi Idris Tattersall) was a draftsman/architect with Launceston City Council. My Grandmother Mary (nee Graham) was affectionately known as Molly. Dessi and Molly were divorced in the 1940’s and had three children (two boys and one girl). Dessi later married Ruby Bye from Mowbray and they settled at Gravelly Beach near Exeter in the Tamar Valley. They had a further two children.

My father Barrie, the youngest son to Dessi and Molly, was born and raised in the Launceston area and from an early age took an interest in hunting and fishing. Mum (nee Carey and married to Alan Stoward at the time) and Dad met in the early 1950's and had an affair while Mum was still married. In the mid 1950's they ran away together to Huonville in the State's south taking me with them. Dad started work on an apple orchard.

Despite being groomed as a builder or architect Dad was destined to work on the land, he had a passion for farming and the outdoors. He had had a gift for fly-fishing and tied the most exquisite fishing flies. He built boats, completed marvellous works in taxidermy (see insert photograph), shot skeet and clay targets, wrote poetry, sketched and painted. He read the



great authors, celebrated the great painters (including Constable, Hals, McCubbin, and Gruner to mention but a few), and grew roses, which he knew the names of some 20 varieties. He loved Queen Anne furniture, which he also collected (at great expense). To me he was a man somehow out of place.

In an example of his poetry, "Ode to the Hounds – Part 1", (penned in 1954) he writes,

The dogs were scenting back and
forth,
One gave a joyful bay,
And thus the chase had started,
For the hounds were on their way.

The piece reveals his interests.

My two brothers and I were always in awe of Dad. He was a champion at all he attempted. He sought perfection and could not tolerate failure. On one occasion remember my brother and me were playing pirate games with a couple of bits of curved wood that we used as musket pistols. We must have been only 7 or 8 years old at the time. Dad saw us playing and called us over. He asked what we were doing, and when we told him, he asked for the 'musket pistols'. He took out his stock knife and within minutes carved the best pair of muskets you have ever seen: handle, barrel and looked the part. We had those for many years. That is what he was like.

In terms of his hunting prowess, our fridge was never empty of trout and other game when in season. People would come from all around to talk with him about fishing and hunting, especially during the deer-hunting season. He made a small fortune with his taxidermy business during the 1970's. He was his own man and fiercely competitive at all levels.

My family tree research, completed during the late 1970, has helped make many things clear. The split in the family during the early 1900's as one group benefited from a land grant, while the others simply worked the land, was a divide that runs to this day. This came to the fore when talking with family members (cousins) who denied being related to 'my side'. A quick walk through the family tree (with birth and death certificates as proof) soon proved the point. As my inquiry developed, I talked to many family members, some of whom said I was not *really* related as they thought I was adopted. More on this further on, when I was to discover that I (Philip John Tattersall) did not exist! On the home front, I think it also helped me to explain why my father was driven by success and why he seemed to crave

acceptance and fame. He tried to join the Masonic Lodge as he thought it would give him a sense of belonging and a sense of acceptance. Just how much of this desire was influenced by the shame of our convict past always lurked in the back of my mind. It seemed as though Dad was trying to get away from something, to prove something – perhaps he was trying to escape that colonial past. Finally he did join, but not in the highly conservative Northern Midlands. He was accepted as a member in North East Tasmania. I suspect the reason being that he fitted in better with the yeoman stock far better than with the descendants of landed gentry. In any case, it showed me just how pathetic ‘Tassie Inc’ actually was at that time.

I remember having it drummed into me that I must succeed and that I must not end up as a street sweeper or road worker. If I did then I must be the best. I remember as a youngster being terrified about my future and what was to become of me. In hindsight, it was all about making good, showing them, and putting on your best show. This would somehow wash away that dirty colonial past as we entered the promise of a post war world. In many ways, I was a child of the colonial era. I talk more of this era later in the thesis.

Mum’s view differed from Dad’s in that she was not competitive. Unlike Dad, she had no real passions or ambitions and was not particularly interested in home making either. I sensed that any ambitions she may have had were swamped out by Dad’s full on, larger than life approach to living. Mum was a reflective person, always looking for deeper meanings and pondering on life’s subtleties and nuances. Her interest in history and philosophy was always an inspiration. In her later life, she too wrote a book

of verse. I reproduce below a particularly touching verse, titled "Dawn in Winter":

The first pale light of the rising sun is appearing in the East.
A full moon is low in the Western Sky.
In the distance a rooster crows,
then another, and another.
A crow caws, a kookaburra laughs;
the melodious songs of the blackbirds can be heard.
A goose honks.
One by one, different sounds as people awake to go about
their daily chores.
And the Lord has laid their gentle hands on the earth, to give
us another day,
To try and follow His loving ways.

Tattersall (2010, p. 5)

Mum's reflective and spiritual side is very evident in this piece. While I may have inherited my drive and ambition from my father, it is without doubt that my mother's influence has played a major role in the development of my intuitive side as well as my keen interest in philosophy. Where Dad was 'a methods man', Mum was very much a philosopher and seldom the twain ever met. She was also interested in Egyptian history and culture. I often had the feeling that her ancestors may have been from somewhere on the subcontinent. There was something mysterious about her. She often claimed to have a 'third eye', and did seem to be able to make some uncanny predictions over the years. Like Dad, I can say that I never really knew her. I think she was like it with everybody. Mum never had any real friends – no one ever (as far as I could see) got close to her. I suspect she was very hard to

get to know and always seemed to be somehow defensive, or at least on guard and wary of others. She was not homely, rather always wanting to go out, get away. I think she was searching for something and never quite found it, perhaps because she simply did not know what it was. As I reflected on this, I saw it as a post war crisis - hope for a utopia that never materialized. That said, Mum was a constant source of knowledge and wisdom for me. She held strong and passionate views and ideas and would stand up for what she felt was right. I inherited some of that.

Mum's ancestors were free settler yeomen farmers of Irish and Scottish descent who settled on the West Tamar in northern Tasmania.



Plate 2 Dad and Mum (Barrie and Patricia Tattersall). Photo taken in 1983

Mum's father, Joe (Joseph Patrick Carey), the eldest of 12 children to William Carey and Mary Ann (nee O'Hallaran), fought in the First World War as a

member of the 40th Battalion (1st AIF, 2/40)¹⁸. He was stationed in Europe and fought on the Somme and Flanders. He was seriously wounded by shrapnel, which resulted in him losing his leg. He was repatriated to Tasmania. Joe married Linda Rose Adams in 1924.

He never got over his terrible time on the front line where he spent time in the trenches and later as a sniper. After the war he worked as a clerk for a number of years before becoming a Totally and Permanently Incapacitated (TPI) pensioner. In the late 1950's he came to live with us, but suffered badly from recurring pain from his injuries, including on-going pain from exposure to toxic gas on the battlefield.



His stories and way of looking at life had a major influence on me. He was thrifty, neat, and very clean. He never talked much about the war, but was always quick with some little truism about life. I remember one he used when a person he considered a waster came into winnings. He quipped, "Well, he'll do less with it than we'll do without it..." And when it came to giving your best effort he would say, "a winner never quits and a quitter never wins".

My younger brother and I were very close to our Pop and spent time with him whenever we could. As he got older he became more argumentative, but

¹⁸ Sourced from The Tasmanian Ancestors of the Carey Family (Pers. Comms. June 2006 Family member)

we always tried to help his as best we could. He was a keen gardener and grew vegetables for many years when he was with us.

He dressed immaculately, even wearing a jacket and tie when going into the local village.



Plate 3 From left to right: my brother Richard, Poppy (Joe Carey) and me. Photo taken 1963

The School Years (1960-1971)

The period 1959 to 1970 was for me among the most important. I remember spending so much time observing and thinking. During the period 1959-1960, my father worked for the State Department of Agriculture testing dairy herds in the Devonport and Deloraine districts of northern Tasmania. In 1960, I was enrolled at the East Devonport Primary School. What an impression the teachers made on me. My class teacher in particular was always encouraging and allowed me to do all sorts of little projects. All of this was set to change when we moved to the Cressy District, where my father was to work for a prominent grazier. I started at Cressy District School

in the third term of grade 1. I was thoroughly depressed at having to leave Devonport. I don't think I ever got over that experience.

At Cressy School I was always dreaming and ended up, due to my poor performance, being kept back a year (1961) in grade 1. When I relayed the news, my father was furious and I had to sit terrified on the floor while he made me spell ridiculous words and pronounce names from jam tins and the like. I remember all through that evening being quizzed on this or that name, number or whatever, getting yelled at because I could not count to '100', and having them shake their heads when I could not pronounce "IXL" jam. Fact is I was just terrified, thinking more about what I thought they wanted me to say than anything about what was actually going on.

All though primary school I well remember my class work as not making sense. I could not see the relevance of much of it. I remember in grade 2 reading about all sorts of things in the "Wide Range Readers" books (I still have a copy to this day), and thinking to myself, "So what has all this junk got to do with anything...!" I just did not get it at all. At home, it was much the same; my parents would get onto me for day dreaming and not paying attention. I remember comments such as, "you'll never learn...", and "you'll learn the hard way". I remember thinking to myself, "Who the hell are these people...I just don't understand what all the fuss is about!"

However, liberation was on the way. In 1965-66 (age 10 to 11), I discovered my father's old microscope, which he acquired while working for the Department of Agriculture. From that moment, my lifelong passion and

interest in science began. I immediately set to and set up my own laboratory in my small bedroom.

In 1967, we moved to another house on the farm. This came about when dad was promoted to the position of Stud Overseer¹⁹, looking after a world renowned Polwarth stud flock. The move to the new house with grounds and gardens meant that I could set up my own laboratory in the garden shed. At around that time, I was asked by the landowner (via my Dad) to clean out the stud shed morning and night. I was paid fifty cents per hour for this work and so earned about one dollar per day and a further dollar on a weekend on the occasions when I mowed the owner's lawns. This meant that I could buy books, glassware, and chemicals for my laboratory. This continued apace during the following four years.



Plate 4 Home laboratory founded in early 1967. I was 12 years old.

¹⁹ At last, Dad had 'arrived'. He was given station, a position in life and the house to go with it.



Plate 5 Me aged 17 in my home laboratory 1972



Plate 6 My younger brother Roger helping me in the lab. He was just 5 years old at the time. He showed a keen interest.

During 1967 a few of my grade six classmates and I formed a science group known as the Tasmanian Association for Inventors and Chemists (TAIC). The TAIC was set up as club to allow like-minded kids to share their ideas and experiences on science. We developed a Rules Act (a constitution) and had membership criteria. We had some 8 to 10 members.

We used to hold regular meetings and visit each other laboratories and share information on various experiments. At one stage (1971), we were actually running chemistry-training courses for our members. TAIC ceased operation in 1972 and for me a very interesting 5 years. In many ways that experience somehow prepared me for the organizational and institutional aspects of doing science.



Plate 7. TAIC Laboratory Team 1971 (LtoR, Micheal Tattersall, me and Richard Tattersall, Roger Tattersall front)

My high school years (1968–1971) were, in the main, good. I started in high school in the lower grades except for science. My daydreaming and pursuit of only science meant that I was perceived to be a “difficult case”. My first term results for first year high school left my father stunned for words; we were never the same again (Plate 8 (p. 85) shows the results). There was

worse to come. I remember on another occasion I arrived home at the completion of my second term in first year high (at age 13), with a model nuclear reactor under my arm. I had spent weeks on the thing. It was made of wood and painted with silver frost, replete with control rods, lead shielding, and a cooling system. I was so proud (the reactor model is shown in Plate 9, p. 86). My father, on the other hand, was devastated.

CRESSY DISTRICT SCHOOL

SCHOOL REPORT, TERM I 196...8

Name Tattersall Philip

Class E 3

Course Level - basic subjects I ~~Not academic~~
-II-
III

Attendance: V.G.

Subject	Rating	Attitude	Homework	Teacher's Comments
English	<u>F</u>			Philip's poor spelling and sentence structure hindered real progress in level II English. His oral work is good and he is capable of a good standard of appreciation, but he must make a great effort to overcome these basic weaknesses.
Social Studies	<u>D</u>	<u>G.</u>	<u>S</u>	A satisfactory term's work. Philip shows interest and his project work is good.
Science	<u>B</u>	<u>V.G.</u>	<u>G.</u>	A comment cannot be made at this stage, but shows considerable promise.
Mathematics				See English comment.
French				
Workshop		<u>S</u>	<u>S</u>	Enthusiastic student who has reached a satisfactory standard.
WOODWORK		<u>S.</u>	<u>S</u>	A satisfactory standard of practical work has been achieved.
		<u>S</u>	<u>S</u>	A satisfactory term's work, although Philip is at times unenthusiastic.

Plate 8 My results for term 1, first year high school. My father was horrified and simply gave up on me.



Plate 9 My model nuclear reactor

Being a practical man, who built boats, rifles and practiced taxidermy (all in his spare time); he was dumb struck that I would bring such a thing home at end of term. My reputation was in tatters and I was now most definitely sanctioned as the *black sheep*. I was very depressed.

I have a vivid memory of one of Dad's friends arriving one evening. Ken was a well-educated man with similar talents to Dad. He asked me what I had done that year, so I produced the nuclear reactor. He was amazed with my model. I quickly explained the 'ins and outs' to him. What a breakthrough this was to have someone interested in what I was doing. Dad was gobsmacked. Ken added, and I'll never forget this, "no doubt mum and dad are very proud to have a budding scientist in the family....". Ken's words

meant so much to me and kept me going through thick and thin. It was a kind of battery charge as I was at a low ebb at that time. No real recognition at home left me very bitter and sad. I just remember a feeling of sickness and dread in my lower stomach as I struggled with the realization that my aims, my dreams did not have approval and acceptance.

My experiments, reading and listening to the radio program "The World Tomorrow" represented a safe haven for me. Nearly every dinnertime there would be arguments with my father on nearly any subject; evolution, the bible, politics, history, science and environment. This conflict went on right through 1969 and into 1970. I was told that because I started in lower grades I would not be an achiever. I was told that I had forgotten my place. I would retaliate with argument about how they (my parents) were prisoners of their own upbringing (I got this from Bill Williams "The Four Prisons of Man" (Williams 1971) presentations on ABC radio. My arguments at dinnertime became an on-going campaign. In 1970, I read "Silent Spring" (Carson 1966). That was real evidence for my assertions. Of course, Carson was seen as 'just a trouble maker...'. I had dug in and was not going to allow myself to be suppressed.

I was promoted into higher grades during early 1970, which saw me studying at the highest chemistry level. At home, it had all become deeply personal. Compared to the rest of the family I was looking at things from a very different perspective. Much to my father's disappointment, I was not interested in hunting, fishing, or building. I had other things I wanted to do. My family and parents in particular just could not get what I was on about. Finally, my parents revealed that I was to be taken out of school at the end of year 9 (1970) to work on the farm. I remember being very angry about this. I

saw it as payment for my on-going dissidence. While I felt betrayed I was not about to lie down and die. In the third term of my third year of high



school (1970), I met with the Head Master (Mr. Ward) and told him the story of what was to be done with me. In turn he encouraged me to seek election to the Prefect Board the following year (1971). I quickly got nominated and campaigned for 6 weeks and in the November of 1970 I was elected to the Board. The upshot was that I would

complete my fourth year. Mr Ward (inset photograph at right)²⁰ had a huge influence on my development and in particular my self-confidence. He remains to this a day a beacon in my life. My other teachers²¹ at Cressy District High were supportive and helped me get through a very tough stage in my high school life.



My election to the Prefect Board in 1970 was a major boost for me. From that moment, I began to grow in confidence and started to find myself and locate myself with a community and I began to understand how things worked in the rough and tumble of the real world. Overall, the third year experience left me deeply troubled and concerned about the future. I reasoned that if

²⁰ Photos on this page taken from Cressy District High School Year Book 1971.

²¹ These included my Class teacher, science teacher and the Librarian.

this was the way in which the world worked (beginning with the family itself) then all was most definitely not well.

My election to the Prefect Board and subsequent progress through the grades (see Plates 10, 11 and 12) was my 'unconditional pardon' and thus my ticket to the future. One often hears the phrase, 'the day that changed my life'; for me that was certainly the case. My life as a prefect opened so many doors. Although very timid at first (I could not even answer the telephone at home due to a serious stuttering problem, caused by major self-confidence problems) I soon learned to overcome the terror of public speaking. It was all to do with breathing. I remember, as a child, when I was being yelled at or picked on by my father that I would hold my breath (a sign of terror I guess). When I was able to talk, I had to do so very quickly so I could get out what I wanted to say before being jumped on.

Therefore, whenever I was in a stressful situation I could not easily breathe. It took me ages to overcome the interrupted breathing problem and to speak 'normally' without running out of breath or stuttering. I had many problems in later life with eating. I used to eat very fast. The cause was that as a child during evening meals Dad and Poppy (my mother's father who was living with us) would pound me with questions on the day's events, asking me how much I spent on lunch and what did I buy and what did I learn. When I could not satisfy them, I would be jumped on for buying rubbish food or being a poor student. For a 7 year old, it was a nightmare. My only option was to keep my mouth full of food so I could not talk. I remember being in a bind in that I had to keep eating, but at the same time eat fast so I could get away from them. This led to sleepless nights where I used to have to bang my head up and down on my pillow in order to get to sleep. The activity would help stop me reliving the nonstop interrogation that ran like an endless tape recording in my head!

Class: C11 NAME: Phillip Tatterall Age: 14.11 at 1.1.1970

TERM III

Examination Results HW

Subject	Attitude	%	Award C.P.L. or N.	Points Lost
Basic-English <u>I</u>	<u>Excellent</u>		<u>D</u>	<u>5</u>
Social Studies <u>II</u>	<u>Excellent</u>		<u>C</u>	<u>5</u>
Science <u>IB</u>	<u>Excellent</u>		<u>B</u>	<u>5</u>
Science				
Mathematics <u>I</u>	<u>V. Good</u>		<u>B</u>	<u>5</u>
French				
German				
Latin				
Optional-Religious Knowl.				
Mathematics III ..				
Art				
Music Appreciation ..				
Music Practice ..				
Art of Speech ..				
Home Arts				
Home Arts				
Home Arts				
Home Arts				
Knowledge II Commercial Studies	<u>Good</u>		<u>C</u>	<u>5</u>
Business Principles ..				
Shorthand				
Typing				
Technical Drawing ..				
Woodwork				
Metalwork				
Wood-Metalwork <u>II</u>	<u>Satisfactory</u>		<u>D</u>	<u>5</u>
General Mechanics ..				
Applied Electricity ..				
Agriculture	<u>V. Good</u>		<u>B</u>	<u>5</u>
Agriculture				
Forestry				

Possible Points: _____ Points gained: _____

Home Work: _____

Conduct: Good

Attendance and Punctuality: _____

Good

General Remarks:

Phillip has applied himself well to his studies with very pleasing results. He is also to be congratulated on his being elected to the prefect board.

Class Teacher: M. J. Wright

Head Master: C. Brown Date: 15 DEC 1970

Parent's Remarks:—

Signature _____ Date _____

Plate 10. My 'Ticket of Freedom' to the future.

Class B1 NAME Phillip Tattersall Age: 15-11 at 1 Jan, 1971

TERM II

Examination Results

Subject	Attitude	%	Award C.P.I. or N.	Points 1 or 2
Basic-English <u>I</u>	<u>Excellent</u>		<u>P</u>	<u>S</u>
Social Studies <u>II</u>	<u>Excellent</u>		<u>P</u>	<u>S</u>
Science				
Science <u>III B</u>	<u>Excellent</u>		<u>C</u>	<u>S</u>
Mathematics <u>II</u>	<u>W. Good</u>		<u>L</u>	<u>S</u>
French				
German				
Latin				
Optional—Religious Knowl.				
Mathematics III				
Art				
Music Appreciation				
Music Practice				
Art of Speech				
Home Arts				
Home Arts				
Home Arts				
Commercial ^{Knowledge} Practice	<u>Good</u>		<u>P</u>	<u>S</u>
Business Principles				
Shorthand				
Typing				
Technical Drawing				
Woodwork <u>I</u>	<u>Good</u>		<u>L</u>	<u>-</u>
Metalwork				
Wood-Metalwork				
General Mechanics				
Applied Electricity				
Agriculture <u>III</u>	<u>Excellent</u>		<u>P</u>	<u>-</u>
Agriculture				
Forestry				

Possible Points: Points gained:

Home-Work:

Conduct: Excellent

Attendance and Punctuality.
Excellent

General Remarks: Phillip has displayed an excellent attitude towards his studies during term II. He is polite and helpful at all times. Phillip has a mature and responsible attitude towards all aspects of school life.
an excellent student

Class Teacher: J. D. Goola

Head Master: [Signature] Date 25 AUG 1971

Parent's Remarks:—

Phillip's determination is an inspiration to all who know him. He seems to have acquired a tremendous capacity for study.

Signature: [Signature] Date: 1st 9 '71

PLEASE RETURN ON FIRST DAY OF NEXT TERM

Plate 11 School report August 1971 in my final year. As my grades improved my parents took an increasing interest in my progress.

Cressy District School



This is to Certify that

Philip Tattersall

was elected a member of the Board of Prefects
for the Year 1971, and in the performance of
his/her duties as

Prefect

showed qualities of unselfishness and leadership
which were of distinct service to the school.

G. B. Ward

Headmaster

Plate 12. My Prefect certificate awarded in 1971.

5.3 Gleanings from my early experiences

I learnt from a very early age the near overwhelming power of family politics and at the same time, what it meant to be the 'black sheep', the odd man out, and resident dissident. All of this I knew by the age of 16. I'm not saying it was all doom and gloom; after all living on the farm was such a great experience where I had freedoms not possible in the city or town. The problem was to do with a sense of family. We all just did our own thing; there was no real sense of togetherness or real support. If you did not want to go along with what Dad wanted, you were in a sense isolated. My brother used to go hunting with Dad so he was 'in' with Dad and his group, whereas I was on 'the outer'. I learned the consequences when authority gets out of control. To family and friends I was made to look like some nerd and was labelled as "a strange boy" by my father on a number of occasions. Therefore, I learned the power of character assassination. I know it used to trouble my mother, but she had to tow the leadership line. My brother would support me in private, but would be silent on the battlefield. All of this, and there is more, would take some working through in later years.

Looking back it seemed like a microcosm of colonial 'Tassie Inc.' if you were not approved of then you could never get in on your own terms! In the finish, Dad just gave up. Despite my best efforts, it seemed as though he would not even try to enter my world. It was a standoff of epic proportions – a clash of worldviews as a new *alpha male* began to make his presence felt and his feelings known. My judgement now seems rather harsh, but the years have not diminished this interpretation. No doubt at the time he had his issues and worries as well as the baggage of his past to deal with. As I grow older and hopefully become wiser perhaps my perception may change.

5.4 My First Transition

This was initiated by what I saw as a breakdown of trust within the immediate family unit and began with the move by my parents to have me taken out of school at the end of year 9 (1970). This was the start of my journey of doubt and realization that people could be very dangerous. Although I did not articulate it at the time, I came realize the potency of family politics. Thus, I found myself in a crisis of trust. This, as I will show, had a strong bearing on my trajectory toward activism and beyond.

5.4.1 The Young Scientist (1972 – 1983)

On November 28, 1971 I graduated from high school with Schools Board and Prefect, a very proud moment. As I recall, yet another occasion when my parents were not in attendance. My parents did not take a big interest in my schooling. Dad had a view that like his father before him, he never saw the need to visit the school and talk to the teachers. Mum did on a couple of occasions, but there was never a consistent effort to be involved on any level. This just added to my sense of isolation and deep sense of hopelessness.

I remember in the lead up to the finals and graduation having huge arguments with my parents over my desire to enter matriculation. The financial cost was the main issue and there was the question as to whether or not I was a good enough scholar. They won, and I was forced to work on the farm owned by a descendant of the Landed Gentry. They were given land grants of some of the best land in the state. Rich fertile soils near rivers and provided with free convict labour to construct houses and buildings as well as labour on the farm – how that grated on me!!

However, as with all things there are compromises. I was able to get together a deposit for a correspondence course in Analytical Chemistry with International Correspondence Schools (ICS). A worldwide college with an office in Sydney. The qualification, although of little value at the end of my studies gave me a sound base from which to build. My father acted as guarantor and I commenced paying \$10 per month. I remember that was a lot for me as I was earning \$120 per month and had to pay my parents \$40 per month in board. The folks I worked with were amazed that I had to pay board. According to Mum and Dad (Dad in particular), they were doing me some big favour by showing me how to manage my money. Anyway, I'll let the reader be the judge. The push was to get me out of school and into work as soon as possible. I was not permitted to have a Christmas break at the end of my final year. Essentially, I was on my own and the correspondence course was seen as a diversion until I 'woke up to myself'. I was seen as just an 'uppity kid' with big ideas that had to be taken down a peg or two. At least that is what I was told.

I remember Dad's friends (shooters and anglers) had a certain distain for me because of my interest in science. On more than one occasion, I would be held up to ridicule. I remember one person asked me about my career aspirations and when I told them it was science and chemistry in particular I overheard them saying to each other, "never in a million years, he's only a farm boy".

By late December 1971, I was out working on the farm. My initial feelings were of resentment, but I soon got on with some interesting environmental projects. Despite my isolation, I had this and my studies, which all kept me very busy. Once per month I would go to Launceston (the main commercial

centre in the central north of Tasmania) to purchase books and laboratory equipment.

By mid-1972, I was working on an interesting little project. On the farm, we used an organophosphate (containing diazinon - a toxic organo-phosphate insecticide.) chemical to prevent fly strike on sheep. Large numbers of sheep would be brought into a spray dip area and treated.

The method involved applying a water suspension of the pesticide to the sheep in a specially designed spraying area.



Most of the liquid would

remain in the spray area and be recycled back into the holding tanks. This also triggers another memory of me as a youngster working in the sheep years jetting hundreds of sheep with diazinon mix during the summer months. Jetting involved spraying water based diazinon mixture onto the rumps of sheep while they were penned up in long races (rectangular yards, 20meter long). The diazinon mix passed from a drum through a pump (driven by petrol engine) and into a hand held spray nozzle. By the end of the day you were drenched in the stuff yourself. I also remember how Dad used to start at 4.30 and 5am to get the summer drenching completed just so he could take his annual holidays at Lake Leake²². All further evidence of the oppressive colonial era. How I resented those days of oppression.

²² A fishing lake towards in the State's east coast highlands.

Anyway, an amount of liquid would drain off the sheep while they stood in the large cement yards. I wondered what happened to this escaped chemical, and commenced a project to investigate the question. It was not long before I found that the waste made its way into drains that led into a nearby pond used for watering stock. My project involved selecting control water holes from around the farm (some 3 or 4) and comparing their chemistry and biology to the 'affected' waterholes. My brother Richard completed the fieldwork. He surveyed each waterhole, producing detailed reports of a very high quality. At the time he was 15 years of age. A copy of one of the reports is included here as an example of his meticulousness and eye for detail.

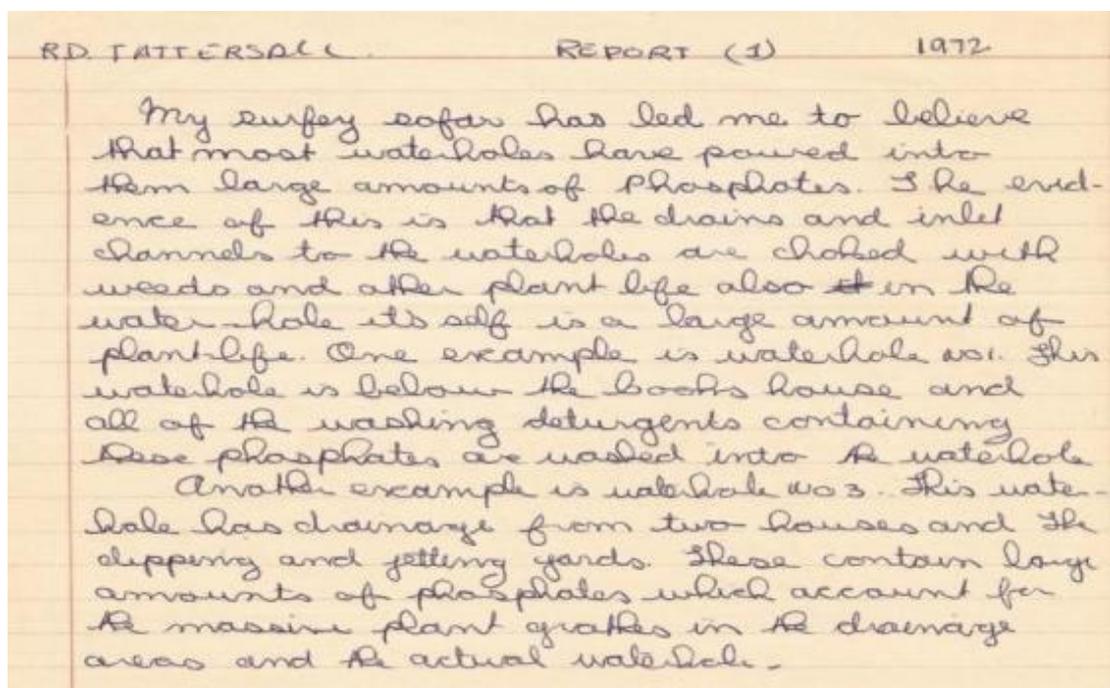


Plate 13 Richard's report on waterhole research sites 1972

The upshot of our work showed the impacts of high phosphate concentrations in the 'affected' water holes compared to those in the control waterholes (those choked with weeds and abundant life). My part of the

research involved literature review and background, for which I enlisted the help of the local Department of Agriculture, who were very helpful until they found out what I was doing. In good old 'Tassie Inc.' style the Department people quickly told the land lord what I was up to. I quickly found myself in real trouble with the owner of the farm who was leaning on me to cease the research.

Of course, that did not happen and in 1973 (age 18) I completed further more detailed studies and produced a report as part of my studies (Tattersall, 1973b). I remember feeling so annoyed that I quickly started looking for another job in order to break free of the farm. Within weeks I had secured a job at a local abattoir, where I worked as a labourer. The hours were very good, which meant that I could call in to the local library to do some reading each afternoon. My discussions with the librarian were just the intellectual stimulation I needed. We discussed science, history, art, and literature. She would help me in my research and was a great sounding board for my ideas. That year was so wonderful and Mrs Mitchell was an important influence on me.

I learned from my run-in with the farm owner that science was not independent and was subject to oppression and suppression²³ (see Appendix 5 Cases 1 & 2, pp.344-346 for further information). I had experienced my first bouts of attempted suppression by the oppressive colonialists. This incident brought to a head all of the elements of my first crisis and tended to confirm my theory of life at that time. I remember feeling miserable. I asked myself,

²³ These were my feelings at the time. To be fair though the farmers was only looking after his interests and reputation.

how did other scientists get treated, did they experience similar difficulties, or was it just me? I began to research the literature.

The TV series, *Ascent of Man* (Bronowski, 1973) gave me a solid grounding in the growth and development of the sciences as well as further insight into the way in which science was done. During 1973 I immersed myself in the history of science (Dow 1962; Jeans 1950). My perspectives and insights were greatly influenced. Texts by Jeans (1950) and the excellent *Treasury of World Science* (Runes 1962) gave me a very good grounding. I soon learned that science was not value free and purely objective. More on these points in Chapter 6.

The years 1972 to 1974 were significant as it was during that time that I embarked on a number of research projects. What a great period that was. The three projects completed during that time each allowed me to work in co-operation with others.

The wool project came about because of my observations on the farm. For one reason or another, we used to generate an amount of waste wool each year. I pondered on this and came up with an idea that perhaps we could chemically treat the waste bits of wool and produce a semi-synthetic fibre of other material, much the same as is done in producing rayon. I got as far as dissolving the wool in potassium hydroxide then passing this into a hardener solution. Mr D.D. McLeod (Department of Agriculture) was very helpful and gave help and support wherever he could (See Appendix 4, p.335) (Tattersall, 1985) as well as other letters from Coats Patons, a local

woollen mill in the city of Launceston (See Appendix 4, p. 335). This relationship with another scientist gave me great confidence that research could take place through co-operation and mutual support. Indeed my previous experiences did not put me in good stead to trust people. I found it very difficult to do. I always felt they were going to take something from me.

A further positive experience was the work on plant tissue culturing, carried out with a colleague from the TAIC days, and looked at ways in which we could grow plant cells in vitro. This was such a challenge and kept me busy. Our interest was sparked by news of work underway in America²⁴. We linked this to our primitive knowledge of plant hormones and the scene was set. Our work started in March 1973 and saw us experimenting firstly with cambium cells from carrots and then finally with root hairs from carrot seedlings. After 2 years of research, we ended up growing the cells in coconut milk and then progressed to special synthetic nutrient mixtures, which included synthetic plant hormones (Tattersall & Jones, 1973a).

In yet another project during 1973, again with the help of my colleague, I set out to locate firstly live specimens of Anaspidies tasmaniae and then its fossil forms. Anaspidies is a primitive crustacean living in the highlands of Tasmania. The shrimps, discovered in rock pools, were sampled and studied in captivity (Tattersall, 1986a; Tattersall, 1986b). The fossil forms turned out to be a little more elusive, leading me on a trek lasting nearly 40 years. All of this inquiry and research was soon to be overtaken by tumultuous events lasting nearly a decade.

²⁴ I had read the article, "Twig Man' is here" that appeared in *Pix People* Magazine during 1972. The story reported the latest findings from Clone Research around the world.

During the latter part of 1973, I became involved in a relationship that would turn out to have major implications for the rest of my life. The relationship with the girl led to our marriage in November of 1974, but not before huge upheavals. First, my mother and father were Church of England and the parents of my wife to be were Catholic. My parents were perceived as 'upper crust' and 'moneyed people'. In preparation for the marriage, the church requested birth certificates. The only problem for me was that no certificate existed. Investigation revealed that my certificate was in another surname. My parents had some explaining to do, much to the glee of my future in-laws. Mum had been married to another man when I came along. I was supposedly Dad's child. The upshot is that I was born while mum was married to the other man and so ended up with his surname. Clearly, we all had a major problem.

The church intervened and said it would all be resolved if Mum and Dad adopted me. I was pleased, as it would have meant that the birth certificate error (sic) would have been resolved. However, not to be, Mum and Dad (particularly Dad) did not see the need for that. So there I was, not yet 20 years old with a whole ton of worries and nowhere to go. I could not go back home as all the trust (what little there was) was all but destroyed, so I went ahead with the marriage. This was the start of nearly 9 years of unhappiness for me. We had two little children, who were worth every sad moment and lost opportunity. Nevertheless, I was divorced in 1984 and entered nearly 8 years of fighting in the courts over property, access, and maintenance. This bitter chapter in my life left me battle hardened and much more capable in the game of life. All of this was a big lesson in human nature and in particular, what can go wrong in the safest of places - the family unit.

By the end of 1975 I was not quite 21 and enjoying doing science. I also graduated with my Diploma in Analytical Chemistry in the February of that year.

I had moved on from the farm to the south of the state, and gained employment as a technical assistant with a paper manufacturer. My main job was testing pulp and paper. In 1976 I decided to return to part-time study and took on some chemistry units with the Tasmanian College of Advanced Education. I passed Chem. 1A with a credit in December 1976. In 1977, I was lucky enough to secure a position with a company in northern Tasmania, working as an assayer in a fully equipped analytical laboratory. This opportunity meant that I could practice nearly all of my inorganic chemistry training. I quickly gravitated to the environmental and project analysis side of things. For the next 2 years or so, I settled into a quiet period of practice and learning.

My interest in environmental science and right to know grew steadily during the late 1970's. In 1980, at the age of 25 I had a major run-in with my employer over work health issues relating to manganese and pitch vapour in the metal production area. I was able to show that my concerns were justified and in due course, I produced a detailed report (Tattersall, 1986c), which I submitted to the local environment group in Launceston. Nothing much came of it, although I think it was used a useful background.

By 1983 I had commenced work in the Defence laboratories in northeast Tasmania, where I was employed in the food science area. This was the same

year that my business, Soil Tech got up and running. In that year I progressed my interest in farming systems research and environmental science. I also had my first science based newspaper article on soil science published. For me 1983 was a watershed year and set the scene for what was to come. Securing a position with the Defence Food Research Centre (part of the Commonwealths Defence Science and Technology Organization) as a Technical Officer - Food Science was such release, such a new life. I could not have been happier.

The year 1983 was another seriously important turning point for me. From the boy who failed grade one to a man working in cutting - edge science of bush tucker research. My divorce in that year however left me depressed and sad. Like all conflicts it was not without its collateral damage. I feel largely responsible for what happened. I digress here to tell some of that story. I suspected (probably unfairly) that my wife had been having an affair during 1981 to 1983 and the baggage of the past conflicts with her and her parents left me in a situation where I felt I could no longer go on in the relationship. I had issues with my wife over the upbringing of our children who were at that time (1983) three and seven years.

I remember during 1982 when working as a metallurgical technician at a manufacturing company in Launceston being constantly worried and concerned about the on-going situation. I felt responsible for what was for me a total breakdown in the relationship. This was a very difficult time for me and I can now see that the experiences in my early life had placed me at a disadvantage when attempting to deal with the conflicts and difficulties facing me at that time. In the end the suspected affair and the conflict with

her and her parents was too much so I decided in early 1983 that I was going. Fortunately for me there was an opening for a technical officer at the Defence Food Research Laboratory in Scottsdale, so I applied. I was successful and one Tuesday evening in April 1983 I told my wife I was leaving and that it was time she faced up to what was going on.

Having to leave the children was one of the hardest things I ever had to do, but I made a decision and to this day, I have stuck by it. As things have turned out, I think it was for the best. Even so, I did miss out on many years of joy and missed my children very much. Being hot tempered and ambitious I suppressed my feelings and pressed on, mirroring my colonial upbringing of 'fight on regardless'. This story is an example of 'narrative wreckage'.

5.4.2 Gleanings from my transition

The main learning related to my place in world. During this period I had the chance to measure myself against other people and thereby have some yardstick against which I could grow my expectations. Up until 1983, my life out in the world saw me as the shy and retiring type, who just kept quiet and did science. My experiences in the work place showed me that I was of value and that I could achieve. That was big news for this farm boy! Strangely, my marriage and divorce also helped to assert myself and taught me NOT to lie down! I guess this was another aspect of my 'colonial upbringing', namely the need to turn every experience to a benefit, never admit defeat. All of which of course involves suppressing ones feelings by always looking to the future and putting 'bad' things into the past.

I had become a very good arguer and developed a kind of toughness. The period in the paper industry was hard, working three shifts and putting up with a lot of petty jealousy and hatred. I just hated it, even more than the farm. The days with the metals industry were, in the main, much more civilized. I was a staff person and used to enjoy the discussions with colleagues and the challenge of the work. In that period, I learned about security and goodwill among colleagues. Although my run-ins over worker conditions and the state of the environment didn't bring me any fame I did manage to make some changes that left the situation better than when I arrived. Those days my method of dealing with oppression was to expose any threats or intimidation by bringing others into the debate. This had the effect of opening up debates to a larger audience and forced folks to take sides as the issue escalated. I now recognise that as a dialectic process, which has turned out to be very useful in later years.

By the end of 1983 I remember having the urge to push the boundaries, to expose the lies and deceit that seemed to underpin our daily lives. I saw this as a chance to challenge all the lies and deceptions we allow ourselves to believe. The family politics going on during the period leading up to my separation made me even more determined to expose people's real agendas. I felt I became very good at spotting when people were insincere and trying to get around you. I felt very strongly that most people were simply trying to take the easy way rather than the best way. The words of my parents came to mind, "you'll never learn, you all ways do things the hard way...". I finally worked out what that meant. For me it meant that I would take a stand. I would argue and fight for what I felt was right. Nowhere was this more evident than in my fight against the then oppressive tactics of the family law system. Although I didn't articulate it at the time, I understood quite early

what dissidence and activism felt like. I remember seeing the parallels with my upbringing and home life at the time. I felt when the glossy exterior was stripped away folks were always the same underneath, and that what I had learned at home put me in good stead out there in the world.

Therefore, my passion for inquiry through creating tension had begun. This was the stuff of what I term my first transition.

CHAPTER 6

MY ACTIVIST YEARS

6.1 Introduction

In this chapter, I describe my journey through further changes in my life leading up to what I term my second or major transition of my life and practice. My focus will be on the development, or perhaps awakening of my activism and its subsequent maturation. A closer examination of the evolution of my activist styles will be discussed in the following chapter.

6.2 My Progression Towards Activism 1984-1988

One of my passions is soil science. During my 4 years at high school, I developed a real interest in soil chemistry and biology. It was not long before I found some interesting tensions to with farmer perceptions of soil sampling and analysis. There seemed to be a lot of mystery surrounding the quest for accurate soil analysis results.

During the period 1983 to 1987 I had spent a large amount of time developing Soil Tech. I ran it as part-time not for profit business. Soil Tech came about because of my concerns over soil sampling for agriculture. These concerns had their genesis during my life on the farm years earlier. I could not understand how a few soil samples from a paddock could give an accurate analysis and therefore accurate fertilizer recommendations,

particularly given the obvious variations in soil colours, and textures within many paddocks.

My early investigations showed that for a given paddock soil analysis results could vary widely from place to place. This variation was due to sampling methods (sample locations) and laboratory analysis methods. I found that the variation in soil analysis results, caused by individual sample locations could be huge. This meant that if a paddock was sampled using two sampling plans (e.g. random samples *vs.* grid sampling) the final analysis results could vary widely, even though the same laboratory analysis method. The consequences for fertilizer recommendations were highly significant.

Again, the publication of my work brought me into direct conflict with the Department of Agriculture and the fertilizer companies. Further work showed problems with the fertilizers themselves. My work showed that when trace elements were added to fertilizers the resultant mixes were not homogeneous. I published my work in the local rural newspaper and had posters published at national conferences (the Australian and New Zealand Association for the Advancement of Science Congress in 1988²⁵). All of this caused much discussion and debate. As my inquiries deepened, many more issues came to the surface, issues that our farming community was scarcely aware of. Once again, I could feel the dialectic tension building.

²⁵ The 1988 ANZAAS Centenary Congress, Sydney.

By 1987, I had initiated a structured research program based on issues of concern I had identified during the early years of Soil Tech. The first project looked at heavy metal contamination of superphosphate fertilizer. I was interested to find out whether these heavy metals (lead and cadmium) were making their way into the food chain. Literature research had indicated that some superphosphates (originating from Guano) did contain appreciable amounts of lead and cadmium. Analysis of root vegetables grown using superphosphate showed high levels of the metals. My letter to the editor in "Tasmanian Country", September 2, 1988 (Tattersall, 1988a) reporting the findings caused a storm. While I got many telephone calls from concerned farmers and members of the public I was, in good old Tassie style ignored by the authorities. That is the way it tends to be here in Tasmania: an ordinary person who makes a discovery and who is not in club is simply ignored. That is the method, denial.

In another project, I was interested to discover farmer perceptions on the soil sampling and analysis services they were using. During 1988 I also surveyed a number of farmers in the northern midlands, seeking their views on the soil analysis service (run at that time by the Department of Agriculture). The results of the survey were once again published in the Tasmanian Country newspaper²⁶. The results showed a number of important things and once again generated interesting discussion and debate over the reliability of official methods, including interpretation of results. For me it was a good opportunity to shake the colonial tree and get them all out of their slumber. I got letters and telephone calls from farmers as well as interviews and Radio (ABC Rural). Placing the results of my research directly before the farming

²⁶ Tasmania's rural newspaper, published by Davies Brothers Hobart.

community was a form of activism, whereby I sought to get the farmers actively asking questions about what was going on with their agriculture.

My work caused flurry of activity within the Department as farmers began asking what was going on. How was it that a lone researcher seemed to be coming up with all these new ideas? They were among the questions being asked at the time. The power brokers within the farming community were feeling the pinch too. On one occasion, I was asked; “on what authority and on whose behalf” was I undertaking this work? I remember one big wig who claimed, “surely, our departmental people were best positioned to have the say...”. This was a real buzz and I saw it as evidence of my effectiveness at causing discomfort. I had created another dialectic situation, by generating an issue that caused debate and discussion. At the time I was working with farmers in my local area (I was renting a farm cottage in the northern midlands), and so was able to hear their concerns first hand as well as gather their views on what I was saying in the media. In a sense, I was an activist in direct contact with my ‘community of concern’.

Over a 3 or 4-year period I was working with up to 8 farmers at a time helping them with soil sampling and general advice. My interest in soil took me into further studies in soil conservation and soil management. My work was attracting attention and I was offered a place in the M.Sc. course, Conservation of Soil Fertility, University of Kent at Canterbury, United Kingdom. This was an important acknowledgment of my work, and in particular my researches into the role of earthworms and alternative organic rich fertilizers. The invitation to join the M.Sc. program is reproduced on page 114.

From 1980 to 1987 I had been communicating with researchers around the world, seeking ideas and guidance as I shared my ideas and findings. My expression of interest regarding the M.Sc. met with enthusiasm, as I was already known. What impressed the selection panel was my method of working directly with the farming community and the way in which my research work was easy to access through the rural media. In short, my approach was similar to the latest trend in farmer-led research. I was able to show how a researcher could provide information in an easy to read format. My work perceived to be as an important aid to the extension process. This, coupled with my publications at conferences and in journals, was evidence of a capacity for higher learning²⁷, so I was offered the place. What started out as a straightforward thing soon turned out to be an opportunity for more activism.

²⁷ At that stage I held my year 10 Schools Board Certificate, Diploma in Analytical Chemistry (ICS), a certificate in Geology (Stotts) and a Certificate in Introductory Metallurgy (Stotts). 'On paper' I had no formal academic qualifications. This set the scene for the next 'after shocks'.

The Registry
The University
Canterbury
Kent CT2 7NZ
Telephone: 0227 764000
Telex: 965449

Secretary of Faculties
J E Reilly MA

UNIVERSITY OF KENT
AT CANTERBURY *****

CEH/JAB

6 May 1988

Mr P J Tattersall
PO Box 252
Scottsdale
Tasmania 7260
Australia

Dear Mr Tattersall

MSc by Coursework in Conservation of Soil Fertility

I am pleased to be able to inform you that, subject to the conditions set out overleaf, your application to register for the above degree with effect from October 1988, has been approved on behalf of the Faculty's Graduate Studies Committee.

It is most important that you do what is necessary to fulfil the conditions set out as soon as you can. You should also take careful note of the points about payment of tuition fees, accommodation and place of residence.

I hope you will decide to accept this offer of a place at this University and I should be grateful if you could complete the enclosed form indicating whether you wish to accept or decline the offer of a place and return the form to me as soon as possible.

If you have any further queries please do not hesitate to contact me, or if I am not available and you wish to speak personally to someone, Mrs Jackie Barham (ext 7561). In the case of academic queries you may wish to contact Dr R G Burns, Biological Laboratory, University of Kent.

Yours sincerely



Cynthia E Hawes
Assistant Registrar

Plate 14 Letter accepting me into the M.Sc. course at University of Kent, U.K.

The story about my inability to attend the M.Sc. course is rather interesting and is entirely in keeping with the oppression so evident in all of our institutions (here in Tassie). At the time, I was working for a Commonwealth department as a technical person. When the news of the offer of the place in the M.Sc. came through all hell broke loose, with the head of the facility claiming that there had been some mistake and how could a technical person of low qualification make such a step up. My direct supervisor was also in disbelief. They finally came to the realization that the offer was legitimate when they saw the documentation and learnt that one of their own senior scientists was referee for me as well as my lecturer at college. By that stage, the 'powers that be' had made total asses of themselves before they understood the facts.

To be doubly sure I phoned Dr. Burns at the University of Kent, who confirmed the offer of a place. As I needed a year's leave, I discussed the situation with the personnel officers from my work place. They said that if my supervisor and the head of the facility approved then my application would go through. I discussed finances with the bank, who agreed that if I were to show that I was granted leave and that my job would resume on my return they would advance me the money (the course fees including accommodation were the order to A\$20,000) as long as I provided a \$5,000 deposit. On advising my supervisor and the head of my proposal all hell broke loose once again. Even before I could explain the detail, they dismissed me out of hand. I appealed to the personnel department who consulted with the head and my supervisor. Shortly after, I was approached to find a temporary for my position during my absence. I contacted personnel who said that the idea that I do my own recruiting was ridiculous.

Further discussions then took place, after which I was told that neither my supervisor nor the head would sign my application because they could not do without my services. Therefore, I went back to personnel who insisted on a completed application form. In due course they signed and gave the reason for non-approval as “unable to do without his services” and that was that. This left everyone shell shocked as we all knew the real reason for their position. Here I was an unqualified person with only a correspondence education, accepted by a prestigious university based on my contributions to the field. I was told that this was simply too much for the head and the supervisor. The episode also heightened tensions between my technical colleagues and me as they saw me as having a foot in the science area rather than being one of them.

By 1989 I moved on to work full time in my consultancy where I developed a nice little business that saw me in demand. At that time it was a bold step as I sought to move into the independent practice of science for the community. This reminded me of an article that appeared in the journal “New Scientist”, March 30, 1991(Lovelock 1991) about a scientist who did not conform and ended up going out on his own and setting up his laboratory and facilities and wound up making significant discoveries. My initial area of interest was agriculture and I was able to work directly with farmers and to reflect on the significance of on their issues and the significance of my research.

My interactions with the farming community led me to become more and more concerned about the directions in which agriculture was going (Tattersall 1999). The high input and exploitative practices could not, in my view, be sustained in the long term. Of course, in 1987/88 such concerns were dismissed by both the farming community and the authorities as naïve and

unfounded. With soil management as my key concern, I tried in 1989 to introduce the concept of on-farm quality control. I introduced my grid sampling method for soils, where individual soil sampling locations within a given paddock remained constant from sampling to sampling (Tattersall, 1988b). My work showed that such an approach enabled accurate monitoring of soil nutrient changes over time.

I presented this work both in the press and at a forum (Sustainable Agriculture Seminar February 3, 1989, put on the National Association for Sustainable Agriculture. The venue was the Great Northern Hotel, Launceston Tasmania). In my presentation, I argued that whether conventional or organic there would still be a need to monitor farming systems, as they will have input, outputs, and impacts. I was advocating on-farm trials (with farmers as research partners) and monitoring, including biological testing, trials of new fertilizers and the use of computer models. It was all too much for many of those present. During the afternoon tea break farmers come up to me and expressed their thanks and excitement for what they said was a new way. However, as usual not one departmental person would talk to me. As much as I tried, they would not engage beyond the small talk. They were no doubt still reeling from the fallout over Exeter tip (see next section and Appendix 5, Case 4, pp.353-357), so little wonder I got the cold shoulder. It's somewhat ironic that the topic of on-farm research would be further explored in my graduate studies and masters research project some 4 years later leading to a 10 year study into sustainability – the meaning of measurement.

From the time of the Sustainable Agriculture seminar the advocates of alternative and organic agriculture quickly identified with me and I slowly began to move in that direction. By the end of 1989 Soil Tech was beginning to branch off more and more into environmental sampling. This came about because of my developing interest in environmental science and community support. My involvement with United Scientists for Environmental Responsibility Protection meant that I was able to explore these important dimensions of my practice. A new era awaited me.

6.3 The Professional As Activist (1989 – 1998)

My move into full-blown²⁸ environmental activism started in August 1988 when I commenced the Exeter Tip case (see the case summary in Appendix 5, Case 4, p. 353). I was contacted by USERP (United Scientists for Environmental Responsibility and Protection)²⁹ and asked to take on a case that involved helping a local farmer in his fight for justice. My role was to investigate alleged pollution of a farm by effluent from a nearby tip site. Initially I was engaged in the capacity of expert investigator, not unlike the role played by United Nations Weapons Inspectors. As I became more involved with the affected family I was appalled at the way in which the authorities had treated them. I quickly set about not only detailing technical material, but also addressing ethical issues through the media and ultimately via legal means on behalf of my clients. I was soon in familiar territory where I was comfortable using dialectic tension to propel my deepening inquiry into the mishandling of the pollution problem by the authorities.

²⁸ That is, activism that involved higher levels of risk to reputation.

²⁹ USERP comprised a group of concern scientist who came together to offer independent advice during the Wesley Vale Pulp Mill proposal. I was identified as scientist with the right skill set to attempt the project.

The project ended up lasting 7 years and resulted in a substantial payout for the affected farmer. He sued the local council the State Departments of Agriculture and Environment. It was one of the first joint suings involving Common Law environmental rights. The case was also the first opportunity for me to run my newly developed Community Based Sampling (CBS)³⁰ system (Tattersall, 1991), the first community based environmental audit system in Australia. Because of this work I got quite a name for myself and was called upon by a whole host of individuals and groups to help with issues ranging from tips, to aerial overspray to industrial pollution. I trained environmental groups across the state in the methods and techniques of CBS. I also played a pivotal role in the Toxics Action Network³¹ and wound up on the part-time staff of the Australian Democrats as advisor on toxic chemicals and agricultural policy (See Appendix 5, Case 5, p. 358). I had speaking engagements all through 1990 to 1993. This peaked during my work as Outreach Officer with the LEC (Launceston Environment Centre, an ENGO³²). My credibility was further enhanced due to my position as Senior Chemist and NATA³³ signatory with a Launceston Company. In the middle of all this, I left full time work at the end of 1991 to take on my environmental work on a full time basis. I was working at the LEC, running the Exeter Tip case as well as CBS (see Appendix 5, Case 4, p. 353). During that period another case attracting attention was the use of CBS to show how a large company in the south of the State had allowed lead and cadmium to contaminate a large area of a suburb (see Appendix 5, Case 3 “Urine tests

³⁰ CBS. Community Based Sampling, which was established with the help of a State Labor Government grant under a labour government in 1991. The grant was coordinated through the Tasmanian Conservation Trust.

³¹ TAN. Toxics Action Network, a group formed in Tasmania to help communities in their fight against aerial spraying and pollution from industry. TAN was a subcommittee of the Tasmanian Conservation Trust. (see Appendix 5, Case 3, p. 348).

³² NGO, Stands for Non-Government Organization. Also ENGO Environment NGO.

³³ Australia’s National Association of Testing Authorities. A system under which scientists and laboratories are accredited to an agreed set of standards.

best bet..." and "Sick Soil Fears", pp. 348 - 351). We found lead and cadmium in soil; on street nature strips, in peoples' gardens. By the end of 1992 my dissident phase was well underway. My activity within Toxics Action Network also had me labelled as an agitator and a problem. All through that period I continued to research and write. From 1989 to 1993 I published 10 newspaper articles on topics ranging from soil science, soil erosion, organic matter recycling, organic farm research, CBS and water pollution. I also published some 10 articles in the organic journal³⁴ and at conferences, and ran many radio interviews³⁵ on a whole host of issues: sustainability, CBS, aerial overspray, and on-farm quality control.

My time within the institutions of the Tasmanian environment movement, while a wonderful experience, was not as smooth as my story indicates. I gained valuable insights into how the movement works. For instance, I found that women did most of what I term the real work (this was to be further amplified during my work with TCRA, where women continue to play a vital and special role). I will discuss the significance of the 'feminine view' later in this dissertation. I found that women have a natural ability to think systemically about issues. Besides, it was always a pleasure to work with them as they seldom resorted to games of ego, competition or the aggression so often experienced in male dominated processes.

Another thing that I noted was the number of damaged persons that seemed to come into the movement. Many were angry, single issue people who had

³⁴ Organic Growing (ISSN 0314-2242), the National Journal of the Organic Gardening and Farming Society.

³⁵ Radio interviews were conducted on ABC Radio (Australian Broadcasting Corporation), as well as ABC television.

a beef against authority and the system. Working with these people could be a nightmare and once they got onto committees and boards, the problems would compound. The movement had a fixation with 'consensus decision-making'. The problem was only a few understood how it really worked. On other occasions, such processes were a front for the powerful to get their way by bamboozling the unaware.

I soon found that the movement had its very own 'Inc.' and approach to business as usual: a patriarchal boy's club mentality where the gatekeepers kept watch over 'who was in and who was out'. I came to loggerheads on a couple of occasions with certain of the inner circle who were attempting to control me. I remember on one occasion in my capacity as chairperson in one organization, being told that I had too much say and should stand down. I received telephone calls at home during which an attempt was made to intimidate me and force me to resign. The perpetrator did not have the authority to act. I brought the matter to a head after which I resigned on my own terms. It showed me that for all its goody-goody window dressing the movement did have some serious problems.

6.4 Activism on the very personal front

As it turns out the aftermath of my marriage had an on-going impact on my development. As discussed in Chapter 5 while the divorce took place in 1983, skirmish and follow-up action continued for nearly a decade thereafter. I include the story line here, as I want to make the point that in my case the making of an activist was a complex, almost collage of experiences and cuts earned through battle.

From 1984 to 1993 there were a number of issues regarding child access, which involved me being in and out of court. I saw the resultant conflict as unhealthy and made a decision to step away from regular access. This led to me being interviewed by the child health people. I explained to the medical officer what was going on in very troubled situation between me, my former wife and her family that saw the children torn between loyalties for which I was mostly to blame. He took some time to make his own inquiries, after which he could see that my choice to get out of the 'firing line' was a wise move.

During 1984 to 1986 I was caught up in access issues where I was expected to do all of the running and still only had limited access. On one occasion when my car broke down my former wife brought the children to me and then demanded payment because the court said so. On another occasion, I remember that I could not get timely access because the children were living on the West Coast of Tasmania, some 5 hours by car. This made access difficult so I asked the counsellors at Family Court to intervene in order to find out about the welfare of the children and to see if we could come to some joint arrangement over transport. The counsellor told me that it was my entire fault and I was only feeling guilty about what has happened. I tried to explain that I was getting no information from my wife regarding the children despite my best efforts to contact her. I took this up with Family Law Court as an official complaint.

The Counsellor agreed to intervene. As it turned out it was all too little too late, as I believed that I was the victim of a conspiracy by the Family Law

system that was hostile towards males. Therefore, at the end of 1984³⁶ I decided to end all contact as the stress of the on-going conflict was simply too much for my family and me. I had no further problems until 1991.

In April of 1991 the company I was working for sent me on a world tour looking at chemical technology in America and Europe. Not long after my return, I was summonsed to court (a process server served documents on me at work in front of my work team). The upshot was that I was to pay more maintenance for the children. The claim was based on what my former wife and her partner saw as my financial situation. It was claimed that because I could afford to travel around the world I could pay more. Of course, this was a mix up as it was my company that paid for the tour³⁷ not me. So I asked for a conference on the matter, as the amount of money being sought was far too high. This was refused so the matter went to a return date hearing at which I asked to be allowed to ask my former wife questions.

I had done my homework and the Act provided for such eventualities. I remember standing in the court and arguing with the judge about my right to ask questions of the applicant (in this case my former wife). Proceedings were adjourned and then reheard that same day after a stormy meeting with the assistant registrar where he tried to get my questions out of me, and threatened me with contempt and costs. I would not budge and again stood my ground when the matter resumed in court. There was a further debate with the judge, who by this time was, let me say, infuriated. At the very end he admitted that questions could not be heard, as there was no court

³⁶ Pers. Comms. to Dr. M.C. MacKenzie June 28, 1984.

³⁷ Industry Technical tour of 1990 to USA and Europe.

recording facility on that day due to some mix up with staff. The matter was adjourned and set down for hearing a few weeks later.

At the next meeting, my former wife's solicitor said that I had to pay more because the law said that the amount was set on the scheduled lists. Therefore, I agreed that if that is what the law required, and that it said that I had to pay the amount then I would do so. Several months later I involved the Law Society of Tasmania, who appointed a lawyer to look at what had happened. The lawyer found that the advice provided by my former wife's lawyer was in error and that I had been misled. She added that as my divorce was in 1983 the new schedules for payment did not apply to me. It was clear that I had been defrauded. The Law Society lawyer said that I should apply to the court to have the maintenance completely discharged.

So, in the August of 1991 I wrote to my former wife and her partner asking for a meeting to review the amount I was paying with a view to changing it in light of my discovery. I was ignored. Therefore, I enlisted the help of my lawyer and she wrote letters of request, but to no avail. I then commenced proceedings to have the matter dealt with in court. The substance of my claim was based on what had happened to me and the injustice I felt I had suffered. I wanted the maintenance varied from \$145 per week to a total of \$10 per week. I instructed that the door would remain open to negotiation until midnight the last day of November. I advised my employer that I intended to leave the company on December 21 of that year as I had made plans to pursue work in the environment movement and take on postgraduate study. I had set my course toward a reinvention and the future.

That said I was still willing to talk with my former wife provided she came to me by the stipulated deadline.

Sure enough, the last day of November passed and no call to negotiate had been received. It was not until early December that I got a phone call from my lawyer requesting a meeting, as they wanted to talk. I said, no, it is now the 3rd of December and I am instructing you to proceed and lodge the affidavit and statement of claim as is – I said by the end of November and I meant it. My papers were lodged with the court and the matter was set down for hearing early in the next year. As planned on December 21st I left full-time work and went into some part-time work and study. My case was heard in the March of 1992. The same Judge who had dealt with the matter months before was presiding, and after a short submission from my lawyer, he signed off my application and the matter was put to rest there and then.

The other side did not appear at court. When it was all over my lawyer asked me why I didn't discharge maintenance payment altogether. I replied that to be cruel is not justice. During 1992 and into 1993 there was some further issues, but the Child Support Agency ended up ignoring my former wife. They explained that the matter was closed and I need not worry any further.. I never heard another word until my eldest daughter turned up at the Launceston Environment Centre (where I was working part time) asking me to help. I supported her to get study and travel assistance, healthcare card and other benefits, as she wanted to complete her last year of college. My partner and I supported my daughter as best we could. We met the boyfriend and his parents, who all seemed reasonable enough. When we offered to play a caring role my former wife and her husband quickly moved

to mend a few bridges with their daughter. Needless to say we never heard another word!

On reflection now, this part of the narrative represents serious 'narrative wreckage' which was very painful to write. Without doubt if I were to face those challenges again I would tackle them in a totally different way. All I can offer in my defence is that I was a 'rebel activist' at that time and saw only strong dialectics: 'black and white', 'win or lose', 'right or wrong'. My 'survival instincts', forged years before left me blinkered.

Nowadays I can see things from former wife's point of view and so am certainly not judgemental of her motives nor the choices she made at that time. As I see it I failed in that I did not try hard enough to build bridges. Instead I saw the situation as one of combat and all about winning and losing. The question now is how can I make amends for my deeds during that terrible time? I reflect on such questions on a daily basis.

6.4.1 What did I learn from these experiences and what was my direction?

By 1993 I was beginning to move more toward what I would term social activism. My work up until that time was very much the scientist 'going against the grain' sort of approach. My experiences with "people in charge" tended to show that many could be real problems. I soon learnt just how oppressive they could be, not unlike my experience with the manager in the metals industry job I held years before. My dealings from 1988 onwards showed that people in official positions could abuse their power and the trust placed in them by ordinary folk. This was particularly evident in the case of my engagement with the family law system. I soon learnt of ways to

deal with them and that many were no match for my solid, well thought out arguments and questions, where I never took “no” for an answer.

I remember during the Exeter Tip project it was ‘put around’ by certain ‘pillars of the community’ that I was just a disorganized greenie, who had an axe to grind, and was into ‘professional bashing’. As the media began to tell the real story of a well thought out environmental auditing process the tune slowly changed, but the threats did not. Threats on the telephone, “you’re finished – we’ll dig something up!”, “You’ll never get a job in Tasmania, so leave now...”, “You had better have your insurances paid up!” and on it all went. Fact was I was not going to be put off. There I was, up against ‘Tassie Inc.’ and making significant progress. I had spent 1988 to 1993 working to expose the conservative, incestuous, and colonial underbelly of Tasmania. I remember giving a talk in 1991³⁸, entitled “the Chemical Free Isle” (see the advertisement (Case 3) in Appendix 5, p.348), a sarcastic dig at agriculture and the multinationals who we felt were trying to control our state.

The local chemical agricultural organizations were incensed. They got representatives from the major chemical companies to come and speak at meeting and forums, and we would just shoot them down in flames. At that time, I was involved with Toxics Action Network, Total Environment Centre (Sydney), Tasmanian Conservation Trust, Launceston Environment Centre, United Scientists for Environmental Responsibility and Protection, The Australian Democrats, The Tasmanian Greens, and a host of local community groups. I was really causing some problems and headaches. One

³⁸ A public meeting facilitated by the Toxics Action Network, entitled “Chemicals –Community-Control”, held September 4, 1991 at the Penguin Surf Life Savers Club (see Appendix 5, Case 4.).

employee within the Department of the Environment said to me, “You know, all we have done the past 12 months is work for you...”. I was on the radio, in the newspapers and on the television; it was 5 years of intensive activism, during which I learnt a lot about activism in Tasmania. In that time I also became politically savvy and very much aware of what was going on in ‘Tassie Inc.’

In the early months of 1993 I recommenced part-time work in industry as Senior Chemist with a large company in the north of the State. This gave me a good income and plenty of time for my other interests. In the February, I enrolled in the Graduate Diploma in Sustainable Agriculture program with Orange Agricultural College. I saw this as a great opportunity to explore the many questions and ideas running around in my head at that time. Little did I realize that this would turn out to be one of the major turning points of my life.

When I read Ray Ison’s paper “Teaching Threatens Sustainable Agriculture” (Ison, 1990) early that year, I was so moved by what he had to say. On reflection, that was the moment when my reinvention begun, leading to an important turning point in my life. By mid-1993 the transition toward a new approach had started. The period in which the move to closely examine the social aspects of change actually began. I was also able to locate myself within that change process and at the same time become more comfortable with my ideas about science and the role of the scientist that had their genesis years before.

At the end of 1994 I graduated from Sydney University with a Graduate Diploma. That training allowed me to explore the social aspects of agricultural sustainability and led ultimately to a scholarship in a Master of Philosophy in Rural Management. My research looked at farmer perceptions of sustainability and how it could be measured. The subject of indicators of sustainability came though from the Graduate Diploma, but by this time I was seeing the problem as more than just a technical one. In short, my journey toward systemic inquiry had begun.

The period 1994 to 1996 saw me very busy with activist jobs. More and more I could see the connection between science and society and that what appeared to be logical was not always what folks ended up doing. In short, the business of science was a human activity system, full of politics, intrigue, manipulation, personal perception, and power plays. This was an important realization for me and enabled me to see that perception, institution influences and policy all had strong influences on the outcomes of science. In short, science was not value free – quite the opposite, it is open to forms of manipulation.

My main concern was how ordinary citizens took the view that science was about certainty, yet I knew certainty could never be guaranteed. This I saw this as highly significant. The idea was within me all those years since first hearing Bronowski's (1973, pp.353-378) discussion where he showed clearly that knowledge is not about certainty. In fact, there is no certainty. I could see the how ideas of certainty were being used by institutions to effectively manipulate unwary citizens who looked to experts and leaders for guidance and assurance. This as it turned out was to be the crux of the many problems

facing activists and environmentalists as they fought to save the environment. More on these points later.

By early 1995 the Exeter Tip project (Tattersall, 1989; Exeter tip dispute settled, 1995) was nearing an end, thus marking the end of a significant chapter in my life. The period 1994 to 1998 was an intense period of research and publication too, with some 12 conference and publications produced and numerous radio interviews as well. The main thing coming out of this period was an appreciation of the value of participation in achieving change. My previous method, like so much of the green movement, had involved the aggressive use of 'facts' to win a position. The expectation was that change could occur through the use of rational scientific argument. As it turned out that was only one part of the change process. An important element was missing, which was to do with communicating key arguments to the people who really counted, namely the community. I figured it was community who had to make the ultimate decisions and so they needed, more than ever, to play an active role. It is true that in the late 1980's I had championed the use of community based approaches e.g. CBS (Tattersall, 1991), but it lacked an overall framework. In other words, I had been effective in dealing with the isolated environmental problems, but was not dealing with THE problem.

Therefore, 1998 was a defining moment for me as I realized that directions of our energies for environmental reform, while well meaning, were only treating symptoms and not causes. I soon realized however that this situation was more a case of design than fate. My engagement and study of

Landcare³⁹, Waterwatch⁴⁰ and other Community consultation projects led me to believe that community was kept busy with the menial detail while others were left to make the strategic and meaningful decisions. Engagement of community members usually took the form of a call for input into “the Landcare Plan” and the like. I reflected, “Why wasn’t Community directly involved in the initial design of these plans and strategies?” I also saw it during my involvement in the refuse disposal issues in the West Tamar.

My involvement, as change agent (Tattersall, 1994), with the Concerned Citizens of West Tamar (See Appendix 5, Case 6, p. 360) showed me just how deep the conspiratorial and collusionary processes are within sections of our government and bureaucracy. For instance, the local council was planning to locate a tip in a rural area adjacent to where residents obtained ground water. The first residents knew of the proposal was when the officials arrived to sample bore water, by that stage plans for the tip were well advanced, and yet no word to the community. I worked for 2 years on this project, and it led to two successful appeals to have the tip site stopped as well as public meeting attended by over 400 people. The authorities, along with their experts were using arguments of *certainty* in an attempt to convince the community that the project should go ahead. Our action was swift and we were able to show that community that the risks had not been appropriately identified, let alone quantified. As a result, the project got the thumbs down. This was the first occasion were I made the important linkage between community expectations, risk and certainty. It took a number of years before I fully realized the significance of these linkages.

³⁹ A National initiative aimed at protection and rehabilitation of land and water resources.

⁴⁰ A National approach to involving communities in monitoring of water quality.

I reasoned that there had to be a better way, a way to bring community members into the decision-making process. It seemed to me that the Movement was not able to do this and that we would all stand a better chance at creating an informed groundswell of change if we had citizens leading rather than (as it seemed) following. I spent most of 1998 worrying over this and other problems. However the seeds of this change were sown in 1993 when I read Ison's paper "Teaching Threatens Sustainable Agriculture" (Ison 1990). The events of 1999 provided an opportunity to try out an idea.

6.4.2 What were the key outcomes for those I helped?

During 1989 to 1998 I managed some nine major projects, including Community Based Sampling, where I trained community groups around Tasmania. With tip site work alone, I had: Exeter, Braeside, Yorktown, Beaconsfield, Lebrina, Branxholm, Longford, and Lauderdale (see Plate 15, p.134) for locations of major towns and cities in Tasmania). The red arrows show the location where CBS workshops and samplings took place). My work was always pro bono, as most of the folks I helped just could not afford to pay. All of my clients were in need; they had nowhere else to turn. So, what do I mean by this? By the time folks came to me they had exhausted all possible avenues for a fair go. The stories of abuses of trust and power were overwhelming. I remember one case of a farmer, who when faced with dying stock and deformed animals caused by run-off from a nearby tip, was told by State authorities that he should plant trees in the affected part of his farm and that if he did this his previously unsuccessful application for a building permit would be approved. He was encouraged to 'just put it all behind him' and let things get back to normal.

The farmer was Royce Macdonald of Exeter in northern Tasmania. Royce's famous "Exeter Tip" case was featured on ABC's "Country Wide" television program, and attracted considerable media attention. After an 8 year battle with local and State authorities Royce issued Supreme Court writs to the Local Shire Council, the Tasmanian Department of the Environment and an employee with the Department of Agriculture. The matter was quickly settled out of court. The cost to the local and State governments is reputed to have run into a total of around \$280,000 ("Tamar tip costs top \$280,000", 1994).

There are many similar examples I could give (see Appendix 5, p.337). The people I helped were simply pleased to have someone take an interest in their issues and offer helpful advice and support. Beyond that, the clients themselves had to drive the process. They had to be clear about what it was they wanted and they had to be the ones who made the hard decisions at key points in the project. It was rare to find folks who had the resolve to see their issue right through to the end. Royce and Margaret Macdonald (Exeter tip) were unique in that they fought for over 8 years to get their justice. I worked closely with them in the last 7 years of their fight, the majority of which was very tough and at times very nasty. As the various fronts began to open up, we had to take some tough decisions. I remember by 1990 we had some six fronts active, including the local council, Departments of Environment and Agriculture, Rivers and Water Supply Commission⁴¹, Media (we ran media on a weekly basis) and tackling a legal person over what Royce felt was questionable procedure.

⁴¹ A State Government Commission.

A similar case was my involvement in the Exeter Child-Care Centre issue involving hazardous chemicals thought to be present at the site (see Appendix 5, Case 7, p. 360).

I soon learnt to be careful about how I selected my clients. I was in high demand and I wanted to be sure that projects would reach a satisfactory conclusion. At the same time, I did want to support those in need with nowhere else to go. It was a delicate balancing act.

My method of intervention was not based on the traditional approach to activism where you go in and expose the issue then move to the next target. Right from the start I was there to help and support the client to get clear on what the problem was and then how best to deal with it so that a local change could add to regional and perhaps global efforts toward a more just and sustainable society. That is where my approach differed. I was in the game as a lone operator as I felt I could do far better in addressing the sorts of problems I was seeing.

In all of these cases, it was a matter of giving the authorities the opportunity to come good, and when they refused, exposing the mismanagement as publicly as possible. In the cases of Exeter, Braeside, Longford, Yorktown, and Beaconsfield the action went right through to completion, either in court, successful appeal or an agreement to the satisfaction of the community. In all cases the community members felt very pleased with a job well done, but there was never any follow up or interest in other issues. I suspect that this was due to the exhausting nature of the engagements,

where community members were burnt out by the gruelling nature of the campaign, a number of which lasted over 5 years. Of course, burnout is just what the other side hopes for, and to some extent, relies upon. While there were elements of traditional environmental activism in my method, I did see the need to engage citizens in the process, encouraging them all the while to grow. I also liked to set up connections back into the wider community, and felt strongly the need to report back to the public at large via media. I had many engagements with the media in the period 1988 to 1998. In fact, I've lost count.

All of my experiences gained through a period of nearly a decade told me that change was needed. It was not enough for me to be running from patient to patient⁴² dealing with symptoms. By the end of the 1990's I felt a need to re-examine my practice and to reflect on more efficient ways to facilitate an inquiring community. After all, my experiences had shown that there was a need; citizens did want to take the next steps, the concern and passion was there. Getting folks to realize that they could do it and that readymade solutions were an exception and not the rule were among the key challenges. In short, if citizens wanted change then they had some work to do. That said, there were other challenges lurking just below the surface, including the pervasive culture of control that exists within Tasmania. It was not just a case of citizens needing to be ready and able, they also needed to be savvy, cunning, alert and have a keen eye for detail. Against this backdrop, my task to prepare willing citizens with the tools of a new form of activism was a tall order indeed.

⁴² This I describe as the 'dependent patient' problem!



Plate 15. Tasmania, Australia's southernmost state, 42 degrees South. CBS sites.

6.5 My Second Transition

The transition from objective detached scientist as specialist to that of co-researcher/facilitator seemed subtle enough. The use of action research in my master's research certainly helped me take the necessary steps and at the same time feel that I had not transgressed any fundamental laws⁴³ so to speak. I seemed at ease with the idea. By the end of 1998, a completely new area of my practice had opened up and I was beginning to explore my personal practice as well as inquiring into my philosophy. My process of self-inquiry followed an iterative series of steps as I came to believe in myself and my ability to inquire within and upon. This was an important moment for me as I began to see the possibilities, indeed necessity to explore new ways of inquiring through embracing strategies that enabled me and my co-inquirers to share our perceptions of truth and action. The ideas and wise counsel of McNiff and Whitehead echo these sentiments (McNiff & Whitehead, 2006, p.2, p.4, p.188). It was from this vantage point that I could see new way for activism in Tasmania.

I had reached the point where I could see that there was a way to tackle the on-going 'business as usual' in Tasmania and that past efforts to deal with it had not really worked. Something else was needed to outsmart the highly organized control networks setup and maintained by vested interests. The task ahead of me was huge and only a few of us in the movement realized the scope of the problem and possible ways of dealing with it. I felt strongly that in order to have any chance of redesigning existing power structures we must empower citizens with the knowledge that they can and must take a

⁴³ By this I mean that I was still not sure footed when it came to moving too far from my comfort zone as a scientist.

more active role in setting the agenda for the future. While this seems like a call to revolutionize the way citizens view their role, it is more about a reinvention of activism leading to not only a redefinition of roles and functions of activists but also novel ways to involve citizens. These matters are further explored in Chapters 7 and 9.

6.6 The Co –Learning Approach (The Move to Community Based Science) (1999 – 2006)

The important message coming out of 1998 for me was the need to involve the community in decisions affecting its future. By that time, I had worked on some 10 major projects, including the development and testing of Community Based Sampling. My time with the Greens and the Democrats led me to realize that the political process was actually a small part of the change process, and that by and large all of that was the wrong way around. The political/government tail was wagging the community dog; that is, those in authority⁴⁴ seemed to be tricking the community into saying “yes” to their predetermined plans. Likewise the environment movement was itself seemingly trapped in a cycle of behaviour based on ‘No!’ to everything, which led, in my view, to a loss of focus and stifling of much needed innovation – a kind of self-fulfilling prophecy of “the louder you say ‘No!’ the louder you have to say ‘No!’”.

I remember spending a long time reflecting on the best way out of this multiple dilemma. I saw the problem as an amalgam of factors (I saw these as perceptions held by politicians, public servants, the Movement and

⁴⁴ Which I saw as the ‘political-industrial complex’.

citizens themselves – a kind of unspoken ‘norm’ or ‘given’ that no one was questioning), which included:

1. The idea of certainty. What experts come up with must be right;
2. Perceptions of leadership. There are two types of people; leaders and followers. The leaders are the powers that be and our ‘political masters (elected representatives)’;
3. Citizens and decision-making. Citizens don’t make the decisions they only input into the process. It is the powers that be and the elected representatives (politicians) who make the decisions in our best interests;
4. Citizens receive information and services and don’t generate new knowledge (Dakin, 2003, pp.96-99). Citizens are customers who pay for services, they don’t provide a service.

I viewed each of the above as contributing to what I saw as the progressive disconnection of citizens from any meaningful control of their destiny. That said it was also clear to me that citizens were also both cause and victim of this problematic situation. Any reform or way around this problem was therefore more than simply showing citizens how to lead. Any solution was as much about changing views and perceptions as anything. Somehow, we needed to break out of the then present ways of thinking and acting – we needed to break away from the colonial norms. I see these norms as being all pervasive and potent. I suspect that the environment movement has fell victim to many of them. For instance, how many activists share their reflections and learning from their field of experience? From my experience I suspect a kind of parochialism on the part of activists as each works on his or her ‘patch’. ‘Not talking’ is in my view a classic example of the Tasmanian

cultural neurosis and something that local activists seemed to have succumbed to. My problem was where to start.

I reasoned that what I needed was a strategic framework for community led decision-making. There were, it seemed, a number of challenges. The first was to develop an approach that could not, in principle, be argued down. That is to say, not easily argued down by government, industry or 'The Movement'. An approach that had 'authority' and security such that it would not scare off concerned citizens.

Something that was mainstream and seen to be leading that way. I reasoned that ISO-14001⁴⁵ was the tool of choice. It was ideal as it allowed practitioners to identify their own issues of importance (the so-called Environmental Aspects, see Gschwendtner et al, 2001 for further information) and at the same time had the flexibility to allow community to generate their own knowledge. I also wanted an approach that enabled citizens to challenge the resource management practices, rather than simply watch and report as other strategies had done in the past. In a sense, the idea was to take concerned citizens to the next step in a process that would see them become more involved in resource management decision-making. The approach saw resource management as everybody's responsibility.

The next challenge was to bring it to community. I set to and developed a training/support package and hooked into a community forestry/water issue

⁴⁵ An internationally recognised framework for environmental management. I saw it as a tool to legitimize a new form of activism based on Post Normal Science.

via my involvement as General Secretary with Tasmanian Organic-Dynamic Producers⁴⁶ (Gschwendtner, 2001 et al) (see also Case numbers 8 & 9 in Appendix 5, p.366-372). What followed was a process, quickly embraced by community⁴⁷ and led in quick succession to the founding of the journal Upper Catchment Issues Tasmania. We published the community based audit in the journal, calling ourselves⁴⁸ The Community Based Risk Assessment Group of Tasmania. This was the start of an evolutionary process that led to the formation of the Tasmanian Community Resource Auditors Inc.⁴⁹ (TCRA) in 2002. This group formally took on the on-going work of community training and publication of audits.

A new era in Tasmanian environmental activism had arrived and Community Based Auditing (CBA) was born. The main goal of CBA as a method is to seek out and analyse any claims to certainty that a project proponent may make. This inquiry process has the potential to highlight areas of uncertainty, thus opening up debate as to the level of risks associated with a proposal. The idea of introducing uncertainty into the debate over resource management had an immediate impact and signalled a new direction for activism in Tasmania. I will expand on the approach in Chapter 9.

⁴⁶ An organic farm certifier accredited by the Australian Quarantine and Inspection Service.

⁴⁷ In a short time over 200 people had contact with CBA.

⁴⁸ The initial name adopted by the authors of the audit.

⁴⁹ TCRA – the Tasmanian Community Resource Auditors Inc.(TCRA) , which was set up in 2001 to help citizens to inquire, in a disciplined way into their issues of concern with a view to developing purposeful action and at the same time improve their personal and group competencies.

6.6.1 What key things did I learn from my experiences?

The thing that brought me to Community Based Auditing was the need to deal with oppression and suppression and provide citizens with the tools to conduct their own inquiries as they explored their questions and concerns. This I felt would then assist communities in the management of their futures. My aim was to answer what I felt was a call for greater inclusion and involvement on the part of the citizenry. My approach called for partnerships with industry, government and NGO's, seeing the involvement of citizens as part of the answer rather than a panacea for the woes and problems that seem to pepper our social and ecological systems (including the points at which they meet)⁵⁰ (Ostrom et al, 2007). I was beginning to see myself as an advocate and facilitator rather than one who publicly exposed to misdeeds of government and industry.

The irony is that democracy is supposed to thrive on people leadership, but it seems that people look to be led, a real dilemma. I wondered whether Democracy, because of its intuitive appeal, is used as a smoke screen to allow those in authority to have their way. I refer here to democracy in general. Of course, democracy is a delicate mix of the full gambit of alternative views that, as they interact, yield the emergent phenomena of democracy. It is when alternative views are allowed to be suppressed that we begin to see problems. In my view Tasmania's version of democracy is still very much shaped and controlled by a form of colonialism not that well understood by the majority of Tasmanians. This colonialism stems from strong influences within our living heritage and deeply rooted in the traumatic and dark past that is Van Diemen's Land. This is what makes the

⁵⁰ In a similar vein to the approach advocated by the Resilience Alliance <www.resalliance.org>

Tasmanian context so unique as a theatre for activism and why, to some extent, general theories of activism have failed to have full effect.

Is then Democracy (in the Tasmanian context) continuing to evolve into just another form of imperialism that seeks to once again dominate the ordinary folk? This seeming dominance is echoed by citizens themselves with statements such as, “the powers that be...”, or “our political masters...” I still wonder about the origins of such perceptions. Are citizens actually saying, “I just don’t want to know – I don’t want the worry of it all, just tell me what to do”. In my lifetime, the expressions “keep your head down”, “if you keep your nose clean...” and “it’s not what you know, it’s who you know that gets you ahead...” were repeated once too often to be a mere figure of speech.

These came to me as almost instructions, which on reflection simply served to reinforce the ‘them and us’ view of colonial Tasmania. I challenged all of that, and reasoned that such views came from a fatalism that perpetuated the myth that citizens had to keep their place and must not step out of line. I soon learned there are punishments for those who challenge the way things are. Punishment sees the offenders labelled as troublemakers and dissidents. As a child and adolescent, I was determined not to be oppressed and conditioned. This had a powerful influence on the development of my character and my development as an activist. It also gave me insights into how ordinary people are conditioned to respond to authority. I analyse my development as an activist in the next chapter.

Over the past 25 years as an activist, I have noted how folks respond when confronting authority. I would often hear them saying, “Oh, we don’t want to get their backs up or cause any trouble...”, “Surely they would be acting in our interests, they would not do the wrong thing – would they?” and “There is only a few of us; whose going to listen to us?” It has always amazed me how ordinary folks appear to be conditioned to see themselves as somehow unimportant.

In this vein, I have noticed in recent times, citizens even shying away from asking strategic and critical questions. Folks are very touchy when it comes to the hard stuff where they are called upon to argue their assertions. In other words, citizens tend to focus on their immediate concerns and find it difficult to look at the bigger picture issues. While this is understandable, little effort has been made to help citizens make connections between their issues of concern and the broader context. The reality is that most of the time citizens don’t realize their issues and concerns are actually symptoms of far more serious problems. When I say problems, I mean problems to do with the way in which citizens see themselves and the social and cultural problems in which they are enmeshed.

Here in Tasmania we are unknowingly both perpetrator and victim of what is basically a colonial culture, a culture of control (see Flanagan 2007 for further insights). This problem of cultural context represents for me the main issue or problem that activists must understand and ultimately deal with. In my view, any efforts to challenge this norm must begin with the design of tools and processes that citizens can use, thereby creating the possibility for the emergence of a *new* authority.

I learnt that helping citizens to think critically and mount reasoned arguments was also a very important part of supporting the emergence of a critical and savvy community. One of the central processes coming out of (CBA maintains a focus on asking why as a means of drilling down into detail through on-going inquiry. Because citizens find themselves disorientated and distracted by the trauma, worry and sheer emotion of a developing situation, they are often at a disadvantage when it comes to clear thinking. This initial stage is where the citizen or community group needs emotional support.

As discussed above, many citizens are *conditioned* to turn the other cheek and cave in to the demands or coercion of proponents or developers. This issue must be worked through before any process for dealing with the problem can start. It involves helping the citizen gain focus, self-confidence, and clarity reading just what they feel the problem actually is. The gentle process of separating emotion (anger, frustration, fear and anxiety) from the facts and then what to do next is a vitally important initial stage to what is essentially a change process. In short, I have learnt that activist intervention is about personal change and empowerment (for the citizen and the activist). It was not until I had completed an important stage in my own growing that I could see the importance of this. For many years my practice as an activist was that of the expert, who arrived with the prescriptions to assist citizens in trouble (which I would define). It was only after my Second Transition that things changed.

My on-going learning about intervention led me to encourage citizens to search for mismatch (a process of inquiry), where plans, commitments, goals,

or objectives of a project are compared with what *is or can* be achieved based upon his/her actual experiences, community expectations and/or the input from recognized experts. This process raises questions, which lead to answers, which in turn lead to further questions and so on. This is a form of deepening inquiry that enables citizens to find their own way in the process. Despite seeming to be logical and straightforward, the process does have some weaknesses, the most significant of which is the role of ego, naivety, rigid thinking, and alignment. All of this has to be worked through during the early stages of intervention. Upon entering a new situation, one can find the group/citizen at varying stages of development. The responses below (individually or in any combination), although not exhaustive, are fairly typical,

- We knew that, we do it all the time (I ask why are you failing then?);
- We can never do that, we are just ordinary folk....
- The group is actually in subjection to a political party....
- Group members are too timid to speak out because of dominant members or cliques within the group – or has been infiltrated...
- The group simply has not realized the magnitude of the task.
- The group is funded and finds itself at odds with expectations..."

(Pers. Comms. During several workshops 2001 to 2008)

Reflecting on this list (and expanded versions thereof) and my other experiences there are two problems; the first relates to finding ways to help

citizens become effective co-operative inquirers, and the second relates to bringing the community to realization that it can take the lead in setting the agenda for the future. In my view this should start with an ability to work with multiple worldviews and perceptions and deal with the difference of opinion and resultant conflict in creative ways that see both the groups and individuals grow in understanding and knowledge. In short the process is part of life-long learning and not simply a 'meeting of minds' in order to solve some immediate problem.

In dealing with these sorts of issues, the TCRA Inc. team had to undertake a lot of discussion and reflection. This process was very beneficial and therapeutic and involved many discussions and debates over dinner as we wrestled with the problems, ideas, and issues. We all regarded this process, essentially group reflection, as a vital part of the growing process. I learned the value and power of a process that was dominated by women. I gained further insights. Women are more likely to say what is on their mind and are more able to talk their way to understanding than men. This is vital, because the discussion itself is more open and frank as you get to talk through the blind alleys and back roads to understanding. Males tend, in my view, to be a lot more contrived, and tend only to speak when they have got the story line sorted out. As I see it, the art of talking your way to understanding is just that, talking. There is a lot of trust in the group as well. This was very important learning for me, and so when I talk of TCRA Inc. I always mean we. As it turned out the members of the TCRA Inc Board all became good friends. I look upon Peter and Kim Eastman as not only friends, but mentors as well (see Appendix 6, p.373 for their details).

6.6.2 What were the key outcomes for those I played a role in helping?

The discovery of CBA was an important turning point. Despite this, our interventions showed that community members, by and large, still acted out the role of 'dependent patient'. Although there were moments of self assurance, there remained much more to be done with respect to improving the prospects for change at the personal level. We find that we have to keep revisiting situations in order to keep clients motivated. The CBA training courses may have to include a section on why it is so vital for communities to aim for independence and learn to plan effectively, both tactically and strategically. We found that communities tended to underestimate the value and worth of their efforts. The net result is usually an inability to effectively utilize what they have produced. This has led to a level of frustration for the CBA facilitators. That said there were occasions where citizens stepped up to the plate and showed extraordinary leadership (see Appendix 5, Case number 9, p.371 for feedback from Ann Gschwendtner).

Another difficulty related to the need on the part of certain individuals to act out their pet obsessions⁵¹, based on either specific gripes or pursuing government departments/agencies who had wronged them in the past. This can be very damaging both for the individuals involved and for the group in general. While those individual issues may be important to those who are affected they must be viewed in balance and as part (perhaps) of the overall project.

⁵¹ Some of this can be as simple as a hatred of those in authority, based perhaps on unresolved issues stemming from childhood, such as oppressive parents (Tattersall, 1999).

Yet another difficulty are the individuals within some groups who see it as “it’s all been done before” and that “so and so has already tried that and it didn’t work” (Paraphrased gleanings from numerous workshops over the past 20 years). In the majority of such cases, we find ourselves struggling to find clear records, or arguments in support of such positions. Where some work has been done we usually find much of evidence and no clear position, analysis nor synthesis. Such revelations are usually delicate moments as folks may have had feelings of powerlessness and inadequacy, or in some cases, there is an attachment to their way such that any suggestions are seen as interference.

By the same token, such situations may also provide the opportunity for further insights into the workings of a group and as such are highly valued. In that sense, the ideas for change tend to come from within the group itself. Our role is truly facilitative as we support and guide group members toward the realization of their own strengths and weaknesses. Therefore, CBA places a strong emphasis on the development of an inquiry process that defines and deals with the problem/s and grows the people involved, so they can in turn critically inquire and help others to grow. The aim is to work with the community group as part of the team and their world. In short, we see ourselves as facilitators and co-inquirers. Even so, there remain a number of difficulties and problems beyond those to do with apparent group dysfunction. Key among these is the very nature of our engagement with citizens in need.

From the very first CBA workshop, it was clear to me that people could take charge of their own issues and were capable of working through complex

ideas and concepts leading to well-planned actions. Overall, those who had participated in Community Based Auditing programs were delighted with the outcomes. In some cases though some groups found themselves lost, usually manipulated by outside forces (usually political) who were seeking to achieve their own ends (or worse try to shut the group down).

Another disturbing development in some cases was the problem of self-destruction, where groups would suffer because of in-fighting, internal power struggles or fold due to burnout of key people. Such was the scope of the problems that we⁵², (TCRA Inc.), wrestled with as we commenced our mission to facilitate the emergence of a critical community. Our first realization was that there was a long way to go. Even at its most basic level, that of community group, it was a huge task simply helping folks to get along together. A lot of effort had gone into uncovering ways to help groups function more efficiently and effectively. Our aim was to deal creatively with what seemed to be a kind of dysfunction within many groups.

Nearly all groups are powerhouses of energy and ideas. Dialectics and tension abound as personalities, egos and agendas rise and fall like some boiling cauldron. The paradox is that this apparent group dysfunction can be seen as an indication of the potential for creative processes that can wind up improving not just the effectiveness of the group, but the competency of its members as well. In short, conflict and apparent dysfunction can be a kind of engine to drive change. In my experience conflict can have a number of sides. It can result when the actual situation differs from some desirable

⁵² Our group Kim Eastman, Kristen Jaehne, Peter Eastman, Margy Dockray, and later Lesley Nicklason were all intelligent, insightful and creative thinkers.

condition or situation. In a group opinions can differ as to the nature of the problem and how best to solve it.... This we call a dialectic where tensions exist and from which fragmentation can occur. The fact that there is polarization means that, like a battery there is energy.

Two of our TCRA Board members had training in Landmark Education⁵³ and this along with my graduate training helped us develop methods and techniques to assist groups in their development. That said, we are still far from a prescriptive fix to the challenges we face.

During the past four years of my involvement in CBA, I have reflected on problems and issues associated with grass roots activism and have found what seems to be a key obstacle. When we have been called to assist citizens, it has usually been based on solving some important and urgent problem. Our tack has been to carefully work through the issues of concern and at the same time get to know the group and how it works. We have found that the last thing a group wants to do is to go back to basics and rethink its goals and strategy. The aim in calling us in is to deal with the issue and then for group members to get back to their normal lives, in short there is a sense of urgency on the part of the group. There is the expectation that as experts the facilitator's job is recommending a course of action and out pops the answer. The group members, not unlike patients at the doctor's surgery, simply pick up the prescription and life gets back to normal. In other words reps from the environment movement are just another service to be called upon in times of need and citizens need take no responsibility for the details.

⁵³ A structured forum for the development of personal competency.

Activists within the environment movement are also trapped in this cycle of behaviour. I could see during my involvement with the movement that such cycles were in effect influencing my practice as an activist. In this way I was being subsumed into the 'norming context' of Tasmanian activism. As far as I could see this was disaster in the making. I had to literally 'leave them to beat them'. This was the trigger for my further growth.

Herein is one of the key obstacles preventing the development of a critically engaged community: citizens see their issues as a one-off requiring a solution in the shortest time possible. Once the skirmish is over it's back to normal until the next issue. No thought is given to the underlying causes of the issues. As a result, citizens never really get it and the movement goes on responding on an issue-by-issue basis. The opportunity to address systemic change never arises as a result things stay the same. As it turns out this problem will take CBA in new directions in its evolution. In Chapters 7 and 9 I will attempt to grapple with the complex issues and problems that once solved could open the way for further breakthroughs.

As interesting as my life journey has been so far, it is now time to probe into and analyse my progression. It's now time to stand back and try to make sense of the growing, thus affording the reader the opportunity to interpret my journey from the standpoint of theoretical frameworks. That is from standpoints not purely of my own making. In this sense I am attempting to honour my contract with the reader to provide a robust account and at the same time further show that the essences of my story have relevance to others.

In short an attempt to add a new dimension to my interpretation. I do this in two stages, beginning with the next chapter. The next two chapters examine my two sides – the practical and the theoretical.

PART 4

MY LIVING THEORY – UNDERSTANDINGS, IMPLICATIONS AND REFLECTIONS

CHAPTER 7

AN ANALYSIS OF MY ACTIVIST STYLES

7.1 Introduction

In this chapter I intend to delve a little deeper into my activist styles. In doing this I shall focus initially on my practice⁵⁴ as an activist. This will set the scene for an analysis of my theory of activism. In doing so I will bring together the two sides of my praxis: a kind of a synthesis, or to use my DNA metaphor, I will explore the co-generative process to explain my actions in the world. This will set the scene for an explication of my Living Theory in the following chapter.

While Chapter 6 described in some detail my numerous experiences it did not analyse my journey from a youngster with an axe to grind to mature activist as inquirer. That is the one task of this chapter. I also aim to show that changing one's approach to activism is a difficult and complex task that involves dealing with outstanding issues embedded in one's past. This along with my strong desire to break away from the normalizing forces (by this I mean the implicit and explicit expectations that are placed upon individuals working within institutions) imposed on me by the culture of environmentalism in Tasmania drove me to move beyond my own 'No!' and in so doing took me to a place where I could see opportunities for the movement itself to move beyond its 'No!'. In this way my own personal

⁵⁴ That is one side of my dialectic (Theory-Practice) or my "inner and outer" selves (see my DNA metaphor Chapter 4).

change was both a product and a starting point for change in the broader context. It follows that an understanding of the change process would be useful knowledge, not only for me but also for others contemplating personal change in order to improve their competence as activists.

I will begin with a description of activism and then move to a discussion of the various forms of activism, including its role in environmentalism. I will then introduce a framework for classifying activist styles, which I will then employ to analyse my journey to my present style of inquirer. The methods described in Chapter 4 will be utilized during analysis and interpretation.

7.2 What is Activism?

Activism, in the context of this inquiry, is taken to mean various forms of social and political action intended to bring about change. The following general definition is used:

Activism, in a general sense, can be described as intentional action to bring about social or political change. This action is in support of, or opposition to, one side of an often controversial argument.

The terms activism and activist used in a political manner first appeared in the Belgian press in 1916 in connection with the Flamingant movement. The word "activism" is often used synonymously with protest or dissent, but activism can stem from any number of political orientations and take a wide range of forms, from writing letters to newspapers or politicians, political campaigning, economic activism (such as boycotts or preferentially patronizing preferred businesses), rallies and street marches, strikes, or even guerrilla tactics. In the more confrontational cases, an activist may be called a freedom fighter by some, and a terrorist by others, depending on whether the commentator supports the activist's ends.

In some cases, activism has nothing to do with protest or confrontation: for instance, some religious, feminist or vegetarian/vegan activists try to persuade people to change their behavior directly, rather than persuade governments to change laws; the cooperative movement seeks to build new institutions which conform to its principles, and generally does not lobby or protest politically. (<http://en.wikipedia.org/wiki/Activism>)

7.2.1 Activists and social change

As indicated above, activism can take many forms. Over many years, activists have been at the forefront of many changes in society. The Suffragettes, for example, led change for the emancipation of women. The emancipation of slaves in the United States is another example where activists helped to bring about change. Martin Luther King and his work on civil rights is yet another example where grass roots activism engendered major changes to community perceptions and whole sections of the law. Activism can involve risk taking, which can result in threats, intimidation and in the case of Martin Luther King death. In my case, I have been subjected to threats of physical harm and subtle intimidation, such as boycott and smear campaigns. I received threats during the early 1990's. At that time I was involved in several issues, both as a member of the Greens and as a lone activist – community advocate.

Many activists have to fight through thick and thin and from personal experience I know it is often tough going for the lone activist. The reader will no doubt recall the tribulations faced by Erin Brockovich, dramatised in the film "Erin Brockovich". Stories of activism demonstrate that a single person or small group can make a difference and can indeed change the world. Likewise, many institutions and organizations can and do make a difference, examples include the Fred Hollows foundation, Freedom from Hunger, People Against Landmines, Médecins Sans Frontières and the host of other organizations who seek to change the way the world is by taking vital leadership roles. We tend to find that what were once considered radical ideas gradually become the accepted norm once the broader community understood the significance of the on-going action. Indeed that is one important hallmark of activism: activists are usually first with an idea or innovation. Activists tend to be able to take what is the accepted norm and

locate an issue or a discomfort requiring attention. In short, activists generate issues⁵⁵. In taking up position, the activists usually begin with that well-worn word, 'No!' More on the significance of this in a later chapter.

7.2.2 The Environment movement

Environmental activists operate within and external to the environment organizations and institutions. Together they make up the environmental movement. Examples of institutions include Greenpeace, Friends of the Earth, Australian Conservation Foundation, Total Environment Centre, Wilderness Society, and The Tasmanian Conservation Trust. There are many more such institutions spanning the range from radical to not so radical.

However, the 'environment movement' is more than simply a collection of NGO's. In building on the work of Steve Cook, Pakulski and Tranter (2004) were able to show that environmental activism in Australia is socially circumscribed and public perceptions and attitudes continue to evolve. This is important because it means that the public do have an ongoing role in setting the agenda for issues of concern and that the nature and complexity of the issues continue to evolve. These researchers, building on the work of others, differentiate issues into 3 categories: The first ("Green") has a strong conservation and radical focus on issues such as logging, Greenhouse and soil degradation. The second category ("Brown"), are concerns about issues such as pollution, and waste disposal. The third is the "White" group who are concerned about Genetic medication technology and human cloning.

⁵⁵ An issue is the difference between 'what is' and 'what could/should be'.

As my story unfolds I hope to show just how important it is for the movement (as an institution) to take this into account. That is to say, activists need to be in tune with the concerns and perceptions of their community. Of course, this does not diminish the role often played by activists in raising issues that communities may not see as immediately significant. A busy community simply may not have time or resources to delve into the nuances of every potential environmental issue. Clearly, it is a delicate ethical balance as activists advocate for environment on the one hand while trying keep in tune with community needs and perceptions on the other.

7.2.3 Environmental activism

As the focus of this thesis, environmental activism covers a broad range of issues. As practiced by institutions and individuals alike it has been responsible for significant changes in the way we treat our environment. Recent examples include the fights to save wilderness areas, and species such as whales.

The on-going conflict over resource use here in Tasmania is a further example where activists continue to push for better forest management practices and greater accountability on the part of industry and government when it comes to exploitation of publically owned resources. Issues abound; water yield and quality, pesticide usage, road damage, resource usage, equity and on the list goes. Like activists generally, environmental activists are quite good at making systemic linkages. That is to say, they make explicit the relationship within and between issues. I have found in my experience here in Tasmania that environmental activists are quick to move from specific issues of concern to recognise relationships well beyond the

boundary of the original issue. These relationships can involve bringing other activists in on the issue, or perhaps linking with other campaigns already up and running. Methods can include: street protests, blockades (blocking access of people and equipment from entering certain sites, obstructing operations (e.g. protesters placing themselves between the bulldozers and the trees), media exposure, letter writing campaigns, lobbying industry and politicians and organizing public meetings and forums in order to profile an issue⁵⁶. As I will show later on many of these approaches are for one reason or another losing their appeal and impact as public expectations and social contexts continue to change.

Like all flavours of activism, environmental activism is practiced by community members from all walks of life. As already mentioned, Erin Brockovich shot to fame as a housewife and mother with a concern over the human and environmental health effects of a toxic chemical. For many though, the closest we get to activism is the occasional letter to the editor or perhaps attendance at a local meeting of concerned citizens. Take nothing away from such activities, they can and do add significantly to the calls for changes to the way we are treating our environment. Not everyone can be a Brockovich, but we all can still make our feelings known. How effective we are at bringing about change is another matter entirely. In my life as an activist, I have moved through a whole range of levels of participation and effectiveness. All levels have their uses and vary in their effectiveness. For instance, I still write letters on issues of concern and occasionally make submissions to government inquiries. These days I try to utilize as many styles or approaches to activism as I can – I think these lead to greater

⁵⁶ These are examples of the 'reform environmentalism' approach to change (Whelan, 2002, pp.64-68).

effectiveness in the long run. That said I do prefer to act from the perspective of inquirer. Below I discuss the various styles of activism and what they have to offer.

7.3 A Typography for Classifying Activist Styles

The following typography will assist in the interpretations put forward later in this thesis.

7.3.1 The citizen and community change

In this dissertation, the term “activist” refers to a spectrum of approaches used by community members in bringing about social change. Carson, 2001 (after Moyer 1990) discusses the various activist roles of citizens in community change, referring to the “Effective Citizen” as one who promotes positive values, democracy, and freedom. The “Effective Reformer” uses official mainstream systems (e.g. law, policy change etc.) to progress the movements’ values. The “Effective Change Agent” works with “people power” to educate and convince leading to paradigm shifts. The “Effective Rebel” uses protest, says “no!” to violation of positive values. Moyer 1990 (quoted in Carson, 2001) argues that all roles are essential for social change and that roles are interchanged throughout our lives. Each of these activist roles also has an “ineffective side”. The “Ineffective Citizen”, for example displays unquestioning acceptance of official policies. The “Ineffective Change Agent” promotes visions of perfection, displays tunnel vision, and ignores personal issues and the needs of activists. The “Ineffective Rebel” is anti-authority, anti-organizational and tends to use radical methods. The typography of Moyer used by Carson (2001) continues to be a useful tool in the early stages of my research.

Carson (2001, pp.4-6) sees a shortcoming in Moyer's classification and in collaboration with Kath Fisher identified a further role, thought to be of fundamental importance, namely the "Effective Inquirer". The "Effective Inquirer" asks strategic questions, promotes the need for genuine inquiry, can include participatory approaches, engages in active listening, and evaluates the issues of power, representation, and accountability.

7.4 The development of my activist styles

To help draw out the key themes and meanings from the stories presented in Chapters 5 and 6 I have summarized the key phases and moments marking my development as an activist in Table 7.1. (p.167). Figure 7.1 (p. 168) shows the factors influencing the growth of my social conscience during the period 1960 to 2004. The purpose here is to show the significant events that shaped my activist styles. The discussion will involve moving between the "inner" and "outer" selves⁵⁷ (i.e. the link between what I do and what I think and feel) as I bring to light the generative processes. As the need arises, I will refer back to the stories contained in Chapters 5 and 6. This part of the interpretive process is essential as it helps to recapture the important emotional mood of the moment and at the same time supports the development of a trustworthy account.

My development has been marked by two distinct phases, which I have titled "ineffective" and "effective" (the red arrow on the table shows the separation between ineffective and effective activist styles). The ineffective activist is typically concerned about something but is either unable to clearly

⁵⁷ Once again, the DNA metaphor can be used to envisage the process of understanding as a co-generative intertwining of the two sides of the same thing (see Chapter 4).

articulate it (me during the period 1960 to 1983 driven by high ideals and a sense of impending crisis – see “influencing factors” in Table 7.1, p. 167) or can articulate his/her concerns but does so on the basis of weakened arguments⁵⁸.

As discussed in Chapter 5, the trauma I experienced from 1960 to 1971 had the effect of stunting my intellectual development. My father’s competitive nature caused him to see every discussion in terms of a polarised debate with either a right or wrong answer. For a teenager trying to flex his intellectual muscles it was nothing short of torture when trying to express a point of view. I had opinions on science, religion, art, and life in general, but every time I’d try to discuss my views I would be howled down and told that I was wrong or didn’t understand. There was little in the way of a sharing of ideas, it was just ‘head to head’, mostly at evening meal times. So, in my formative years I came to believe that sharing your opinions was a kind of combat, where you had to win, even if that meant getting personal and carrying a grudge until matters outstanding were resolved. For years I had great difficulty putting together well organized arguments because my emotions would get in the way and those urges to win would return. Even when someone was unclear as to what my argument was about I would take it as a signal that they were deliberately trying to ambush me; such was the depth of my problem.

There I was stuck, thinking that the only way to convince was to pile up evidence in support of whatever case I was pushing at the time. I tended to spend most of my time ‘bullet proofing’ my arguments, thus leaving little time for crafting the actual content. It took me the best part of eighteen years

⁵⁸ A written argument (as text).

to sort out my problem (1973 to 1991). In hindsight, I can now see that it was not all gloom and doom. Those competitions with my father, as bad as they were, did equip me with a certain savvy and, dare I say killer instinct. To this day I am still able to find and exploit weaknesses in the defences of the other side. Part of me still believes that speed and surprise can be important elements of any activist campaign and that at the end of the day creating a condition of fear through the use of humiliation and exposure can be very useful. This side of my activist has a high emotional content, with what started out as a return to the war with my father ended up turning into a carefully crafted strategic tool that would serve me well. Unpacking my internal conflict took a lot of time and effort and was linked to my move out of Moment 2(c) (Table 7.1, p.167).

In the end though, I realized that while emotion and passion were vital aspects of the argument process you also had to craft a story that put the reader at ease and amenable to at least attending to what you have to say. I began to see that assertion and evidence had to be carefully connected in such a way that the final argument seemed almost obvious. My experiences at the Defence Research Science Technology Organization Laboratory (DSTO) Scottsdale, (formerly Armed Forces Food Science Establishment) helped me see the need for improved writing skills and general scholarship. In effect 1983 saw me having to relearn all my writing and thinking skills. My colleagues at DSTO were a great support in this vital stage of my development. The research I carried out in my own laboratory also helped me immensely as I struggled to publish whatever I could. I remember having articles on soil sampling and analysis published in the local rural newspaper and at a national conference in 1988 (Tattersall 1988b). By 1988 I had moved into the next moment in my development.

In this moment (2(d) in Table 7.1, p. 167), I was able to build arguments, but was still weak in the area of connecting my assertions to the evidence upon which they were based. I also tended to spend a lot of energy on winnowing out a single answer or solution, rather than simply explaining the pros and cons. Like so many activists I thought that if you pile up the evidence and believed you were right then others would go along with you.

Fortunately, by around 1991/2 I could see that building a convincing argument was more than piling up convincing evidence or appealing to some higher authority. A good argument has to carefully link one's assertions with the selected evidence in such a way as to help the reader to challenge their assumptions about the matter of concern. At the same time, I could see that the argument had to be in a language and form with which the reader was comfortable. To achieve this meant that I had to undergo some personal change. For a start, I had to get off my activist 'high horse' and attend to the needs of my audience and those who had expectations of me, namely ordinary citizens. Clearly, a delicate balance as I realized that on the one hand citizens may not be aware of 'what was best for it and the environment'; while on the other they needed to be closely involved in any decision-making processes. Accordingly, I did not see the need to go all the way and jettison all of the tools of traditional activism.

Therefore, I entered the next phase of my development with some ideas about how to change my practice and how I could improve the lot of those citizens who wish to pursue change. By the end of my second moment, (see Table 7.1, p.167) I was very much in the mould of the "effective rebel", using well-crafted arguments to confront issues, and using good timing and

surprise to gain points across a range of issues. I had become quite effective at communicating complex ideas to a wide audience. In the period 1990-92 a number of environmental issues, including the Exeter tip issue had come under my control. My move into the third moment was significant. By mid-1993 I had moved through an important personal change that saw me develop an understanding of learning style and was beginning to grapple with the nature of my philosophy and element of my practice.

The term learning style has been defined by David Kolb (Gill and Johnson, p. 24-25) and others. Each of us has a method, a way of tackling problems and puzzles. Some of us use feeling and intuition, others like to experiment and try things, while others like to reflect and mull things over. Some of us prefer to think in a purely theoretical way. The problem is that only a few of us actually know what our style actually is. A simple test can give you an idea of your preferences. Once you get that vital information you can, if you wish, embark on ways to change your thinking and practice. For me it was a huge revelation and the start of the rest of my life.

The early 1990's marked my move into the role of change agent, seeing the need to promote paradigm shift through debates over sustainable agriculture, genetic engineering and organic agriculture. In the period 1993 to 1995 I completed graduate studies in sustainable agriculture, which gave me a very good grounding in the paradigmatic roots of the debate over sustainable agriculture. This provided me with a very good opportunity to explore the structure of ideas that underpinned environmentalism and enabled me to locate myself within that discourse. This made my move through the third moment both interesting and rewarding.

By the end of 1997 I was largely through this phase of my development and could still see the need for engaging citizens directly in the change process, not only as makers of change, but as the subject of change within themselves. This caused me to undertake a two-year search for a new way and new tool to complement the then current forms of activism (street protest, blockade, lobbying, and media campaigns). My feeling was that the context in which I was operating as an activist (i.e. the 'movement') was influencing my practice such that I became concerned that I was beginning to normalize with the context. I felt the net result of this was taking me away from meaningful engagement with citizens toward an institutional form of activism.

I wanted to help concerned citizens get involved in environmental activism and at the same time help them to discover new things about themselves⁵⁹. In short, I sought to challenge the notion that it was only the 'greenies' or 'those activists' that ever seemed to do anything about the problems. I reasoned that citizens could do some of their own inquiring⁶⁰, research and reporting, and do some of the telling for a change. I felt if this could work it would represent one of the most serious challenges to Tasmania's business as usual attitude, where legitimate community concerns continue to be swept aside (see Flanagan, 2007 for his interpretation). By the end of 1998, I moved into the current phase in my growth, known as the inquirer. In this phase, I developed the idea of CBA as means of placing power back into the hands of citizens.

⁵⁹ That is, help them to grow.

⁶⁰ At least it gave those who were interested an opportunity to engage in a process that was not controlled by yet another institution.

CBA was also an opportunity to demonstrate to the Tasmanian environment movement that there is another way to tackle the problem of effective community engagement. This would, however require the movement to acknowledge that it has some issues to face up to in terms of its view as to what constitutes community engagement, especially when it comes to the highly contentious issues coming out of the forestry and water debates.

Table 7.1 The Phases of my activist style

	Phase*	Moment	Years	Case title (main ones) (see Appendix 5 for selected cases)	Influencing factors/key events	My Mode of practice	My Activist style ⁶¹	Evidence
Presenting the facts seen as enough – knowledge seen in terms of right and wrong	Ineffective	1	1960-70	The early years – family history, told I was not good enough to be a high achiever, TAIC	Grd 1, Silent Spring, World tomorrow, CB Ward, family politics, my first Transition,	Passive learner/questioning.	1960 –69 quiet person End 1969 “questioner”. Right and wrong answers...	Memory, TAIC files, “man and nature”, “my deed for mankind”
	Ineffective	2(a)	1971-73	Organo Phos project, wool project, clones, first incident of suppression from a source outside the family	“Ascent of Man”, concerns over environmental issues	Young scientist working in isolation.	Scientific inquiry as the way – effective citizen. Ability to construct written arguments not well developed...	Project reports diary, letters
	Ineffective	2(b)	1983-84	HM’s and inquiry into pesticide incidents, keen interest in environment.	Growing need to do “more” – become more effective.	Scientist/facts seen as the way	Ineffective reformer. Could see problems and produce data but had difficulty building arguments... Right and wrong answers...	Pollution reports, letters, reports
Presenting facts and building arguments – no right and wrong as such	Effective	2(c)	1988-95	Exeter tip, USERP, TAN, CBS, numerous interventions.	Written communication now good, communicating through popular press 1991 ability build strong arguments Presented in public forums, radio and TV. Now a public speaker.	Activist using science/facts seen as the way. Communicating science to the people seen as vital	Ineffective rebel to Effective rebel. Ability to build arguments better developed Knowledge seen as transactional. Found the power to convince! Innovation used.	TAN file, USERP, media, reports
	Effective	2(d)	1990-92	Lutana, TAN, CBS	Joined and led activist groups, Exeter tip issue still running. (TCT, LEC, TAN)	Specialist building arguments	Effective rebel	Reports, OGFS stories
	Effective	3(a)	1993-96	Concerned citizens	Publication of my work in organic journals, grad studies. Needed to break out of the activist culture I was in	Specialist working as change agent	Effective change agent	Reports, media, letters to ed
	Effective	3(b)	1996-97	Child care centre	Standard of written argument now high. Able to hold own in public forums	Specialist working as change agent	Effective change agent	Media, letters
	Effective	3(c)	1998-99	TOP, Community support, CBA starting	Co-operative enquiry, Story of Change (<i>Green Connections</i>) Second Transition	The inquirer working as participant	Co-researcher/inquirer	Letters, media reports
	Effective	4(a)	2000-	CBA	Community empowerment though inquiry	Scientist as co-learner	Inquirer and advocate	Journal, letters, emails

 = Periods during which transitions were initiated (1970 and 1998).

⁶¹ Classification based on the work of Lyn Carson (Carson 2001). One can utilize all styles during an intervention. The ones listed here are the ones that dominated my practice at the time.

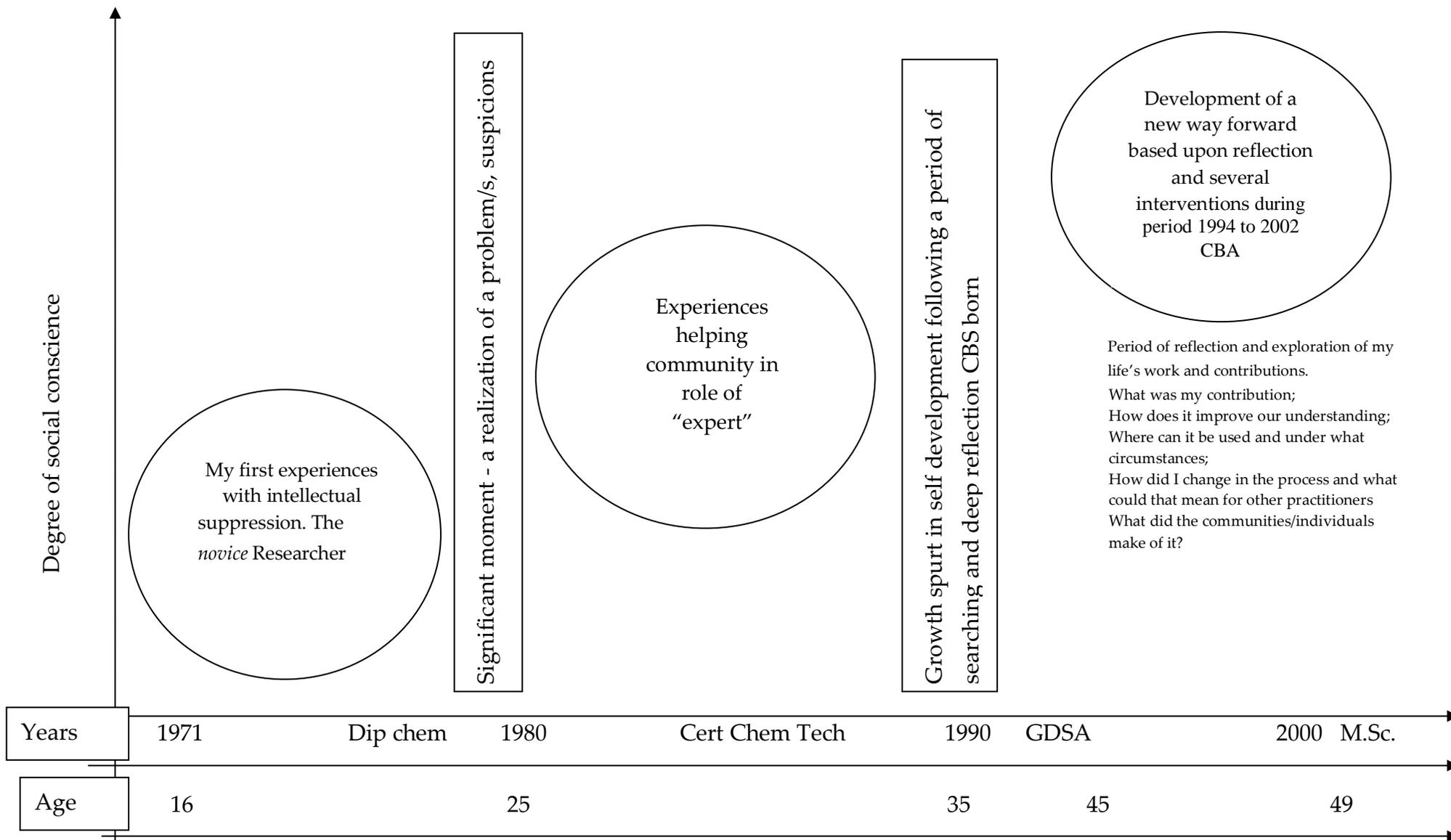


Figure 7.1 The development of my social conscience and activist practice.

7.5 Understanding my current theory of activism

In this section I will attempt to analyse my personal theory in terms of the broader context of change theory. I intend to show how personal emancipation⁶² enabled me to undertake an important philosophical change that led me to pose deeper questions about the nature of my theory of activism, i.e. what does being an activist mean to me?, and in what way is my thinking about activism related to what I wind up doing as an activist? In short how does my theory inform my actions and what caused my progression through activist styles? These were important questions that once answered would enable me to take the next steps in my development based on an informed purpose⁶³.

In the previous chapter I alluded to my various activist styles and how they evolved over many years. In looking at my practice, I described two major phases in the development of my style and I showed that moving from one phase to another was a significant change driven by a need to convert passion and anger into sound reasoning. It is this tension between passion and reasoning that I intend to use as a metaphor to explain how I arrived at my present theory of activism via progression to what is termed level 3 learning (Bawden, 1995). From this new vantage point, I could see how my philosophical transition influenced both my practice and my location within a reinvented activism. In a sense my practice was cause and a product of my new found philosophy. As such it represents another creative turn in the 'DNA helix'.

⁶² A release from the bonds of my colonial past, and oppressive upbringing.

⁶³ As such this would be a major breakthrough for my practice as an activist.

My transition enabled me to recognize opportunities for my own growth as an effective activist, and at the same time, I could see benefits for others involved in environmental activism here in Tasmania. All of this stemmed from knowledge of my own theory of activism and where it fitted into the contexts in which I operate. As a product of Tasmanian culture, I feel a strong sense affinity with my mission of discovery. I conclude the chapter by arguing that in order for practitioners of social change to function more effectively they must first inquire into their own practice

7.6 A Framing for analysing my activist theories

7.6.1 Genesis of my thinking about my learning

It was only when I began to think about the nature of my views and perceptions that I could ask why I held them. I felt the need to come to grips with the nature of my beliefs and how they influenced my actions. I remember being in some anguish for a period of nearly 12 months (during the early 1990's) as I carried this problem around in my head. It was triggered when I recounted a dilemma from years before when as a young scientist I was deeply troubled by the nature of discovery through experiment.

Normally experiments are built on a clearly planned series of steps to discovery. Yet I knew that discovery was more than an outcome of a rational process of inquiry. Having made discoveries in my humble chemistry laboratory, I found that in a lot of cases accident, serendipity, and leaps of insight tended to play a significant role in the discovery process. At age 18 I remember having the feeling that creativity and inspiration were big factors in the business of science. On the one hand, I saw the need for disciplined

experiment and logical deductive reasoning, while on the other I was confronted by something I did not quite understand. In fact I had doubts about the 'scientific method' as such. It seemed to me there were many approaches to 'doing science'. On Reading P.W. Bridgman's piece (in 1971) entitled, "On Scientific Method" (Dow, 1962, pp.44-45) I was thrilled to read that there are as many "scientific methods as there are scientists..."

The BBC documentary, "The Ascent of Man" gave some comfort with Bronowski eloquently explaining the business of science. I also read widely, reading the history of science (Runes, 1962) in an attempt to come to grips with what was at that time a serious problem for me. Many years later, an exploration of my learning style enabled me to become aware of my approach to problem solving. This in turn helped me to make sense out of some aspects of my journey through life. An analysis of my learning style revealed that I was a 'diverger'. Divergers have imaginative abilities and an awareness of meaning and values. The diverger is able to look at situations from many angles and is concerned with 'people issues'. This did explain my basic approach to learning and also threw light on the conflict I had been going through as I tried to reconcile what I was thinking and feeling against my actions in the world.

I visualized my problem as a kind of creative tension as my feeling-intuition side (so-called right brain) and my logical-rational side (so called left-brain)⁶⁴ were in a kind of tussle, like two identical twins, each with differing ideas about the world. I explain this tussle by reference to my DNA metaphor. I

⁶⁴ This arose during my Graduate studies in sustainable agriculture, where I used diagnostic analyses to determine my Learning Style (see Chapter 1).

look upon it as a co-generative process: the feeling and intuition side generates useful insights that enrich my practice, which in turn provides nourishment for my feeling-intuition side and so on. I also visualized my understanding and knowing as an emergent property resulting from the intertwining of my subjective and objective sides. While this was useful and gave me some insights into the nature of my paradigm, it did not seem to address the core problem of discovering the nature of my thinking so I can influence its development. I continued to search for meaning. Looking back it is now clear to me that I needed to erect the necessary 'scaffolding' to access the structure of my thinking. However, this would not be possible until I developed the means to build the scaffolding itself. It sounds like a chicken and egg puzzle, and that is exactly what it was.

Further reading and reflection showed that our works in the world and our thinking about the world are products of mental maps or theories we all carry around with us (Argyris and Schon, 1974). Delving a little further it is suggested that the theories we use to take actions may not be the same as those we those we say or think we use. What's more, very few people are actually aware of the mental maps or theories they do use. Or to put it another way, is the actual self I extend into the world (my Theory in use) the same as the self that I think I extend into the world (My espoused theory)?.

It follows that if we want to change the way we act then we must begin by analysing our theories of action. In essence, my 'problem' was how do I see myself in action so I can have a chance of knowing how effective I really am and therefore have an opportunity for improvement? As it turned out this was not easy to grapple with. Imagine if we could see our lives as a motion

picture, what would we make of ourselves? Seeing ourselves in a different light is the very start of the change process. As it turns out the ability to reflect on the significance of our thinking and actions is a cornerstone of self-improvement, not just for our own well-being, but also to help us become more aware and sensitive to a world, that more than ever, calls for our care and attention. Those tumultuous days of 1991/92 were to give way to a period of quiet study and reflection that led to the discovery of a new path to understanding. My task here is to reveal the pathway to the discovery of my theory.

7.7 The steps toward understanding my paradigm

My journey through the maze of ideas, concepts, and theories regarding what it really means to know started in 1993 during my first year of study with Orange Agricultural College. The course (Graduate Diploma in Sustainable Agriculture) examined a number of themes including personal and institutional change. For someone coming from a hard sciences background I found the idea of managing change very challenging. Not only that, but my upbringing was such that questions about the self or any outward emotion were considered almost taboo. I remember on one occasion getting the 'cold shoulder' from my family when I became very passionate about an experiment I was working on. My brother later told me that I was considered to be slightly 'flaky' by Dad in particular. Despite this, I could see that change was possible, in not only what we do, but also in who we are.

I became aware of the significance of personal change through my exposure to the ideas about learning style (see Chapter 2). While that exposure answered some of my questions about issues in my younger life, it did raise

further questions about the nature of my thinking and in particular the idea of personal philosophy⁶⁵. The tools to delve further into my philosophy were provided by Richard Bawden's paper, "Systemic Development: A learning Approach to Change", (Bawden, 1995). Using this framework, I was able to move from a basic understanding of my learning style into a full-blown analysis of my paradigm (or system of beliefs). I started with an analysis of the three levels of learning.

The following passage from Bawden's paper explains the 3 levels of learning. Bawden (1995, p. 28-30), quoting Kitchener⁶⁶ talks about 3 levels of learning: Cognition, or level one learning, which is about knowing; Meta-cognition, which is about knowing about knowing; Epistemic cognition, which is about knowing about the nature of knowledge.

He then goes on to further discuss this:

This can easily be transposed into learning, meta-learning (learning about learning) and epistemic-learning (learning about what can be learnt). ...there are some very significant reasons for learning to learn at all three of these levels of learning: Not the least of these is the ability to effectively challenge and then, if appropriate, change one's existing way of learning (level 2). Meta learning allows one to question and change all the elements of one's system of learning...it is from a meta-learning perspective that one learns about new methods of inquiry, and how to use them. ...Epistemic learning (level 3) is the domain of philosophical beliefs that each of us holds as the context for what we know, and we value it! This is the vital domain of ethics, of aesthetics, of logic and of values – and thus is the heart of inquiry into quality – as well as profound beliefs about the nature of nature (ontologies), as well the nature of knowledge about nature, how it can be known (epistemologies). This is the level we must achieve if we are to question our prevailing weltanschauung [world view] and the metaphor we hold with such dogged persistence.

⁶⁵ Understanding your philosophy is important because it is the basis of your beliefs and therefore shapes 'who you are'.

⁶⁶ Kitchener, K. 1983, Cognition, Meta-cognition and Epistemic Cognition: A Three Level Model of Cognitive Processing, *Human Development*, vol 26, pp. 225-232

Epistemic learning is how we learn about the nature of our paradigms, whilst meta-learning is how we learn how to put them into practice (Bawden, 1995, pp.28-29).

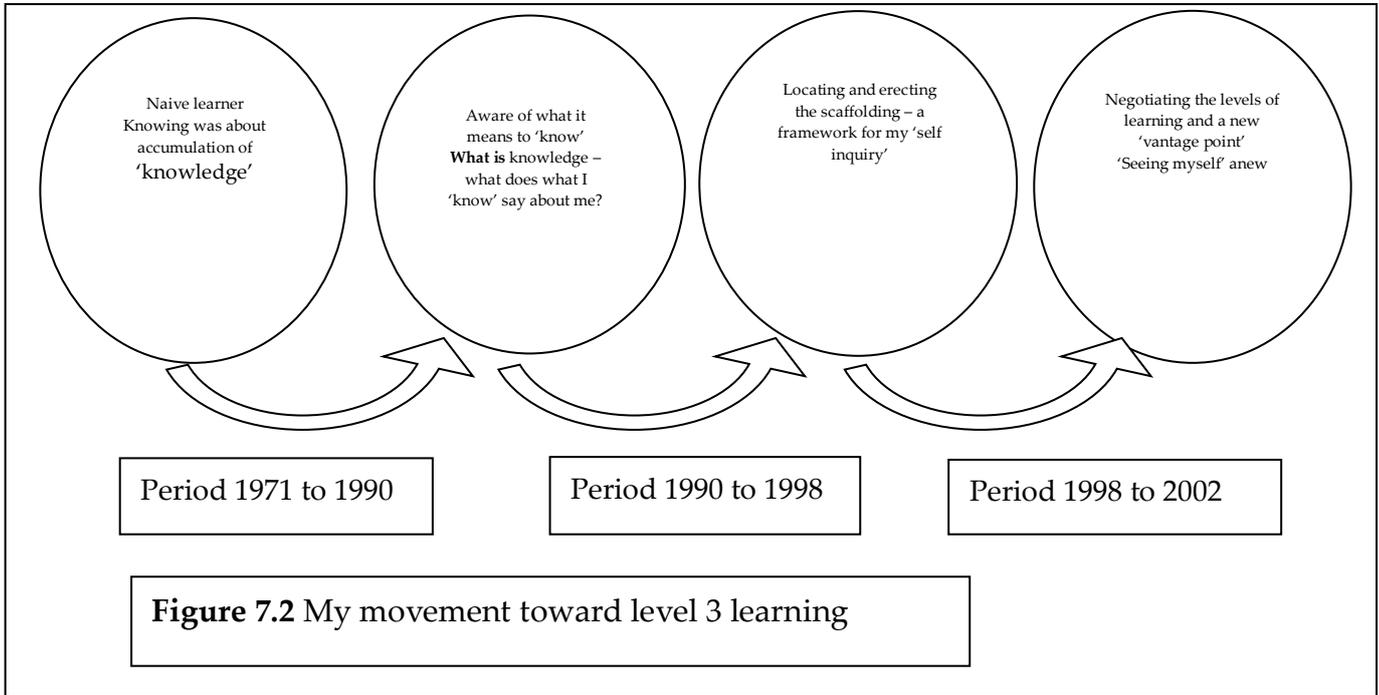
I now had a bridge linking my learning style to processes whereby I could I explore what it means to know and be in a position to examine my paradigm as well. Once I gained that foot hold I was in a much better position to understand my theory of activism. I could see that solving these problems would be a difficult and complex. My reading and reflection took me deeper into my inquiry.

Bawden (1995, p. 29), in making his point about innovative approaches to solving messy and complex problems says;

...it is not an easy task to encourage learners to adopt systematic methodologies for exploring any problematic situations that they face; and this in spite of the fact that there is often general agreement among them, that conventional ways of scientific inquiry are quite inappropriate, given the complexity and messiness of the particular situation to hand. Marcia Salner provides a most useful insight here in concluding that 'systems thinking that is independent of the content of systems concepts...(and) requires something more than presenting information and encouraging student problem solving'. As she posits... 'for general systems learning, with its emphasis on structures rather than content, epistemic competence may be the most critical competence of all... (and in this regard) student (= any learner) development is most likely to occur when mild pressure in the environment toward movement is consistently present so that the student cannot conveniently escape the kinds of confrontations that produce growth'

To me the key was, "...cannot conveniently escape the kinds of confrontations that produce growth". In other words, deep learning occurs when one is challenged to make a conscious decision not to retreat to your comfort zone. I felt that coming to grips with the three levels of learning

would enable me to get inside the process of exploring my learning. I decided to embark on a journey to get to level 3. To do this would involve immersion in new experiences that would allow me to explore the many questions I had. I was fortunate to commence this journey with an inquiry into my meta-learning, thus laying the foundations for an exploration of my theoretical framework and my philosophy. Figure 7.2 (p.177) depicts my progression toward my entry into an exploration of learning levels.



7.7.1 Getting to level 3 learning

By 1998 I had accumulated considerable knowledge that enabled me to undertake some meta learning. For instance, I was using action research in my masters' research where I worked with farming families to explore the meaning and measurement of sustainability. My involvement with the organic industry during 1998-2000 also enabled me to have exposure to the conflicts between forestry and farming (See Appendix 5, Case 9, p. 371). In 2000 I was called on to help one farming family (who owned a farm having organic accreditation) with their fight to have forestry operations stopped in forests adjacent to the farm. The farm relied on water from the forested area and the proposed forest operations appeared to put water quality and therefore farm certification in jeopardy.

My knowledge of Tasmanian activism and political process was such that I recommended against using traditional approaches (such as protest action, letter writing, and blockades. When our initial approaches to negotiate with the logging proponents failed community members were incensed and emotions were high) to stop the forestry operations (which involved clear felling). I reflected on available options and decided to recommend an inquiry into the forestry operation, which involved a careful review of the Forest Practices Plan (FPP). I used an ISO-14001 auditing approach and facilitated an inquiry team using an action research approach. What we ended up with was effectively an audit of the proposal (FPP).

This was the first time a comprehensive citizen's audit had been undertaken via a disciplined process. The outputs were community colloquiums to explain our findings and publication of the audit in our journal Upper

Catchment Issues Tasmania (Gschwendtner et al, 2001) (see Case 9 , p. 365 for further details). The findings ultimately led to the withdrawal of the FPP by Forestry Tasmania on the eve of a Tribunal hearing.

I tell this story (and could tell many others) here as it points to my progression in meta level learning (learning 2) in which I was using new methodologies of inquiry⁶⁷. By 2001 I had started to move from a focus on practice (as action) to a focus that included a need to explore the underpinning reasoning and deeper theory of the approaches I was advocating and using. The experience with the FPP audit took me to a new level in my understanding of co-operative inquiry and its role in environmental activism here in Tasmania. The fact that the inquiry itself was free from political and institutional intervention meant that ordinary citizens had full control right through the process from the initial idea to running media, publication, and community consultation. I could see a new way of doing activism, which was further bolstered by further audits with community groups in Tasmania.

By late 2001 I had commenced my move into level 3 learning (epistemic learning) as I began to explore the philosophy of what, by then, had become CBA. This was a strange experience because in exploring the philosophy of CBA (in partnership with the other TCRA Board members) I was in effect exploring my own philosophy.

⁶⁷ That did not rely solely on the traditional “No!” approach.

My exploration was triggered by my memories of Bawden's work from years before when he talked about "a concern with content, rather than structures" and, "conventional ways of scientific inquiry are quite inappropriate, given the complexity and messiness of the particular situation to hand" (Bawden (1995, p.29), quoting Salner).

I reasoned that CBA represented a challenge to the way activism had been practiced in that it tackled not only the environmental issue to hand, but delved into the quality of the science that underpinned project proposals. In other words, CBA took the process of activism to a completely new level by enabling citizens to move from a position of indignation and a sense of helplessness to that of critical inquirer and proposer of new ways forward.

Our experiences showed that this step was not without risk or hard work. It was quite something to see even seasoned activists wrestle with committing their concerns, issues, statement of the problem and their key arguments to paper. In short, it was one thing to say 'No!' but quite another to clearly explain why⁶⁸. It was in the explaining that we were all able to discover many new things about the talent, ingenuity, and innovation locked up with our community. While this was at times a surprise for the citizens, it was always a pleasant surprise for the CBA facilitators. For me it was fascinating to find that my own journey of self-discovery was boosted along by helping others with theirs. Not only that but also all CBA facilitators were learning as well. At each intervention, new insights would be revealed and new ideas would flow.

⁶⁸ That is to test your argument by making it public.

It followed that CBA was as much about personal change as the application of methods of inquiry. These experiences and realizations had a huge impact on the CBA team and I as we wrestled with the reality that changing activism was really about personal change. The popularity of CBA meant that we had to form an incorporated group to manage the process. The group TCRA Inc was formed during 2002. By 2002/03, my move into level 3 was complete and I was busy reflecting on the way our gleanings from the field (CBA workshops and community support) were shaping our thinking/practice and the evolution of CBA.

So what did this all mean for my present philosophical position? My present stopover point in my development is that of effective inquirer (Carson 2001). I have come to believe that solutions to complex problems are best arrived at through co-operative means and that experts must work, not just in consultation with communities of concern, but within community. I also believe that there is no single right or wrong answer; instead, I see 'problem definition' and notions of 'truth' as things to be negotiated between actors in a given situation. In this way I see the business of science and policy as things that citizens should be closely involved in as co-reviewers and if possible co-inquirers. In this sense my approach to inquiry and problem solving is based in constructivist⁶⁹ research paradigm.

At this point in my development I felt that I had reached a vantage point – the intertwining of the DNA strands had produced a new being; there were new ideas and new expectations. I now felt comfortable to explore my theories of activism.

⁶⁹ See Part 1 for a definition.

7.8 Analysing my activist theories

I will now explain the framework for analysing my theories of activism by reference to the work of Argyris and Schon (1974). This step in my journey flows out of my exploration of the 3 levels of learning, especially the significance of learning level 2 (meta-learning). Bawden (1995, p. 28) states, "Double-loop learning is usually dependent on meta-learning". Double-loop learning is, as I will show, at the very hub of Argyris and Schon's theory. As the reader will recall, one of the payoffs for moving up the levels of learning is that you recognise the significance of inquiring into your thinking (how you think and why you go about things the way you do). Therefore my main aim here is to how I worked out what underpinned (or caused my activist styles) over the years and what I did as a recognised the opportunities for change. My growth spurts took place when I consciously delved into my learning, I call these the transitions, the most significant of which took place in the late 1990's.

The theory of learning put forward by Argyris and Schon is thought to be useful in this analysis as it enables an exploration of the theories we live by. My aim in this section is to bring to the fore the underpinnings of my activism as I attempt to uncover my inner and outer selves. What was really going on as I progressed to my present moment? This framework sets the scene for the discussion of my theories of activism in the following sections.

Argyris and Schon suggest that there is theory consistent with what people do and a theory consistent with what they say. Therefore, the distinction is not between theory and action, but between two different theories of action. Argyris and Schon (1974) term 'what we say' as the Espoused theory and 'what we do' as our Theory in use.

The Espoused Theory is the worldview and values people believe their behaviour is based on and Theory-in-Use is the worldview and values implied by their behaviour, or maps they use to take action (Anderson, 1997). Argyris and Schon suggest that people are unaware that their theories-in-use are often not the same as their espoused theories. In fact, most of the time people are often not aware of their theories-in-use. If knowledge of our theories is of such importance in managing our behaviour (thinking and practice) then how can we visualize our 'theories'? Fortunately, Argyris and Schon offer an approach to unravelling such questions through the use of what they term "models of theories in use" (Anderson, 1997).

The following section has been taken, with permission, from Anderson (1997)⁷⁰. The following quote has been included as it crisply summarizes the essential features of the theory of Argyris and Schon I have used in analysing my activist theories and practice. This then feeds into an analysis of my Living Theory presented in the next chapter.

⁷⁰ I thank Liane Anderson for allowing me to reproduce the text quoted in this section.

The construction Argyris and Schon developed in order to explain theories-in-use is shown in figure 1.



Figure 1. Model explaining the process of developing theories-in use.

Governing variables are values which the person is trying to keep within some acceptable range. We have many governing variables. Any action will likely impact upon a number of these variables. Therefore any situation may trigger a trade-off among governing variables.

Action strategies are strategies used by the person to keep their governing values within the acceptable range.

These strategies will have consequences which are both intended -- those the actor believes will result -- and unintended.

An example may help to illustrate this process. A person may have a governing variable of suppressing conflict, and one of being competent. In any given situation she will design action strategies to keep both these governing variables within acceptable limits. For instance, in a conflict situation she might avoid the discussion of the conflict situation and say as little as possible. This avoidance may (she hopes) suppress the conflict, yet allow her to appear competent because she at least hasn't said anything wrong. This strategy will have various consequences both for her and the others involved. An intended consequence might be that the other parties will eventually give up the discussion, thereby successfully suppressing the conflict. As she has said little, she may feel she has not left herself open to being seen as incompetent. An unintended consequence might be that she thinks the situation has been left unresolved and therefore likely to recur, and feels dissatisfied.

To sum up, we can see that there are a number of elements to Argyris and Schon's model which help explain how we link our thoughts and actions. These elements are:

Governing Variables (or values)

Action Strategies

Intended and unintended Consequences for self

Intended and unintended Consequences for others

Action strategy effectiveness.

In this respect Argyris and Schon's work parallels, to some extent, the work of Dick and Dalmau (1990). They describe an 'information chain' to make sense of relationships and the information needed to resolve difficulties. This information chain was informed to some extent by the work of Argyris and Schon, and developed to explain and inform behaviour. The information chain is discussed here because the concepts are used in conjunction with Argyris and Schon's terminology throughout the dissertation. It was also used as a basis for explaining concepts to participants. The information chain and its relation to Argyris and Schon's concepts are outlined in Figure 2.

The yellow boxed area in Figure 2 represents the part of the process which usually remains undiscussed or implicit. It is this information about our beliefs, feelings and intentions, that is often necessary to solve relationship problems effectively. Similarly, it is this information on beliefs, feelings and intentions which Argyris (1974) refers to as helpful in producing valid information on which to base decisions.

Argyris and Schon's terminology	Dick and Dalmau's information chain
Action strategy (of the other person)	Actions (of the other group or person)
Consequences	Outcomes (what you feel obliged to do or prevented from doing)
Governing values (in use)	Beliefs (what you think the other group is trying to achieve, as well as general beliefs)
	Feelings (how you sometimes feel when this happens)
Governing values (espoused)	Intentions (what you intend to do in response)
Action strategy (your own)	Reaction (what you actually do)
Consequences	Outcomes (for you and others)

Figure 2. Argyris & Schon's concepts and their relation to Dick and Dalmau's information chain. Adapted from Dick and Dalmau, (1990).

These conceptual frameworks have implications for our learning processes. As mentioned previously, the consequences of an action may be intended or unintended. When the consequences of the strategy employed are as the person intends, then there is a match between intention and outcome. Therefore the

theory-in-use is confirmed. However, the consequences may be unintended, and more particularly they may be counterproductive to satisfying their governing values. In this case there is a mismatch between intention and outcome. Argyris and Schon suggest that there are two possible responses to this mismatch, and these are represented in the concept of single and double-loop learning.

Single-loop and Double-loop learning

It is suggested (Argyris, Putnam & McLain Smith, 1985) that the first response to this mismatch between intention and outcome is to search for another strategy which will satisfy the governing variables.

For example, a new strategy in order to suppress conflict might be to reprimand the other people involved for wasting time, and suggest they get on with the task at hand. This may suppress the conflict and allow feelings of competence as the fault has been laid at the feet of the other party for wasting time. In such a case the new action strategy is used in order to satisfy the existing governing variable. The change is in the action only, not in the governing variable itself. Such a process is called single-loop learning. See Figure 3.

Another possible response would be to examine and change the governing values themselves. For example, the person might choose to critically examine the governing value of suppressing conflict. This may lead to discarding this value and substituting a new value such as open inquiry. The associated action strategy might be to discuss the issue openly. Therefore in this case both the governing variable and the action strategy have changed. This would constitute double-loop learning, see figure 3.

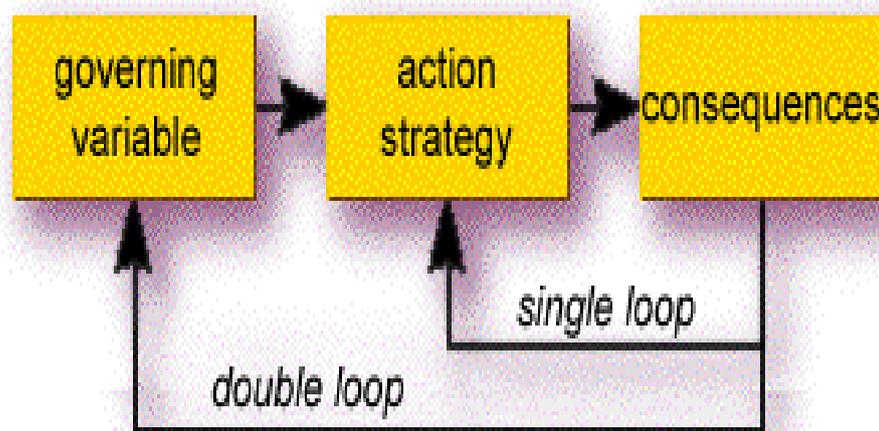


Figure 3. Single and double-loop learning

In this sense single and double-loop learning bear close resemblance to what Watzlawick, Weakland and Fisch (1974) call First and Second Order Change. First Order Change exists when the norms of the system remain the same and changes are made within the existing norms. Second Order Change describes a situation where the norms of the system themselves are challenged and changed. Double-loop learning is seen as the more effective way of making informed decisions about the way we design and implement action (Argyris, 1974).

Consequently, Argyris and Schon's approach is to focus on double-loop learning. To this end, they developed a model that describes features of theories-in-use, which either inhibit or enhance double-loop learning. Interestingly, Argyris suggests that there is a large variability in Espoused theories and Action strategies, but almost no variability in Theories-in-use. He suggests people may espouse a large number and variety of theories or values, which they suggest, guide their action. However, Argyris believes that the theories which can be deduced from peoples' action (theories-in-use) seem to fall into two categories which he labels Model I and Model II.

The governing values associated with theories-in-use can be grouped into those which inhibit double-loop learning (Model I) and those which enhance it (Model II).

Table 1. Model I Theory-in-use characteristics

The governing variables of Model I are:

1. Achieve the purpose as the actor defines it
2. Win, do not lose
3. Suppress negative feelings
4. Emphasise rationality

Primary Strategies are:

1. Control environment and task unilaterally
2. Protect self and others unilaterally

Usually operationalised by:

1. Unillustrated attributions and evaluations, e.g. "you seem unmotivated";
2. Advocating courses of action which discourage inquiry, e.g. "let's not talk about the past, that's over"
3. Treating ones' own views as obviously correct;
4. Face-saving moves such as leaving potentially embarrassing facts unstated.

Consequences include:

1. Defensive relationships;
2. Low freedom of choice;
3. Reduction of information;
4. Little public testing of ideas.

Taken from Argyris, Putnam & McLaine Smith (1985, p.89).

In summary, Model I has been identified as a grouping of characteristics which inhibit double-loop learning. Model I is seen as being predominantly defensive and competitive, and therefore unlikely to allow an honest evaluation of the actor's motives and strategies, and less likely to lead to growth. Defensiveness protects individuals from discovering embarrassing truths about their incongruent or less-than-perfect behaviour and intentions. The actor further protects herself by reinforcing conditions such as ambiguity and inconsistency which help to further mask their incongruence from themselves and others. Becoming aware of this incongruence is difficult, as is doing something about it. According to Argyris and Schon (1974) this is due to the strength of the socialisation to Model I, and the fact that the prevailing culture in most systems is Model I. An added complication is that anyone trying to inform them of the incongruence is likely to use Model I behaviour to do so, and therefore trigger a defensive reaction (Dick and Dalmau, 1990).

Therefore, Model I theories-in-use are likely to inhibit double-loop learning for the following reasons. Model I is characterised by unilateral control and protection, and maximising winning. In order to maintain these, the actor is often involved in distortion of the facts, attributions and evaluations, and face-saving. Doing such things is not something we would readily admit we involve ourselves in. Therefore, in order to live with ourselves we put in place defences which hamper our discovery of the truth about ourselves. If we are unwilling to admit to our motives and intentions we are hardly in a position to evaluate them. As evaluating our governing values (which may be equated with intentions) is what characterises double-loop learning, Model I theories-in-use may be seen as inhibiting this process.

Despite all the evidence which suggests that peoples' theory-in-use is consistent with Model I, Argyris has found that most people hold espoused theories which are inconsistent with Model I. Most people in fact, espouse Model II, according to Argyris. The defining characteristics of Model II are summarised in Table 2.

Table 2. Model II

The governing values of Model II include:

1. Valid information
2. Free and informed choice
3. Internal commitment
4. Strategies include:
5. Sharing control
6. Participation in design and implementation of action

Operationalised by:

1. Attribution and evaluation illustrated with relatively directly observable data
2. Surfacing conflicting views
3. Encouraging public testing of evaluations
4. Consequences should include:
5. Minimally defensive relationships
6. High freedom of choice
7. Increased likelihood of double-loop learning"

No reason is offered for why most people espouse Model II, however it seems reasonable to assume that this is because Model II values are the more palatable in terms of the way we like to see our (Western) society. Freedom of Information Acts, the Constitution, America's bill of Rights, all seem to be drawing heavily from Model II values. Dick and Dalmau (1990) suggest that people often show a mix of Model I and Model II espoused theories. This seems probable, as most people will readily admit to being driven to win at least in some situations. Some professions in fact, are based almost entirely around the concept of winning and not losing, such as Law, sport and sales.

The behaviour required to satisfy the governing values of Model II though, are not opposite to that of Model I. For instance, the opposite of being highly controlling would be to relinquish control altogether. This is not Model II behaviour because Model II suggests **bilateral** control. Relinquishing control is still unilateral, but in the other direction. Model II combines articulateness about one's goals and advocacy of one's own position, with an invitation to others to confront one's views. It therefore produces an outcome which is based on the most complete and valid information possible. Therefore,

“Every significant Model II action is evaluated in terms of the degree to which it helps the individuals involved generate valid and useful information (including relevant feelings), solve the problem in a way that it remains solved, and do so without reducing the present level of problem solving effectiveness. (Argyris, 1976, p21-22).”

Given the above considerations, the consequences for learning should be an emphasis on double-loop learning, in which the basic assumptions behind views are confronted, hypotheses are tested publicly, and processes are disconfirmable, not self-sealing. The end result should be increased effectiveness

(Anderson, 1997).

7.9 My theories of activism down through the years

7.9.1 Background to my 'theory of activism?'

Table 7.2 (p. 200) traces the development of my practice across the three levels of learning. As can be seen, my journey toward level 3 is paralleled by my progression through the various modes or styles of activism. I should point out that all levels of activism and learning are useful in one way or another and should not therefore be seen as stages through which we move never to return. Level 3 learning enabled me to explore the nature and development of my paradigm. From that vantage point, I could then explore my present theory of activism and in so doing resolve some nagging questions regarding my practice. This also opened the way for me to see opportunities for influencing the direction of Tasmanian activism.

7.9.2 My governing variables and action strategies

Table 7.2 (p.200) brings together my theory-in-use models, my Governing Variables, Action Strategies, and consequences. My life between 1970 (15 years) and 1988 (35 years) saw me as essentially a Model I practitioner, where competition, surprise and piling on the facts were seen as key elements in winning arguments and environmental battles. This was also reflected in my learning level, where I was stuck at knowing. My aim was to accumulate facts, which as a form of knowledge was believed to put me in a position of power. This led to unintended consequences for me and those around me as I struggled to maintain my governing variables. These were years of upheaval as I struggled with the patterns of behaviour laid down during my childhood. By 1983 if you were to ask me I would have put up a convincing and elaborate explanations of my motives and how I am (I would have espoused model II virtues). This would have been reflected in my CV at the time. The fact that I was largely unaware of the causes of my actions in

the world meant that I was destined to continue along the same path as many other activists do.

By 1993 I had begun, through a series of fortuitous events, to question my beliefs about knowledge and knowing, but was still holding on to some of the model I variables. Despite this, I was still espousing model II virtues. It was not until 1998/99 that I had the opportunity to undergo major change. I now see being competitive, being first and having a sense of savvy as merely tools in facilitating change, rather than attributes of my personality that would come out and almost take over my behaviour during moments in my practice. Recognising my Governing Variables began during the early stages of my involvement with the very first Community Based Audit (Gschwendtner et al, 2001).

The group I was working with at the time was composed almost entirely of women and I found that the process of inquiry was very different from that which I normally experienced in male dominated situations⁷¹. Over a period of nearly 2 years I was exposed to what was for me a completely different approach to inquiry, where egos and competition were not significant concerns. My reflections and reading (and on-going experiences) enabled me to achieve what I believe was an important breakthrough as I began to compare my espoused theory with my theory in use. At the time I saw this as a comparison between what I say and what I do. Often referred to as 'do you walk the talk?' I felt I had to make some changes. I can now see that I was in fact adjusting my Governing Variables based on a transformation of

⁷¹ Where competitive behaviour can dominate.

understanding. This was made possible because the members within the group I was working with were not into competitive behaviour, in fact one of our working mottos was to leave our egos at the door. This motto was applied to our Community Based Auditing workshops too. This created a safe place in which I could explore my development and at the same time keep at bay my survival instincts honed during my early life.

Looking back on my life from this present vantage point and as I write this thesis I can now see that at any given moment my theories of activism were the result of a dialectic tussle between my theory in action and my espoused theory (Argyris and Schon, 1974; Anderson 1997). Understanding of my theory-in-use has been invaluable in understanding my practice and how to change it. This has allowed me to not only better understand myself, but also deal with the barriers that prevented me from playing a more beneficial role in reshaping Tasmanian activism.

7.9.3 My present theory of activism

In returning to my DNA metaphor (Chapter 4) that sees the two intertwining strands reacting together to produce my emergent being, I can now visualize one strand as being my theory in action and the other my espoused theory. The discovery of my Governing Variables and the possibility that they could be changed was a major step forward. This along with the knowledge that I could change my action strategy was also very powerful.

My present theory of activism posits that participatory inquiry strategies that encourage and invite collaborative action and reflection are essential in the

change process. I no longer play the role of expert or leader who citizens look to for inspiration or direction, but as a member of an inquiry team. In this sense, citizens locate themselves within the change process rather than outside it, as receivers of information, directions, or services. For my part, I can play the role of facilitator and co-inquirer/researcher by virtue of my experience and skills base. My approach relies on the innovative and creative ideas of the citizens with whom I work. I am always on the lookout for surprise and ideas from out of left field. This means I am still grounded in the 'real world' and am ever watchful for sabotage and any attempts to disrupt or take over a newly formed group. My experience has shown how individuals with an agenda can effectively destroy a group almost overnight. Disruption can send group members back into their shells and also lead to mistrust and suspicion.

My style is best described as advocate. This I feel is an important distinction, as I feel one can be an activist without necessarily playing the role of advocate. For example, the lone crusader activist, working in isolation, may not be advocating for anyone in particular apart from him/herself. That said, such activists can move in and out of groups and coalitions. I know, because that's how I tended to operate in the 1980's. In this mode the lone activist can take on the role of advocate.

I am not politically aligned although am politically astute and aware. I am capable of working across a range of paradigms and do not subscribe to

following naive beliefs⁷² when situations demand to be confronted and affirmative action taken. For example when lies, deceit and treachery are used to stymie and prevent citizens from being heard. I encourage group members to stay in touch with their subjective selves, as all knowledge about a situation is valid. I encourage the use of dialectic inquiry processes, where a constant search for mismatch and anomaly is encouraged. Gender balance is vitally important for group functioning. My new activism has led to the development of Community Based Auditing, which I shall elaborate on in Chapter 9.

7.10 Good news for other activists?

My early life had a major influence on both my journey and present destination in that the serious damage sustained during my teen years (Chapter 5) stunted my development for many years. That said, I arrived at a new activism that would not have been possible without the fortuitous events of 1993 to 2001 where I was able to discover my learning style, theories of action and learn about my paradigm (and how to change them!). I think this is vitally important news for those activists who may be unaware that they are stuck in undesirable patterns of practice. I believe that environmental activism here in Tasmania is finding itself moving toward a new moment where the present methods and tools used to effect change will become less and less useful. This is because the issues we now face are far more complex and difficult than before, it is no longer a case of fighting single issues that have a 'yes' or 'no' answer. It is no longer as easy as it was to garner community support using protest, clichés, or glossy images of

⁷² In attempting to push the boundaries I try not to, "conveniently escape the kinds of confrontations that produce growth".

wilderness. Community perceptions and expectations have also changed, thus adding to the complexity of problems faced by the activist, be they lone guns or part of the ENGO institutions. As I see it, new skills and approaches are urgently needed that must begin with an ability to work directly with citizens to facilitate change. This change process will see activists and citizens enter into change partnerships where personal change will be essential if we are to meet the on-going challenges awaiting us.

In the next chapter I bring to the fore the meaning of my Living Theory and how it took me into the domain of Inclusionality as a natural progression in the further development of my activism and style described and analysed in previous chapters. I will then move to discuss the application of a new form of activism known as Community based Auditing that continues to be nurtured as a result of my growing knowledge of Living Theory and Inclusionality.

In 'A Natural Inclusional Glossary of Terms' Rayner describes Inclusionality in the following way

a term introduced by Alan Rayner and Ted Lumley, in conversation with others, intended to distinguish a form of reasoning that includes intangible presence and so is more comprehensive, comprehensible and realistic than abstract rationality. Eventually it became necessary for Alan Rayner to distinguish his understanding of inclusionality as 'natural inclusionality', which takes account of local influence and identity, from Ted Lumley's understanding, which considers only nonlocal influence and regards even fluid locality as illusory.

Rayner, Pers comms. September 12, 2012.

In my discussion further on I detail my interpretation of a practical application of the philosophy. For me Inclusionality is a next step beyond holism and dialectical reasoning. As I will make clear later on my move

toward Inclusionalty recognizes that competition, fixed boundaries and imposed limits all tend to restrict and seriously stymie our ability to recognize and actively embrace new understandings based on flow, openness and receptivity. The current dominant rationalistic and propositional based thinking continues to stymie human flourishing. The emergent conditions of rationalistic thought create a 'reality' that forces compartmentalization through the imposition of boundaries and classifications. This quest for simplicity and control has led, in my view, to misery and suffering. Nowhere is this more evident than in what humanity inflicts on itself and the environment. For me my current approach to environmentalism and social change is simply feeding and reinforcing the existing paradigm. This is my struggle as I realize that I am in danger of becoming the very beast I seek to slay. As an alternative I see Inclusionalty, through its recognition of continuity, flow, each in the other and reciprocity as a new way of understanding and perhaps practice. This is the quest, my odyssey. This thesis examines my trajectory up to the entry to my next stage of understanding as I begin to embrace the new way that is Inclusionalty.

Table 7.2 My Theories – in – use 1960-2001

Years	Learning Level ⁷³	Influencing factors leading a change in learning level	My Mode of practice (Style) ⁷⁴	Theory-in-use model	Governing variable	Action strategy used to maintain governing variable	Consequences
1960-70	1	Saw learning as building a store of knowledge to be regurgitated on demand. Saw learning as competitive – right/wrong answers.	Passive learner/questioning. Radical ideas (Ineffective)	Model I	Winning and being 'first' seen as being vital	See k to control the agenda by 'being first', use of technical language. Finding the other persons personal weaknesses through their beliefs. Generate conflict and exposure.	Defensive relationships as I would not give into what I felt was a tilt toward deception on the part of others. Others suspicious of me.
1971-73	1	Saw learning as building a store of knowledge to be regurgitated on demand. Has suspicions about the nature of knowing, but did not know what to do	Young scientist working in isolation. Radical ideas (Ineffective rebel)	Model I	Winning and being seen to use rationality	Surprise was all. Using technical language to put the other at a disadvantage. Generate conflict. Exposure used.	Defensive relationships as I would not give into what I felt was a tilt toward deception on the part of others. Others suspicious of me.
1983-84	1	Saw learning as building a store of knowledge to be regurgitated on demand. Has suspicions about the nature of knowing, but did not know what to do	Scientist/facts seen as the way. Beginning to rebel against 'the way things are' (Ineffective reformer)	Model I	Dispassionate scientist, winning, being right	Competitive and being first seen as vital. Power of written word to generate 'evidence' highly prized. Generate conflict.	Defensive relationships as I would not give into what I felt was a tilt toward deception on the part of others. Others suspicious of me.
1988-95	2	The rise of Soil Tech and the Exeter Tip issue saw me starting to move to question the nature of learning.	Activist using science/facts seen as the way. Communicating science to the people seen as vital (Ineffective/effective rebel)	Model I	Winning and being seen to use rationality	Competitive and being 'first' seen as vital. Use of high quality articulation, particularly in written word. Seeking to embarrass and humiliate opponents. Generate conflict.	Beginning to publically test ideas, but others not comfortable in talking to me due to the outcomes of Exeter tip.
1990-92	2	Taking on the family law system, Community Based Sampling	Specialist building arguments. (Effective rebel)	Model I	Activism as combat	Using forms of aggression to shock the opponents. Documented arguments and objective material in forms that the opposition could not reject. Using science against itself. Generate conflict.	Defensive relationships. Coloured by Exeter tip and the family law conflict.
1993-96	2	Post grad studies, exposure to Bawden's (1995) paper, Exposure to new learning situations in order to confront my perceptions	Specialist working as change agent (Effective change agent)	Model I	Activism as combat, but cooperation seen as useful	'Firm but fair'. A move to use conflict as process of dialectic inquiry.	Defensive relationships within the environment movement due to my run in with LEC.
1996-97	2	Exposure to new learning situations in order to confront my perceptions	Specialist working as change agent (Effective change agent)	Model I	Activism as combat, but cooperation seen as useful	Conflict still seen as vital. Open cooperation also seen as important, but not at the cost of self deception.	Citizens still coming to me for help, suspicious of me due to my reputation.
1998-99	2/3	Shift in paradigm through a reassessment of what science is. (PNS), Began to understand my governing variables.	The inquirer working as participant (Co-researcher/inquirer)	Model II	less emphasis on combat and winning	Open to suggestions and critique. Dialectic inquiry still valued, but now better understood.	Emergence of involvement in organic movement and CBA challenged perceptions.
2000-	3	Development and Utilising methodology with new paradigm	Scientist as co-learner (Inquirer)	Model II	Move into cooperation, but still savvy ⁷⁵	Trust and participation highly valued, but still suspicious of human nature.	The CBA process saw me re enter activism renewed. As Facilitator and advocate.

 = Periods during which transitions were initiated (1970 and 1998).

⁷³ After Kitchener cited in Bawden (1995).

⁷⁴ See Table 1 in Chapter 4.

⁷⁵ This remains a very challenging problem for me. The virtues of Model II are understood, but the reality of those whom you encounter on 'the other side' requires you to be savvy to the 'animal within'.

CHAPTER 8

WHAT IS MY LIVING THEORY TO ME?

8.1 Introduction

Living Theory has been hugely influential in shaping the form and content of this thesis. In order to set the scene for this chapter, it is worthwhile at this point to revisit the crisp description of Living theory offered by Whitehead (2008, p.104) where he describes it as, "... an explanation produced by an individual for their educational influence in their own learning, in the learning of others and in the learning of the social formation in which they live and work" As discussed in Chapters 1, 2 and 3 the application of Living Theory developed during the research process. Therefore the inquiry into the development of theoretical frame and its influence on shaping methodological approach are both very much central to 'my becoming' as expressed in this thesis. I argue that embracing Living Theory has facilitated that dual research process. This chapter elaborates on this in terms of the consequences for the development of my thinking and understanding of both myself and the quality of the research I have produced.

Thus a third transition is in the making as I become aware of 'new ways' precipitated through my coming to Living Theory and my awareness of Inclusionality, which will without doubt further influence and shape my

approach to activism as I being to move beyond a wholly dialectical approach.

I will discuss my philosophical trajectory that has taken me to this point before moving to discuss the development of my Living Theory to the present. I then turn to a discussion of how Living Theory informs the evaluation of my work, including the standards of judgement I have used to judge this thesis. In short I shall delve into the, shall we say, deeper epistemological and ontological outcomes of the research. This then sets the scene for the explication of the deeper meanings for my practice and its implications in Chapters 9 and 10.

8.2 Always Becoming

In looking at personal understanding in terms of a non-competitive and dynamically bounded flow one opens up the possibility to see our growing as a series of phases or transitions that carry on throughout our lives. There is no end point, rather a series of open-ended moments through which we pass on a journey of inquiry and understanding. In this sense we are always becoming. The term 'becoming' is a carryover from my rationalistic phase, which still influences my thinking. In Inclusional terms I would regard my becoming as 'reconfiguration' in order to fully embrace inclusional meaning in terms of flow, flexibility and openness. No doubt as my receptivity and understanding I continue to grow so will my reconfiguration.

I recognized this in my life, as explicated in this thesis, as I could see my transitions from a naive yet somehow wise being through to a period of

torment and angst, into a long period of pure dialectic practice to a new oasis as a neophyte practitioner of Natural Inclusionality, which I will explain in detail below. The point I make here is that I recognized through the Living Theory research process that always becoming is a both a physical and spiritual journey. This has been highly significant for my own practice and wellbeing. That said, I am still in the middle of a deep psychological maelstrom of searching and questioning, which while at times terrifying is nonetheless an essential element of my becoming. As Living Theorists we warm to the idea that we are affected by our research in both its processes and outcomes.

From time to time my past traumas re-emerge to cause me much pain and anguish such that I suffer from an anxiety disorder that is triggered by stress and worry. In recent times Inclusional thinking has been of immense help as it has enabled me to disconnect from the strictures of rationalistic thought. But I am still very 'young' in this *new way* and so I am moving slowly, but steadily.

8.3 My philosophical journey

As already mentioned in the previous chapter I had to undergo significant learning in order to be able to undertake the important analysis of my philosophy. This was essential because I reasoned that if I were to have any chance of improving my practice I would need this basic understanding. While that is well and good there are significant consequences when asking such questions within the context of Living Theory. One consequence is the opening up of completely new areas of exploration and understanding, which being with them new challenges and opportunities on the 'road to

becoming'. These unexpected outcomes are discussed in the next section, but for now I present in Figure 8.1 (p. 205) the basic stages in my philosophical journey.

The journey begins with the hard sciences and then moves into what was a new area for me (action research) as I felt the old approaches to activism did not work as well as they could. In a sense I had come back to my favourite inductive approach, which seemed natural to me many years earlier. From this period I drew more and more on the dialectic aspects of action research as I felt that change was best driven through careful use of conflict where I modified the tricks (exposure, embarrassment and whistle blowing) used by environmental activists in a more sophisticated way. My approach was predicated on the construction of publicly visible arguments based on explicit use of community based science to show how the authorities were not competent in many cases.

In the next phase of the journey I came to the realization that while these tactics had some effect they did not in any way deal with a much larger problem, namely that of bringing concerned citizens into the environmental discussion as active participants. This was a significant philosophical step for me. There were still strong dialectic elements to my practice. In the current moment of my journey I am embracing a new approach to inclusiveness and accountability known as Inclusionality, which has become the centrepiece of what I term my Third Transition, to be fully analysed at some time in the future. I discuss my early moments of Inclusional thinking in Figure 8.1 on page 205.

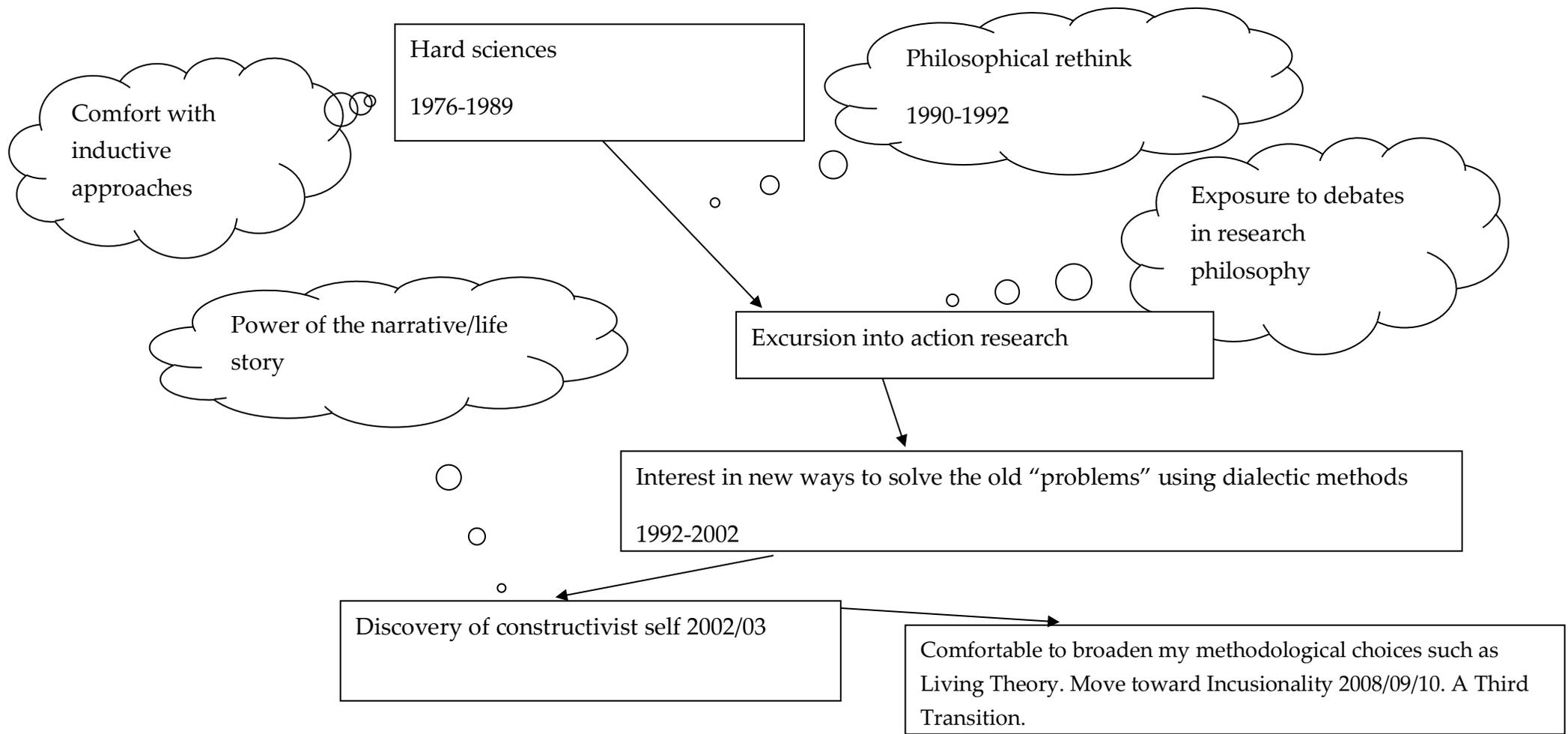


Figure 8.1 My Philosophical and Methodological Development

8.3.1 Evolving Philosophy in the Present 'Moment' of My Life

My move toward Inclusionalism came about through recognition that competition, fixed boundaries and imposed limits continue to be the source of serious conflict and deep suffering at all levels here on planet Earth.

Reflecting what European 'man' has done in a little over 200 years I came to the realization that the tragedy of the Americas, the decimation of the Australian Aboriginals, the deeply depressing aftermath of India and Africa in the wake of European 'civilizing' left me deeply troubled as to the ongoing consequences of imperialist colonialism.

Worse still we 'Euros' had somehow convinced other non-Euro nations to become 'just like us'. Instead of seeking to meld our ways with those of the cultures we conquered, we simply destroyed them, thus depriving us of many of the solutions we so eagerly seek to solve in the tragic moment of modernity. I make the argument that in our haste to segregate, partition and control through exclusion and expulsion we have seriously erred. And the pain does not end there. When the Euros ran out of places to conquer 'he' then turned on himself with mass extermination and again based on notions of fixed boundaries, competition, purity and control. It is a tragedy that we have 'infected' other cultures with our ways and now they too are destined to repeat our history. We need to be mindful that it was not an Indian villager, nor a an Australian Aboriginal, or for that matter nor an African Bushman or Aztec farmer who invented and dropped 2 atomic bombs, killing thousands of innocents; no, that was Euro 'man'.

These realizations, along with the taint of my 6th generation convict heritage in this sad colony that is Tasmania, have left me deeply scarred and ashamed of my Euro ancestry. This has been a significant philosophical transition for me in the recent months leading up to the finalisation of this thesis.

For me Inclusionality is a step away from the Euro dominated discourses, with their fixation on positivist science, prediction and control. Inclusionality is about sharing, gifting, compassion, inclusiveness, forgiveness and unconditional love and support. It 'recognizes' neither discrete boundaries nor barriers either in the human or natural 'worlds'; indeed they pooled together. It extends this practical philosophy to our thinking and creations and sharing of ideas.

My journey into Inclusionality has only just begun, but for me it is the next philosophical step. As Rayner (in Whitehead and Rayner 2009, p. 6) so eloquently claims:

The implications of this natural understanding for the way we view our human place in nature are enormous. They represent a radical upheaval in the logic that we have been teaching ourselves to accept without question for millennia. From this rationalistic logic, which enforces propositional thinker to regard 'self' as 'autonomous' and dialectic thinkers to regard it as a nucleus of 'living contradiction' (Ilyenkov), 1977), we arrive into the natural logic of inclusionality that enables us to regard self as a 'living neighbourhood', a 'nucleus of reciprocity' or reciprocal influence of each in the other.

8.3.2 A Series of Living Theories

By reference to Figure 8.1 (p. 205) my philosophical journey can be visualised as a series of Living Theories, each with their own set of characteristics including the approach to science from propositional to the other forms of knowledge. Each of these points in my journey had its in built contradictions and tensions. Some of this was discussed in Chapter 7, but here I wish examine my philosophical journey through the lens of Living theory.

8.3.3 The Living Contradictions

As already discussed in earlier chapters I have found over the years discrepancies between my practice and my intention. Earlier I explained this by reference to the theories of Argyris and Schon (1974). While such mismatches are broadly contradictions they are not necessarily classed as contradictions in the sense of Living Theory.

Here I take matters a step further and examine the contradictions that arose during the various stages in my journey. These contradictions take the form of questions as to whether or not I feel I am living the values I hold. The first task then is to state the values and then through a process of action-reflection (Chapter 3) examine whether or not I have met those values and if change is seen as necessary either in the values themselves or how I apply them in my life.

Looking back over the years I can now see that I was most of the time a “Living Contradiction” in that I was always had a sense of unease as to whether or not I was approaching the problems and issues I had identified in

the right ways and at the right level. I have touched on the matter of personal effectiveness in earlier chapters, but this is much more; did I know my 'calling' and was I true to my values? Even now looking back these are hard questions to answer. Even so I feel I must attempt to examine my philosophical journey here and now. If that involves a certain amount of 'narrative wreckage' (Whitehead, 2008, pp.113-114) then so be it. Table 8.1 (p. 210) shows my analysis, based on numerous action reflection cycles involving reading diaries and reflecting on my values at the time.

Table 8.1 My Living Contradictions Over the Years (reference to Fig. 8.1)

Period	Key values and their origins	Contradictions and their nature
1971-1975	Being 'right' was highly valued, domination and arguing down also valued. Valued honesty and integrity. Fighting oppression.	I was always in self-doubt. Felt guilty about living my values, but could not see a way out as life was seen as a 'battleground.'
1976-1989	Understood fairness but was very judgemental of others. Valued objective truth and looked for blame. Valued honesty and integrity. Valued recognition.	Still held huge self-doubt as this way of living (fortress mentality) took its toll on me. Could not find a way out as these were the only values I held. Marriage breakdown left me very cynical, suspicious and damaged
1990-1994	Still judgemental and 'on guard' seeing all contacts as potential combat situations. Winning highly valued. Helped those less able. Valued honesty and integrity.	Very bad experiences in the Family Law system Early in the period I went backwards in terms of trust and my combative side rekindled.
1994 -2002	My study into philosophy led me to start a journey where I discovered that a new set of values could come out. Understanding PAR helped me immensely. Helped citizens and those were bamboozled by the system.	Working with citizens helped me to test these new values of trust, and how to deal with competition. There could be numerous ways of 'seeing' and knowing. Using the dialectic processes present me with ethical problems associated with trust, truth and disclosure.
2003-2006	My new found understanding of qualitative inquiry took away all of that angst associated with 'being right' . Community Based Auditing (CBA) Came out of this.	While I felt good that citizens had the change to engage, I did have problems with the 'reactionary nature' of environmentalism that saw us Environmentalists as the ones with the answers.
2007 -2010	My move into Living theory and Inclusionality allowed me to re-examine my main tool (dialectic inquiry) and at the same time see how inclusionality could be a way forward. My 'vocabulary' now includes phrases such 'warmth', 'love' and inclusion.	While Post Normal Science fitted with there were still linger concerns regarding the inclusiveness of the process. I am now working to develop a fit between PNS and Inclusionality with the hope of bringing Living Theory in to form a revised form of community engagement.

The main point I draw from Table 8.1 (p. 210) is the progressive retreat from what I would term a fortress colonial view of the world, and indeed an overly rationalistic way of thinking. In this way I am significantly different from the rest of my family and social grouping. These are the only yardsticks I can use to measure my degree of change, and it is significant.

8.3.4 My Living Theory Right Now as I Write This Thesis

So where does this leave me right now? While I have lived out my core values of honesty, integrity and supporting/defending the rights of the ordinary person, Table 8.1 (p. 210) does show a definite progression to a new way of being – a ‘next step’ in my ‘reconfiguration’ in which I am still very much in the early stages. In this stage of my journey I expect my Living Theory will be much more focussed on matters of compassion, spirituality, searching for understanding and far less reliant on conflict and confrontation. How this will play in my practice remains to be seen, but now that I have glimpsed the ‘Inclusional’ way I am keen to explore its application and at the same time progress the further application of Community Based Auditing as a methodology within Post Normal Science.

8.3.5 My Standards of Judgement

Where does this leave me in terms of my standards of judgement? To this question I answer that each and every day I seek to live the values I have come to hold. I seek through my experiences to enrich and continually test those values under as many conditions as I can. I seek to bring myself to account in as many ways as I can in every area of my practice. As I have grown older and in particular this past 5 years I have become obsessive over the detail involved in my service to communities. Even though my service is

pro bono I strive to deliver the highest quality I can, often paying expenses out of my own pocket to cover costs for any corrections or rework should I find error or issues requiring attention that I felt fall under my responsibility. In the end it is the responsibility I feel to those I serve that continues to drive me.

The same applies to this thesis and that is why I have gone to some trouble to ensure that evidence is variable to the reader with whom I have a 'contract' and therefore an obligation to support what I have said and what I have claimed. In the past this would have led to feelings of anxiety and depression as I became obsessed with detail. As I learn more about Inclusionality through my Living Theory I am beginning to experience and openness and great satisfaction in meeting the expectations of others in a co-creative context, rather than as in the past, a competitive and adversarial one.

CHAPTER 9

CONTRIBUTIONS TO PRACTICE AND THEORY IN THE SOCIAL FORMATIONS IN WHICH I WORK - *Looking Back and Looking Forward*

9.1 Introduction

In this and the following chapter I will attempt to guide the reader through my thoughts regarding the direction I feel the Tasmanian environment movement could move in order to meet a number of challenges. It is clear that the Tasmanian community has become captive of the whims and wishes of a clique of vested interests who control our resources, local economies and indeed our lifestyle and quality of life. As I see it, the ultimate goal is the transformation of Tasmanian culture from its present colonial mind-set of domination of environment and suppression of community to one where community takes a conscious lead in the determination of its future. Having said this I leave open the question regarding the nature of my on-going role should I further develop the ideas of Inclusionality discussed in the previous chapter.

To think that the movement (environmental institutions, social and lone activist) will be able to complete such a transformation without the *direct* involvement of citizens as cooperative change agents would be naive. In my view anything less than full community engagement would only reinforce the present view that sees citizens as passive recipients of advocacy, services,

and information. In playing the role of passive recipients, citizens have been a source of and captive to the normalizing forces of Tasmanian culture and have thereby become unwitting participants in Tasmanian business as usual (see Flanagan (2007) for further comment and insight). As I see it the movement and activists too have fallen victim to the forming forces which has forced them to adopt 'No!' as the first line of defence thus reinforcing the oppressive colonial way which I term 'Tasmanian business as usual'.

This calls for a cultural change within the Tasmania community, during which roles, functions, goals and perhaps visions would be renegotiated. In many ways, the process of change has been underway for a while and we see glimpses of community based activism right across the State. It is up to the movement and the lone activists, including myself, to recognize the significance of this growing groundswell and what appears to be a call for change.

My experiences and learning over the past 30 or so years have enabled me to recognise a number of opportunities for the emergence of a discerning and savvy community, where citizens are not hesitant to take a lead. It is clear to me that we have an abundance of citizens who understand their local issues, have a desire to realize their visions, have keen networking skills and are passionate about their involvement in change.

For their part, the institutions making up the environment movement must be able to support citizens in their efforts to attend to an increasing array of environmental issues and priorities. Above all the institutions must strive to

maintain a strong relationship with the broader community and in so doing play a facilitative role in new and innovative change strategies. In this way the institutions within the movement will shift their attention from attempting to influence politicians to direct engagement with the citizenry. This redirection of effort has been called for elsewhere (Zoretic, 2006, pp. 4-5; Gould et al, 1993, pp.14-22).

In order to facilitate the emergence of a critical community a new form of activism must emerge, firstly within the institutions themselves, and then move out into community via learning partnerships. By learning from effective and competent grass roots activists the institutions within the movement would be in a position to lead the process of change. For their part, the institutions have the necessary infrastructure and resources to support this.

In the following section I briefly introduce the broader (National and local) economic and political forces that continue to influence the nature of the relationship between community and the environment movement. I am keen to show the reasons for our present predicament that continues to reinforce a dislocation of the community from meaningful input into natural resource management decision making.

I will then move on to develop the discussion along the lines of opportunities and impediments for enhancing the quality of community involvement in natural resource management here in Tasmania. I take the view that

fundamental change is needed in not only the way we engage with issues of concern, but also the very means we employ to inquire into those issues.

9.2 Influences shaping community perceptions of environmentalism

9.2.1 The National Context

The National context continues to play a significant role in shaping the way in which environmental issues are dealt with here in Tasmania, and consequently should not be left out of a discussion such as this.

Wherever one cares to look, we see evidence of communities, industries, and governments at loggerheads over resource-use proposals and decisions. Whether it is, uranium mines in Northern Territory, whale hunting in the Southern Oceans, hydroelectric development in Tasmania or clear fell logging across the Nation; one can see the all too familiar pattern of proponents supposedly following codes and legislation only to enter into community and political fire storms. These firestorms are usually led by institutions from within the environment movements (e.g. Greenpeace and the fight to stop whaling and Wilderness Society in saving the Franklin in Tasmania).

We see the Australian Conservation Foundation leading many of the national issues, such as the fights against land degradation, water pollution, biodiversity loss and climate change. Increasingly though we are seeing environmental issues taking on a global perspective as seen with the debates

over climate change, scarcity of resources, genetic engineering and nuclear energy. As never before issues are felt across international borders. Climate change for instance is having huge economic impact on many nations. These impacts are already leading to conflict and a reshaping of global economics. In their move toward a global economic order the major nations appear to be positioning themselves for a new form of imperialism. The recent conflicts over oil are but one example.

This move toward a new global economic order brings with it new challenges for the environment movement, the most significant of which are the shifting political ideologies of many nations. In Australia, this is one factor that may be having a negative impact on the effectiveness of the environment movement (Christoff, 2005). Christoff (2005) raises a number of interesting questions in relation to the reshaping of Australian values towards a more atomistic, selfish, apolitical, anti-intellectual, acquisitive, and defensively nationalistic stance. He asks, "Has the Howard Government reshaped the political terrain and 'won the heart of Australia' by refashioning public discourse to reflect these values?" (Christoff, 2005, p.2). In my view the answer to this question is a definite 'yes'. I believe that this values shift continues to have a major impact on the effectiveness of the movement, not so much as a direct result of any plan to turn the public against environmentalists⁷⁶, but more to do with a number of other factors. I discuss some of these below and expand upon them later in the thesis.

Surveys here in Australia indicate that public concern over environmental issues has dropped significantly over the past 12 or so years (Christoff, 2005).

⁷⁶ This should not be discounted as I believe there is some evidence that this is the case as well. This point is touched on later in this book.

In his analysis of Australian activism Christoff (2005, p.1-2) presents a number of cogent arguments regarding the performance of the Environment movement in Australia. He cites the progressive changes in public concern regarding environmental issues. He states that in 1992 75% of Australian had concerns about environmental problems. By 2004 the figure was 57%. The possible causes for this include: efforts by the current Federal Government to neutralize environmental critique, lack of interest by the media, or public seeing the urgency as largely over. He suggests that the message put out by the environment movement may not be getting through.

Either way, he argues that (on the basis of poll data) that the Australian environment movements issues (e.g. biodiversity, wilderness, land and river degradation) is strongly out of step with popular opinion about what is important (Christoff, 2005). In many ways I think Christoff is right. It is clear that at the National level there has been a campaign to shut down, (via social engineering) environmental advocacy groups. The recent advent of legal action against activists has also had an impact on the effectiveness of environmental groups. In terms of attempts to shut down the movement here in Tasmania, similar strategies are afoot. That said, to ignore the important cultural aspects when looking for new ways forward would be foolish.

There may be several reasons for this drop off in concern. It is possible that the public believes that real action is underway, and that environmental issues are being addressed. On the other hand the public may be overloaded and/or fatigued by the complexity of the current issues, particularly the way in which a number of significant issues have run together (e.g. climate

change and the consequential impacts on food and water availability). No longer are the issues clear and simple involving this or that iconic species or place. Genetic engineering for instance is as much about opportunities to heal the sick and dying and halting the spread of pests and disease as it is about profits and the spread of the 'new' green revolution. Add to this the speed with which change is now occurring, with announcements on almost a daily basis, of another crisis or, more favourably, yet another breakthrough to save the environment.

The public are understandably overloaded, perhaps bewildered and wanting to turn-off. Where does this leave the movement? Does it understand what is happening and moreover how it should respond? Is the environment movement in Australia losing touch, losing its effectiveness?⁷⁷ Has it failed to maintain connection with communities? The evidence suggests that this is in fact the case (Christoff, 2005, p.2). How then do we address this? What strategies and methods could we use to re-establish relationship with community? Maybe a reinvention of activism is needed (Whelan & Lyons, 2005). How can we get community out of the back seat and into control? Is that what is in fact needed at all? I believe it is. I argue that community has taken a back seat, much of the time, unable to be heard as the institutions, including the environment movement, do the talking, telling community what is and, is not good for it. This in my view has contributed to the present crisis of dislocation.

⁷⁷ Perhaps the movement and activists have failed to recognise that the social and political landscapes have changed forever in the wake of 9/11?

I argue that the community must have more ownership and a greater role in dealing with the crises facing Australia (and the world) as the current approach of experts in control is not working. I maintain that activists will have a role to play as facilitators in bringing citizen to the locus of control.

It is without doubt that environmental advocacy, expressed through forms of activism, will still be needed well into the future and that community should be driving the process of change through democratic means. The challenge then is to find innovative ways to reinvigorate the movement. To that end I intend to take a pragmatic stance on the matter of change, and while recognizing the global nature of the issues I see opportunity in engaging local communities directly in the change process.

9.2 The Tasmanian Context

I feel the causes of the ineffective citizenry are to be found in our past. To my mind, it is without doubt that Tasmania's despotic and violent past has played an important role in shaping our culture and identity. Examples include the campaign to take the land away from the original inhabitants and land owners, the Tasmanian Aboriginals and then the plot to exterminate them under a bounty system. In my view this despicable act by the supposedly civilized society of England has never been properly resolved. It is also worth mentioning that Tasmania was first a penal settlement, where the military, church, and government, along with the free settlers, held power over the convict slaves transported from England during the early 1800's.

Ultimately slaves (convicts) were freed, becoming Emancipists. Many Emancipists were given the poorest land well after the Free Settlers (Exclusives or pure merinos) were established (usually via convict labour). Williams (1961) discusses the events of the day (mid 1800's) that set the scene for what was to follow. The focus of his analysis is the colony of New South Wales, which had jurisdiction over Tasmania at the time. He has this to say about the relationship between the Exclusives and the Emancipists:

The latter (Exclusives) would not accept Emancipists as equals; and because of this, Macquarie's ideal of bringing ex-convicts back into the colony's life as equals of all other men caused much friction. The exclusives resented ex-convicts being made magistrates and were disgusted when invited to dine at Government House in the company of freedmen... (Williams, 1961, p.199).

In my view, this schism led to a deep rift between the Emancipists and the Free Settlers, which set the scene for the development of a socio-political culture where the real power (and resources) remained in the hands of a few families, and led, eventually, to a unique cultural norm and identity. Tasmania's geographic isolation served to reinforce what I term a post colonial colonialism. This cultural norm, characterised by imposing fear and intimidation on those with differing or counter views, persists today (Flanagan 2007), and is more than evident in the way natural resources continue to be managed. The forest industries are a case in point, where there is believed to be a culture of control and intimidation (Flanagan, 2007). This all-pervasive culture of fear has also shaped the environment movement's reaction to what it sees as environmental injustice. In short, our

past continues to function as a kind of strange attractor⁷⁸, shaping our responses and therefore the trajectory to our future.

Our history has shaped the present crisis that sees community effectively disconnected from any means of real control or say in its future. Community expectations are slowly changing due to education and the influx of people from mainland Australia. That said, I have found a strong feeling among Tasmanians (strongly echoed during my upbringing) that is expressed in terms of “don’t rock the boat”, “we have to go along with a political masters”, “what can we do – it will never change”, or “but they say well we’ll lose our jobs...” (Paraphrases of numerous ‘conversations’ within my family and with others over the past 40 years).

This situation has led to increased uncertainty, fear, and anxiety as to what the future may hold. It is clear that too few people have acquired too much power and influence. This is the crux of the present crisis here in Tasmania and may account, at least in part, for the apparent breakdown in the relationship between the activists and the community. In any case, further research is needed to explore these assertions to a greater depth and detail. I will return to this point later on.

⁷⁸ Applied to the humanities, the term ‘strange attractors’ not only suggests the influence of chaos theory and intersections with scientific theory, it also raises images of unlikely combinations, emerging connections and unstable meanings.< www.limina.arts.uwa.edu.au>.

Tasmania's isolation, relatively low population (less than 500,000) and rich resources have meant that it has been a target for resource exploitation for some time. Since colonial times Tasmania has been easy picking initially by the British colonialists, followed by mining, cheap hydroelectricity and now cheap timber. The publicly subsidized hydroelectric schemes saw governments of the day inviting energy hungry companies to our shores with the assurance of cheap power. Progressively the community became dependent on such industry. Likewise, production forestry relies on a cheap resource subsidized by the Tasmanian community.

While employment remains high (because of subsidized investment) the environment suffers under what continues to be another form of imperialist dominance. High investment in return for cheap resources meant that the community ignored the numerous pollution and equity problems the state faced. As exemplified by the pollution of West Coast rivers, lead and cadmium pollution of a suburb in Hobart, the dumping of jarosite industrial waste in the sea to the south of Tasmania, fluoride pollution in the Tamar Valley, the takeover of public forests, and pollution of the Tamar and Derwent estuaries with heavy metals to name but a few. In my view this community perception has its roots in the colonial, forelock-tugging attitude of 'not biting the hand that feeds thee'.

The normal process of resource acquisition involves using a strategy whereby industry, with the covert support of governments, seeks to devise ways of controlling public resources without the public becoming aware of what is happening until it is too late. The wood chipping industry in Tasmania is one example where, back in the early 1970's, the industry and

government promised to use only the leftover material from the then vibrant timber industry. A further aim was to clear timbered land that was considered worthless (Meredith, ed. 1996, p. 28). Bob Bensemann relates a story from that time:

I helped Northern Woodchips get off the ground along with entrepreneur John Hall. Tied up land to get enough supply in Tasmania to work for Japanese....APPM has a complete monopoly, and was paying 20 cents a ton in 1970. Northern woodchips offered 50 cents a ton. Before wood chipping, bushland was often considered to have a negative value, i.e. that it would be more expensive to clear it than it was worth. At about this time, some bushland runs at Bridport sold for \$3 per acre and at Bridgenorth for \$17...because it would cost much more that to clear the land, plus it had virtually no sawlogs...

An unsuspecting public went along with the idea and within a decade the industry had permission to chip large tracts of public forest. Since the 1980's there continues to be growing public disquiet over the spread of clear fell logging in the state. Moves were made by the Greens⁷⁹ to limit the power of the forestry industry, which led to the major political parties banding together to create Resource Security Legislation in order to give the industry much needed guarantee of resource supply. This, along with the progressive outcomes of the Regional Forest Agreement⁸⁰, has led to a growing community concern about the health of forests, rivers (Dockray et al, 2002.; Dockray, 2003) and the standard of infrastructure (in particular roads, which suffer huge damage from log trucks).

The nature of log transport changed once large tonnages began to be harvested. There was a progressive move to road transport and the extensive government owned rail system was all but disbanded. In my view the

⁷⁹ The Greens are the Tasmanian political party formerly known as The Green Independents.

⁸⁰ A Nationally 'agreed' framework for forest management legislated by the Federal Government.

community lost control of a valuable part of community owned infrastructure as government and industry effectively used public assets to subsidize log trucks, log truck maintenance and road repairs, thus once again meeting the interests of a select few businesses in the state. All of this resulting from an industry that, in the early 1970's claimed it was only intending to have limited intervention to clean up the rubbish from a saw log driven industry. This, I believe, has had a profound effect on the Tasmanian Community, which has resulted in a growing loss of faith and cynicism on the part of the public toward industry and governments. This was capped off by a serious political scandals commencing with the attempted bribery of an MP after the election of 1989, to a series of scandals in recent times, including the apparent undermining of the Resource Planning and Development Commission process during the Tamar valley pulp mill application process and the recent resignation of the high profile deputy premier over allegations that he was coerced not to appoint a certain person as a judge in the courts.

These scandals have left the great majority of Tasmanian's stunned and ashamed. Indeed Richard Flanagan's article in *The Mercury* ("Battle Cry for Our Tasmania"), in which he says, "There is a great and terrible sadness abroad in Tasmania today born of the knowledge of what we might be in sorry contrast to what we have become" ("Battle cry for our Tasmania", 2008) echoes the feelings of many Tasmanians.

The necessary upshot of all of this is that we are beginning to see the Tasmanian community move to a new position evidenced by a growing confidence to speak out on a range of issues of concern. This groundswell

has been slow to generate and is still not of sufficient momentum to trigger widespread reform⁸¹, such is the power of this colonial state in suppressing dissidence. Despite this, enclaves of community activism have been evident over the years, albeit reacting as opposed to pro-acting, but active nonetheless. The curtailing of excessive hydroelectric schemes during the 1990's, the recent moratorium on Genetically Engineered crops and the recent rejection of a pulp mill proposal for the Tamar Valley were the result of intense debate within the community, resulting from what some saw as a backlash against the industry-political complex. One can sense a level of community activism.

The on-going debate over Tasmania's direction led to the Tas Together process, which has been active for several years. Forestry management and resource based issues generally loomed large as issues of concern. Slowly community is seeing the need to take some leadership. There are concerns as to the effectiveness of the Tas Together process and whether it can in fact deliver on its promises. It may be yet another ploy to occupy the community while government-industry works on business as usual, thus further reinforcing the *plan* to dislocate citizens from the real issues. It would not be the first time Tasmania has experienced this in its short and often violent history.

No doubt the Tasmanian community has been deeply affected by the relentless campaign of hatred levelled at the Tasmanian Greens and the Environment movement generally by the major political parties and sections

⁸¹ Example would include the development of a community based code of good governance.

of industry. The 'outbursts of authority' claiming that the Greens and the Movement are anti-jobs, anti-development and are seeking to shut Tasmania down have, without doubt, intimidated ordinary Tasmanians to the point where they see the Environmental Movement and activists through the lens of fear and mistrust. In such a climate the vested interests could, I argue, inflict just about anything on the Tasmanian Community and it would accept it.

In many ways those seeking to bring about change here in Tasmania face some unique challenges. I argue that the general theories of social change and indeed activism may have limited application. Tasmanian society is, in my view, a special case requiring much innovation on the part of those of us seeking change. Clearly this is a somewhat bold assertion on my part. While Tasmanian environmentalism got off to a roaring start with the Franklin and the world's first green party, the 'wins' have tended to dry up over the past decade. I argue that Tasmania is still in the grip of a pioneering colonialism that still controls much of the business as usual. I will discuss the basis of this in the following section.

9.4 The Dislocation of the Tasmanian Community from Meaningful Decision-Making

We continue to see the community spoken for and on behalf of by a range of interest groups including governments, industry, and the environment movement⁸². While it is not necessarily undesirable to have individuals and groups supposedly acting in the interest of community, it is not always clear whose interests are in fact being served. This in my view is a troublesome

⁸² I use the term environment movement to include ENGO's, activists, E-advocates and lone crusaders.

situation that I will attempt to resolve throughout the remainder of this chapter.

As discussed earlier, my experiences have shown that community is seemingly cut-off from meaningful engagement and participation in the resource planning and management process. That is, involvement at the very start of a project proposal where public assets are to be exploited (examples include public water, public land and public forests), or anywhere that decisions are to be made on behalf of the public. Instead we see citizens input as an aside that is sought more as a courtesy than anything of substance.

Throughout my 30 years of experience I can cite many examples where community has been effectively left out of the higher levels of the decision making process, and allowed to put forward their views only after key strategic decisions have been made. Having public involvement in the very first stages of project proposals is a very rare event. For example, the public is never asked to propose forestry coupes for clear-fell logging, but they may (with enough pushing on their part) be allowed to see a plan for logging of a coupe. At best community is asked to provide "input" or "feedback" (Dakin 2003, p.97) after it has been told what is going to happen to its resource or in some cases heritage. Why is this so? Is it a conspiracy by vested interests to seize publicly owned resources? Could it be a belief that community is incapable of direct involvement in matters relating to the management of its resources and its future? Alternatively, is community simply apathetic or too busy with the day to day to have time for direct involvement?

My experiences indicate it is a combination of all three. The task then is about motivating community and at the same time examining innovative ways to engage community at the strategic level. To that end I see a new role for the environment movement. I feel that community-based knowledge and know-how have been undervalued (for a number of reasons) for too long.

9.5 Opportunities for the Environment Movement as it Repositions Itself to Engage Community

As suggested earlier, I argue that community based knowledge, especially where it relates to strategic decisions affecting resource planning and management, is usually seen by the institutions⁸³ as a poor substitute for real (legitimate), knowledge. In fact, it may well be that institutions perceive ordinary citizens⁸⁴ as incapable of generating real knowledge (Dakin, 2003, pp. 96-98). This perception may be at the root of many of the problems we see with the acceptance of alternative ideas and arguments coming out of community.

My aim here is to put forward some ideas that I feel will contribute to addressing the problem of community dislocation here in Tasmania and at the same time improve the effectiveness of environmental activism in order to bring about much needed reform in the way our natural resources are managed. Whelan (2002, pp.29-33) details the difficulty in defining effective advocacy/activism. My view maintains that if you are working in partnership with those whom you are advocating for then indications of

⁸³ I include government, industry and the environment movement (including ENGO's) as institutions.

⁸⁴ As mentioned in Ch. 1 perhaps citizens have unwittingly fallen victim to playing a role that leads them to 'expect to be told what to do and think'.

'effectiveness' will always be evident, especially if they are built into the participatory process. In short, you don't need to define it as your 'customers' will soon tell you.

In attempting this I will argue that in order to engage community the environment movement (including lone activists) will need to develop a new approach to activism. More than ever we must seek to work in partnership with communities. This is the only way we can ever hope to change the present colonial mind-set that is Tasmania.

While I am aware of the myriad strands that make up what we term community engagement, I intend to focus on just one area that I feel is a lynchpin for activism. If we acknowledge that citizens are capable of generating new knowledge and innovation, and as such are more than simply passive receivers of information and services, and that present environmental activism could accommodate a greater level of participation on the part of citizens, then the task would be to find ways of achieving this. I propose that new forms of activism that engage the citizen as an inquirer and therefore generator of arguments can lead to the creation of *new* knowledge.

I begin by focussing on one of the key tools used to generate knowledge, namely science. Science is used by the environment movement (supposedly on behalf of communities) to legitimize its arguments. Our Western culture holds science in high esteem as *the* dominant form of legitimate and official knowledge and its creation. It makes sense that if we could make provision in conventional science for community participation, then we may be able to establish the means whereby citizens could become part of the knowledge

creation process and at the same time possibly influence the further development of science itself.

I intend then to make the case for a new science that seeks the direct involvement of the community. I argue that community involvement⁸⁵ in the process of radical thinking (activism) and knowledge generation (and validation) is essential if we are to move beyond the current crises associated with our inability to move beyond 'No!' There is a twist to this. By bringing community into the locus of control we introduce community involvement whereby the distinction between activist – as advocate and community members becomes blurred. This as it turns out this may have important consequences for the prevailing cultural, economic, and political realities that have played such a dominant role in shaping Tasmanian culture.

In making my case I argue that to some extent the environment movement has become captive of the very thing it employs to bring about change, namely conventional science. Activists tend to use counter arguments⁸⁶ based on 'good science', rather than critically examining the quality of the science itself, including the way in which it is done. Here I am suggesting a broader definition of 'quality' to include the assumptions and assertions underpinning a given piece of work. By the same token the traditional quality criteria should also be tested.

⁸⁵ Citizens are major stakeholders and so their direct involvement would appear to be crucial.

⁸⁶ That phenomenon, known to many of us as, "you have an expert-I have an expert-you have an..." cycle.

A recent case illustrates the usefulness of an expanded examination of the processes underpinning good science. In the case of the proposed pulp mill for the Tamar Valley in northern Tasmania, environmentalists asked significant questions as to the legitimacy of the Pulp Mill Review Panel⁸⁷. Issues relating to the independence of certain panel members came to light, which led in turn to resignations and on-going questions about the integrity of the process (Why the RPDC chief really quit. 2007, January 6).

It would seem that while there may be good science⁸⁸ it is not always independent and untouched by values and perceptions. For those of us familiar with such situations this is hardly news, but may come as a shock to community members who see experts as authoritative and independent, particularly those in the public service. For its part, industry often claims it is in the middle, simply wanting to be told the rules and given some assurances that once production is started there will be no on-going conflict or interference from either community or governments.

In following the rules, usually put together by industry and government, with some input from community, industry uses good science and seeks best practice outcomes, win-win and reduced footprint, while maintaining high efficiencies and profits. Of course the hook for community is the perceived increases in employment and wealth. Citizens seldom if ever get involved in questioning the decision-making processes used, let alone questioning the quality of the science that underpins them. Those processes are usually taken as given and so assumptions remain unchallenged. In short, all parties

⁸⁷ A panel set up by the RPDC (State Resource Planning and Development Commission) to review Gunns Ltd pulp mill proposal. The task was to review the science and technology underpinning the proposal.

⁸⁸ In terms of rigorous peer review and accountability.

become swept along by processes of their own making, without stopping to consider the ways in which their views, perceptions, and behaviour are being shaped by the prevailing context. In a sense they are unwitting prisoners and victims of someone else's quest for the future.

Good science is only as good as those who use it. I argue not for a good science so much as a better one – where the risks of getting it wrong are clearer and above all reviewed, understood and acknowledged by *all* stakeholders. By this I mean processes whereby community can inquire into the assumptions that underpin the science and therefore the management decisions. It turns out the environment movement may have an important role to play in expanding the peer review⁸⁹ process to include community members. This leads to considerations regarding representation. During the course of my work I have always had concerns about the matter of representation. That is to say, on what authority or under what warrant does one represent community⁹⁰ - whose interests are we serving and with what consequences?

Throughout I use the term “community” with special meaning based on community development research. This usage is consistent with the notion of “community of attachment”, Willmott(Oragne Agricultural College nd) talks of community attachment in these terms:

⁸⁹ Peer review on all levels, including at the very early stages of project proposal.

⁹⁰

It is not easy to select an appropriate label for it... . I call it the 'community of attachment' or 'attachment community'. A particular advantage of the term 'attachment' as a term is that it brings together the two key elements contained in this concept. One has to do with the extent to which people feel a sense of identity with a place or a group and of solidarity with their fellows living in it or sharing its interests or characteristics (Orange Agricultural College, The University of Sydney nd).

There is a debate in my mind as to the effectiveness of the environment movement in engaging community more fully in matters of resource management. I maintain that the environment movement must engage with these questions as they are at the very core of the challenges we face. In other words the movement and activists will need to relinquish their monopoly on environmental issues and work with community in order to share the burden and responsibility of making the future.

It is also clear to me that science and the law, in their present forms, are unable to meet the emerging expectations of society, particularly in relation to the application of the "Precautionary Principle" within sustainable development⁹¹. The key issue relates to the concept of uncertainty, particularly where actions are urgently required. As it now stands all legislation requires a degree of certainty in the science that underpins it, particularly where health (human and environmental), public funds and assets⁹² are at stake. The reality of course is that there is always a degree of

⁹¹ The Principle states, where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the Precautionary Principle, public and private decisions should be guided by careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment and by an assessment of the risk weighted consequences of various options (Draft National Strategy for ESD, Canberra, June 1992). The ESD process was exhaustive, involving all sectors of Australian community, government and industry. Among the guiding principles was the "Precautionary Principle". Some argue that this principle enshrines the very basis of careful and responsible development.

⁹² I include here natural and cultural 'resources' as well.

uncertainty in any science. In such cases we are required to exercise our judgment. This may be well informed or simply a best estimate. Either way, things can still go wrong. Even when we 'get it right' with 'good science', high quality research and field trials, errors can and do occur. Then there is the point where science and business interests meet – that complex domain where money, power, values, and community concern meet. I argue that science, in that context, has some limitations that have led us into problems and to some extent away from achieving a sustainable future. Accordingly, I argue for a new science, a new way to inform our decisions (and actions). In order to work, this new science will require wide stakeholder participation and will therefore call for a new form of citizen engagement capable of taking us past the present impasse, by allowing us to move beyond 'No!' I call this Post Normal Activism. In the next chapter I will take this discussion to a new level as I attempt to flesh out the above ideas and assertions.

9.6 The importance of personal change

My own transitions as an activist has made this story possible, and the act of writing this story has enabled me to continue that transition. In exploring my personal and professional effectiveness as an activist I have been able to understand many things that would have perhaps remained buried.

Unpacking motivation has been both therapeutic and revealing in that I have been able to trace the roots of my angst and rage that arose during my early life. Only by understanding this was I able to break out of a cycle of behaviour and practice that was quite simply ineffective. Whelan (2002, pp.167-168) touches on this stating that personal development while important receives less attention in the mainstream movement.

Once I understood my philosophy I could move on and explore opportunities for growth. In short, my problem was that I did not realize that I had a problem.

Once I located⁹³ myself within activism I was could see that my problem somehow resonated with dysfunction I was seeing in the movement itself. Further thought and reflection led me to conclude that environmental activism in its preoccupation with the problems in the environment was effectively blinded to the problem of activism and therefore unable to question its methodology, let alone philosophy. Therefore, any chance of it questioning its assumptions and means of engagement also remained not just unattended to, but moreover unseen and so it has not been able change in order to facilitate meaningful change. That is the ability to change oneself through an honest and open analysis of one's motives, philosophy and being. Only then can one negotiate a 'new turn' in growth and development. I argue that this also holds for institutions as they are human activity systems. The movement is still using the same tools and methods it has used over the past 30 years. Yet the answer to the problem lies beyond method.

As I have shown in the analysis of my own journey, *meaningful* change is more than simply the application of methods and techniques; rather, it requires significant changes in the way we think about ourselves and our relationship with the world. An analysis of my progression through activism has revealed the vital role of personal change in the reshaping of one's effectiveness as an empowered citizen. My learning gained from nearly 30

⁹³ By this I mean once I could see how I was being shaped by the context that was 'the movement'.

years as a community based environmental advocate and activist has shown me that in the majority of cases citizens are looking for guidance as to the best and quickest means to resolve their issues of concern. In playing this role citizens tend to reinforce their dependence on authorities and experts to recommend courses of action, thus further confirming the view that citizens are passive receivers of services and information.

By way of illustration, activists come to the aid of citizens with a view to winning a battle or fighting an issue/s perhaps as part of a larger campaign. The activists and the institutions they represent usually have preconceived ideas about the issue and how best to fight it. They hold strategy meetings and plan media, letter writing campaigns and perhaps protests to make their points in an attempt to sway the powers that be (usually politicians) into making certain decisions. Zoretic (2006) citing Moyer make the following relevant point, "...activists should aim to influence citizens as opposed to politicians. The reasoning behind this is that the former has power over the latter, because the public decides whether politicians re re-elected" (Moyer ,1990, p. 5).

While the traditional approaches to community activism have been successful in a great many instances they do not create the opportunity for on-going engagement on the part of the citizen. In short, every time history repeats the activists are called to make yet another intervention. Once the job is done life gets back to normal⁹⁴ until the next issue arises and the cycle begins once more. Such situations prevent citizens from maintaining an on-

⁹⁴ One often hears community group members lament, "we just want it over so life can get back to normal..." (Pers. Comms. 2002 – 2009, numerous community workshops).

going relationship with environmental issues and therefore the possibility of control over the design of their futures⁹⁵ is diminished. In other words, citizens are rarely offered the opportunity (and challenge) to do their own activism and this is just what is needed.

It is clear that those acting on behalf and in the interests of community and the environment will need to find new ways to bring community into the locus of control and on-going engagement. In short, the relationship between the movement, activists,⁹⁶ and the communities they represent is in need of urgent change and perhaps reinvention in order to meet the emerging challenges of an uncertain future, especially where their roles relate to supporting community and facilitating meaningful change on all levels.

I therefore argue for an approach to personal change that leads to empowerment and the realization that as citizens we can, and in fact do play a major role in shaping futures that we not only pay for but also end up living in. It follows that part of the activist intervention strategy should involve emphasising the need for citizens to become active change agents in their own right. For its part the movement (as institutions and activists) needs to develop support programs to assist citizens to make this transition. In a sense then the movement (as it now stands) is seeking to make itself redundant as it facilitates the emergence of a new activism, and in so doing makes systemic change possible. Similarly in undertaking such a course of

⁹⁵ That is, any claim to authority in the decision-making processes regarding natural resources.

⁹⁶In this thesis, the term 'activist' refers to a spectrum of approaches used by community members in bringing about social change..

action the movement itself is likely to undergo its own transition and perhaps reinvention.

The remainder of this thesis seeks to contribute to such an effort by recommending change in but one small thread of the complex labyrinth that constitutes the on-going struggle for increased justice, equity, and sustainability.

9.7 Reinvention of Tasmanian Environmental Activism – the challenge on behalf of the community

9.7.1 Introduction

The aim of this chapter is to layout the case for a new approach to activism, the properties of which would be along the lines of that introduced in Chapter 6 and 7. I begin with a discussion of the present role of activists (and the institutions within the movement) and then move to propose future roles. I then introduce a framing for a new science, before finally proposing a methodology. In doing this I draw upon the work of Carson (2001) and Moyer who have provided a clear analysis of the various shades or styles of activism (see Chapter 7). As well, I shall draw upon my own experience as an activist and scientist.

The vested interests within activism, government and industry have in my view, exploited (perhaps not intentionally) the Tasmanian community. Examples of exploitation on the part of industry and governments include securing funding to meet institutional/industry needs and the acquisition of public resources such as forests, public water supplies. A more subtle form of exploitation involves the construction of publicly funded infrastructure⁹⁷ for the purposes of meeting industry needs (e.g. water pipelines, roads, bridges, power supplies⁹⁸). There have also been cases where industry and government have overstated the significance of projects (in terms of employment and other benefits) in order to press the public into acceptance. The recent pulp mill proposal for the Tamar Valley is a case in point where

⁹⁷ Supposedly built primarily for public use.

⁹⁸ Note, for many of these the public has access to use, but pays a premium, examples include water and electricity.

promises of income and employment were made, while de-emphasizing the huge volume of water that would be used and the high infrastructure costs that the community would have to bear (e.g. road and rail construction and repair).

At the first sign of any discontent or dissidence on the part of the community, industry and government quickly use the well-worn trump card of employment: “if we can’t go ahead with this development the industry will move off shore...” (Paraphrase of comments by industry ‘leaders’ over many years). For its part, the community has accepted such arguments, going along with business as usual. As discussed in Chapter 6 many Tasmanians are unhappy with the present situation and therefore want change. While concern may be high, it is not reflected in the level of activism and action⁹⁹ for change in the wider community. This leads to the conclusion that activism in Tasmania may still be at the level of ineffective citizen to use Carson’s (2001) term (see Chapter 7).

9.7.2 The present role of the environmental activists

I argue that environmental activist’ groups here in Tasmania have, for many reasons, failed to adequately connect with community. I believe the understandable quest for political power has occurred to some extent at the expense of community empowerment and issue ownership. I also assert that environmental activists have largely missed the real target of environmental reform. There has been a tendency, brought about through a sense of

⁹⁹ That said there has been some activity during early 2008 regarding accountability (essentially a fight against corruption) and good governance. It will be interesting to see if the calls for change can be sustained.

urgency, for activists to become engaged at the level of preventing or stopping those projects seen as environmentally dangerous instead of mounting critical inquiry into the decision-making processes leading to project proposals. At the same time, there has been reluctance by the activists to seek engagement at a more strategic level, in order to lead decision-making processes inclusive of the community. As well, activists and the movement have not taken the time to reflect on and analyze their own game. As an activist myself, I have made considerable gains, as have others (Fisher 2003) by reflecting on my practice.

As indicated in earlier chapters, there are many reasons for what some would regard as lost opportunities on the part of the movement. When analysing social phenomenon such as activism here in Tasmania, the potent influences of history and culture cannot be ignored. My assertion here is to do with the way in which the normalizing forces within Tasmanian culture have in effect shaped the nature of activism and the movement. In its resistance to business as usual, Tasmanian activism has tended to mirror the behavioural characteristics of those whom it seeks to change through adopting a strategy of opposite posture, which is usually expressed as 'No!' The net result is a stifling of innovation and therefore any means whereby the focus of the discussion can be shifted. In true spirit of Tasmanian colonialism the broader public simply 'don't talk about it'. That is their way of dealing with such problems. Add to this the fact that activists very rarely meet to reflect together on their effectiveness (as individuals and a collective) and it is easy to see why things cannot change because we have created no space for changing the way we do activism.

There are also other reasons for apparent lost opportunities on the part of activists. First and foremost committed activists are thin on the ground and those with time and resources to function as much needed change agents much thinner. There may be another factor contributing to what appears to be a breakdown of the relationship between environmental activists and the Tasmanian community. This could be associated in part with the perceptions, beliefs, or assumptions held by the activists. Carson (2001) suggests: "Activists, like bureaucrats and elected representatives, are often sceptical about the ability of citizens to handle complex matters...Activists are often contemptuous of citizen's ability to come up with the 'right answers'...". Some would argue that Carson is tending to draw a 'long bow'; while others may find that the environmental movement here in Tasmania has tended to play the role of "Ineffective Change Agent" and "Ineffective Rebel" (Carson, 2001).

An exploration of these questions could throw light on the reasons why concerned communities often see the activist methods as off-putting, due to what some see as an over reliance on reactionary approaches. In addition the ineffective citizens may find activists' messages hard to comprehend due to their deeply held perceptions of power and authority, in that ordinary citizens find themselves at cross purposes when questioning business as usual. One often hears the phrase, "well they're all as bad as each other, but what can you do..." (Paraphrase of comments among family and acquaintances over many years). Of course, there are most likely other influences that may be contributing causes to the lost opportunity referred to earlier. The role of the media in shaping community perceptions cannot be ignored. The fact that activists operate in a very public way can contribute to negative perceptions, especially when corporations and governments are

able to put a negative spin on activist's methods and messages (see Doyle 2001, pp. 95-99; 124-132). In the following section I discuss the expanded role of activists to include the facilitation of change strategies to assist citizens to become activists in their own right.

9.7.3 The future role of environmental activists

As the activists begin to innovate, vested interests will shy away from the challenges they face, particularly where it is clear that placing too much power in the hands of the citizens may dilute their own opportunities. Once the vested interests get wind of the new way forward there will be, without doubt, the predictable outbursts of authority in order to intimidate the community once again. It is vital for the movement to develop change strategies that see's it facilitating processes that reform environmental activism¹⁰⁰. Activists need to be innovating and finding new ways to bring community in and at the same time neutralize the assertion that they (the activists) do not act in the public interest or are somehow, unrepresentative of public opinion (Christoff, 2005, pp.3-9). Careful use of well-designed surveys to secure mandates from the community is one way activists can nullify such claims. Indeed, from here on all campaigns should start with a survey¹⁰¹ and campaigners should be very careful to keep their community informed of progress against the mandates. Once a mandate¹⁰² has been secured the real work can begin.

¹⁰⁰ And maybe activism generally!

¹⁰¹ Scientifically designed and validated and published on completion.

¹⁰² This is the authority to act, explicit, clear and documented.

The key belief underpinning my assertions regarding the motives of activists is that they are acting the majority of the time in the interests of community and the environment, and as such they are advocates and therefore an essential thread within our democratic fabric. Activists have a watchdog or surveillance role as well as a role in supporting communities and citizens in matters of justice, including environmental rights. As important as those matters are, I believe that activists have other responsibilities too. The key responsibility is to act as facilitator and mentor for community based change. I argue that more than ever we need to find ways to ensure that community takes an ever-growing role in the development of its future.

In short, community needs to be taking on a leadership role, doing the telling, instead (as is the case now) of being told what to do. Clearly, this will require enormous effort on the part of those seeking meaningful change, particularly in light of Christoff's (2005, pp.1-9) analysis and the cultural reality in which Tasmania finds itself. The primary role of the activist movement should be the facilitation of an inquiring community. In their efforts the activists must facilitate a social change that can embrace new tools and new ways of *doing science*. I believe that Post Normal Science (Gallopini et al, 2001) will play an important role in the change process as activists begin to see its application as beneficial. Post Normal science is, in the end, simply science with a stronger social dimension.

9.8 Normal Science¹⁰³ – Only One Way To Inform Decisions

9.8.1 Introduction

In the following discussion, I start by questioning conventional science, including its use within the framework of law¹⁰⁴. I identify a number of weaknesses that have led us into a tangle of problems¹⁰⁵. I then go on to discuss the necessary moves toward a new science capable of responding to the challenges of complexity and uncertainty, while at the same time offering greater inclusiveness. For this to happen I suggest current forms of activism must undergo a reinvention (with a focus on environmental activism) in order to fully support and engage community in its new role as primary leader in resource management decision-making and thus be a part of the drive toward the new science. Finally, I propose a form¹⁰⁶ of applied Post Normal Science (Gallopín et al 2001) that I believe is a useful starting point for further discussion and perhaps development.

9.8.2 Limitations of our present science

Science tends to apply general theory to specific situations and in so doing develops predictions and prescriptions for action in those contexts. This, as I will show, can be a weakness. During my nearly 30 years' experience helping community groups and individuals I have seen many times how ignorance or dismissal of local variation, circumstance and concern has led to problems. Many times, there is simply no substitute for local knowledge and

¹⁰³ The current form of reductionist experimental science (see White, 1993).

¹⁰⁴ Whelan (2002, p. 148) touches on this point about how science is influenced by 'values and politics'.

¹⁰⁵ That is has contributed to the present crisis within activism, including its disconnection with community members.

¹⁰⁶ Essentially a methodology within PNS, which I term 'Post Normal Activism'.

variation. Thus appears a weakness, namely general theories can and do have their limitations.

The importance of embracing locally relevant information at all stages of an inquiry is brought into focus with following example from Harding (1998, pp.95-96):

Since the nuclear accident at Chernobyl in 1986, scientists have been monitoring and attempting to manage the radioactive fallout which had drifted across Europe at the time of the accident. In the sheep farming community of Cumbria (England) scientists were brought in by the government to examine the future implications of the radioactive fallout on the local sheep farming industry and to review the restrictions which were imposed on the industry (Wynne, 1989). Scientists and officials based their management of the problem on the belief that radioactive caesium would be immobilized in the soil and that it would be only a matter of weeks before the farmers would have restrictions on the sale of their sheep lifted. As it turned out, the radioactive caesium remained active much longer than expected and the restrictions ended up lasting years. The scientific assumptions were based on research conducted on lowland, clay mineral soils. The upland soils of Cumbria were much more acidic however, and reacted differently resulting in the caesium becoming chemically mobile in the soil and taken up by the vegetation. The scientists ignored local variations in geological and vegetation conditions. The inaccuracy of these scientific predictions and findings severely reduced the community's confidence in "expert" knowledge...

The key problem here is to do with how assumptions are used. The basis of the assumption is a theory or general rule – what holds for one context should hold for another, similar situation. Many times we find that this is not so.

A case involving potential impacts on certified¹⁰⁷ organic farming enterprises arising from forestry operations and conventional agriculture helps to further demonstrate the above point. In this case, (Gschwendtner et al, 2001) proposed forestry operations were perceived by a neighbouring organic farmer to be an unacceptable risk. The proponents claimed that adherence to their approved Forest Practices Plan¹⁰⁸ (based on sound science) would guarantee no adverse impacts. Despite this the proponents of the forestry operations were not able to clearly show how their operations would not compromise organic certification¹⁰⁹ or that water supplies would not be adversely affected. Their key assumptions as detailed in their Forest Practices Plan could not withstand critical scrutiny via independent risk assessment.

Problems are not limited to forestry activities. In the past there have been cases where crop production operations taking place near rural towns¹¹⁰ caused concerns because of the potential for drift from aerial spraying of pesticides. Townsfolk and local activists raised the alarm about possible drift onto a local school. In both cases local knowledge and concerns were initially dismissed as either not relevant or based upon emotion and therefore unfounded. The aerial spraying company and government argued that as they were following industry code and regulation there were no risks. As it turned out the reality of the situations was something quite different. After a long and bitter conflict the assumptions of the proponents did not withstand

¹⁰⁷ Farms certified to the National Standard for Organic and Biodynamic Produce (and AQIS managed certification system).

¹⁰⁸ A plan approved under the Tasmanian Forest Practices Code administered by the State Forest Practices Board. Forest Practices Plans are essentially a risk assessments mandated by law.

¹⁰⁹ A Nationally approved Government Scheme.

¹¹⁰ Over spray of the Forest School in North West Tasmania, (Pers.Ccomms with a Tasmanian activist).

critical scrutiny. Needless to say the image of expert knowledge was once again damaged.

In these cases, as with the case detailed by Harding above, we get a glimpse of the way in which science interacts with legislation. As with much of the law, resource legislation relies upon science to provide it with an objective basis consisting of scientific laws to guarantee predictability and certainty. It is this preoccupation with the notion of certainty¹¹¹ that has, as I will show, landed us in hot water.

9.9 Science and the law

The community accepts that legislation should offer the necessary protection for our natural resource and human systems. Most people would assume that the planning protocols embedded in the legislation and industry codes will lead to decisions that are in the best interests of the community. It is expected that legislation or law is the formal articulation of the will of the people. In a democracy the elected government is given a warrant to action its mandates, the result is legislation. I argue that this is where some of our problems actually begin.

The legal framework effectively removes the flexibility of any science it employs. This is the point at which 'good science' could very quickly become bad science. The difficulty with current legal frameworks is that the

¹¹¹ Science is of course about knowledge, not certainty. This was eloquently argued and explained by Bronowski (1973).

emergent 'legal science'¹¹² is only capable of reacting to situations as opposed to dealing in a proactive way to "what could be", namely, complex and unpredictable outcomes. In short, legal science can never be used in a truly precautionary way. 'Legal science' is science that is used in an inflexible, objective and almost absolute way. For example, a 50 meter buffer zone for aerial spraying would not apply in all situations, yet the assumption held by proponents is that it does. A well conducted risk assessment would show in many cases that such a distance would be too risky. In operationalizing a risk assessment process for each and every site on the basis of a legislative 'rule' would be laden with a great many conditions and caveats, thus making it practically unworkable, especially when attempting to apply the Precautionary Principle. It is ironic that the very rigour of science and legislation it calls for ends up being its undoing.

In practice if all the legislative requirements have been met for a proposed project it is highly probable the project will proceed despite, in some cases, an overwhelming mountain of 'other evidence' (e.g. lay opinions, observations, calls for caution and other concerns regarding possible hazards and dangers). Then, when things go wrong, we hear "we could have done it better..." and the public once again picks up the cost. Examples include decisions to place housing estates on old waste disposal sites, the BSE (mad cow) issue, breast implants, and salinity and flooding resulting from wholesale land clearing. I assert that legal science cannot effectively deal with uncertainty. When the concerns of community cannot be objectified in the context of a code or legislation then those concerns are seen as just anecdotal and without a scientific basis. Yet, time and time again community

¹¹² A term I have coined that applies to the use of science within legalistic frameworks in which the existence of uncertainty is problematic.

concerns have been justified after the fact. On the one hand legislators and regulators will claim that they must be able to apply the law in a fair and unambiguous way, while on the other community finds itself dealing with adverse consequences of development. In the middle is industry who simply wants to know, very clearly, what the rules are. Clearly this is a conundrum of uncertainty

I argue that the quest for certainty in a sea of complexity has got us into trouble. However, science too has its issues with uncertainty. I have included a discussion here as I wish to highlight not only the fallibilities associated with using science, but also the fallibility of science itself. It will become clearer as we continue that this fallibility provides useful opportunities for activists. These considerations are very much at the heart of the new activism. That said I will also show that revelations of uncertainty early in the scientific process could save us all a lot of heartache at the end when projects are up and running. In short, scientists and citizens who have doubts or concerns should be listened to.

Harding (1998, pp. 96-98) explores the question of science's wrestle with *uncertainty*:

Underlying much scientific analysis is a tendency to minimise uncertainty. In some cases, short decision-making time frames or unknown parameters can make reducing uncertainty very difficult, if not impossible. The absence of reliable facts in these cases will mean the reliance by researchers on personal judgment. Since science aims to reduce subjective inputs, values inputs and uncertainty are often not acknowledged and thus inappropriately managed in this traditional framework. There are two important issues arising from the failure of science to deal with high levels of uncertainty:

Valuable information may be underutilised or disregarded if scientists and engineers are reluctant to use or disseminate information, which may be of high quality but is part of as-yet inconclusive study. Latin (1992,p.6) states that 'they [scientists] may withhold the best available, albeit imperfect, information

from political and legal decision makers who are ultimately responsible for imposing protective or exploitative policies'. Scientists and engineers are often in the dilemma of deciding whether such uncertain information should be distributed amongst colleagues and how they can participate in establishing collective databases without risking their professional credibility.

Failure to adequately acknowledge and manage uncertainty and value differences is an important contributor to conflict over environmental and resource management (Harding, 1996b). In the light of recent environmental conflicts and the increasing range of complex environmental problems challenging science, the appropriateness of traditional scientific methodology for such situations has come under scrutiny.

Harding (1998) makes the point that potentially valuable information may not be published by scientists because of uncertainty (in the scientist's mind) as to the reliability of the information. This may not be a trivial matter, as the scientist is forced to use his or her judgment in order to weigh the many pros and cons before making a decision. It would seem, for number of reasons that the pressure is on the scientists not to reveal their concerns or uncertainties when it comes to their role in project approval. It has been argued elsewhere (Roberts 1993) that even when scientists report their findings, clients or sponsors can still use the information in a selective way to support their case. The fact that scientists are not encouraged to express their concerns and uncertainties represents yet another weakness. The consequences for legislation may be quite serious as judgments and concerns regarding uncertainty could form the basis for statements of precaution.

All science has limitations - all theories are provisional. We can never be certain, yet we see that expectation in laws and regulations, yet when faced with a pollution incident we are told by the authorities that, "we can't be sure whether or not there will be an impact..." It would seem even when

science and business believe they have it right there may still be problems (Paraphrase quotes from numerous experiences over the past 30 years).

Harding's comments fall short of acknowledging the role of vested interests in shaping the outcomes of scientific process (Roberts 1993). These interests can, I argue, make good use of any, so called uncertainty. Depending upon funding and career opportunities, scientists may be swayed in their judgment¹¹³. This represents yet another potential weakness. Indeed, it is reality that all research, being a product of human activity, will be subjected to prevailing influences within a given context, thus representing a further weakness.

The following footnote from Gerald Midgley's book is illustrative of such problems, which echo the concerns expressed by Roberts (1993);

...George (1976) for a shocking indictment of the effects of scientific research supposedly undertaken in the name of third-world agricultural improvement. Essentially, scientific research conducted in laboratory conditions has led to the development of 'better' crops without taking into account local knowledge of the ecosystems in which they are to be introduced. George also highlights the business interests that are served by this kind of research at the expense of meeting the immediate needs of subsistence farmers for whom lower-tech solutions to their problems may have been more appropriate. In the context of agricultural development in Mexico, Rose (1988) suggests that 'science is only as good as the political and economic system in which it operates'...(Midgley, 2000, pp. 180-181).

¹¹³ By this I mean the way in which the research problem is worded, who is funding the research and who will publishing the research findings. In this sense, individual scientists may not be solely responsible for censoring or suppression of research programs, projects or results.

A further weakness relates to the treatment of scientists within certain institutions. According to Martin (1992, pp. 11-14), intellectual suppression and manipulation do occur in science. He cogently argues there is every reason to suspect that the institutional context does play an important role in shaping the behaviour of scientists, or for that matter anyone dependent upon funding sources. This was touched upon at the end of Harding's first point above. Like any of us, scientists are ever watchful for threats and opportunities for the progress of their career. Therefore, much is at stake for the scientist who wants to speak out or raise concerns over the way in which scientific findings are to be used.

These problems cannot be ignored and are a formidable challenge for those who seek change to the way science is done. By any measure the above weaknesses loom as almost insurmountable obstacles in our quest for a more just and sustainable society. What can be done to change the situation? Is a new science needed, or in fact possible?

9.10 Retooling for a new era of activism

It could be argued that the move toward a more inquiring and critical community is underway. We have seen in the last decade rapid growth in what could be regarded as community based science and activism (Alexander et al 1996). In Tasmania we have seen rise of community outreach projects (The Tasmanian Environment Centre, Tasmanian Conservation Trust), Community Based Sampling (a forerunner of Waterwatch) (Tattersall, 1991), Landcare, the rise of organic agriculture, Waterwatch, Community based forest practices audits (Gschwendtner et al ,2001) and a raft of community based actions and projects, including the

Tasmania Together process. This increased community based activity mirrors that found elsewhere around the world. The danger is that in arguing their case, the vast majority of community-based models continue to follow the lead of 'normal' science. Environmental activism tends to utilize the 'canons of good science' as actors seek to prove their case on all sorts of issues. It follows that any challenge to 'the way science is done' never has a chance to surface or enter the discourse. White (1993, pp.31-32)¹¹⁴, in the context of a general discussion about the environment movement in Australia, has raised concerns, stating that:

The environment movement has tended to use scientific arguments ...indeed it is very difficult to do otherwise, given the pervasive nature of the assumption (underpinning science) ...The dominance of scientists and this mode of science, however, can limit the environment movement in the following ways:

Focus on problems rather than solutions; *the focus of research tends to be very narrow...*

Scientific arguments are vulnerable to counter-arguments. An over-emphasis on a single scientific argument in an environmental campaign can cause the whole campaign to come unstuck if new scientific studies indicate contrary results...

It can obscure the strength of an appeal to the public sense of what is right or wrong based on sound intuitive reasoning...*(no amount of 'reasonable' scientific 'proof' should be allowed to get in the way of a person's/community's right to say 'no'.)*

An inevitable focus on the quantification can often be at the expense of the important, if it can't be measured.

Science is unfortunately still a male dominated arena and so exclusive emphasis on scientific arguments and reliance on scientists in an environmental debate often becomes a contest between men and masculine values, reinforcing the imbalance that exists in other parts of our society.

White proposes a community-based science, claiming it would be more responsive to the needs of the people. Examples of science shops and the

¹¹⁴ Note: the italicized text is my additions and comments.

Skills Bank of the Society for Social Responsibility in Engineering are given as examples of ways in which the community can interact with science. White also proposes that scientists need to assume the role of change agent and in so doing work more closely with community members. The central theme of White's paper is similar in many ways to what I have advocated in this thesis. I have some further ideas for a way forward. I will discuss this later. Below I will explore some of the issues activists and community face when attempting to fight science with science.

The formal process by which community members and activists voice their concerns is through submissions and other input (letters to politicians and legal action). Activists, many of whom are scientists, with the production of reports, submissions, and investigations, do a lot of very good work. Over the years I seen community activists and scientists relentlessly labouring away, writing elaborate submissions and attending government hearings or tribunals to make lengthy in-person submissions only to be largely ignored or have their concerns labelled as anecdotal or based upon emotion and therefore of limited value.¹¹⁵ The reasons for the apparent dismissal of concerns are, in my experience, to do with the fact that, much of the time, calls for submissions are merely yet another ploy to keep the public away from any real control over the decision-making process. Indeed some argue that involvement in government processes is a distraction that, "keeps organizations busy and leads people off the track" (Whelan and Lyons, 2005, p.5).

¹¹⁵ And to add insult to injury most of the time these tireless workers receive very little recognition or acknowledgment for their work.

For some time now the community and its advocates (the movement and activists) have had limited ability to influence the science that underpins the decisions contained within project proposals or legislation. No real opportunity exists for inquiry into the quality of the science (including degree of uncertainty and extent of value judgment or assumption) or to examine issues such as potential vested interest or possible corruption. Usually the scope and terms of reference of calls for submissions are carefully crafted in order to disallow any probing questioning or inquiry. Any chance then of bringing community into the core of the review process simply does not exist. For a community with serious concerns the only options are protest or call for the science to be redone. In any case these are the core issues of concern, where all the factors or weaknesses come together to limit the power of the community and their advocates to rigorously review the proponents decision making process.

Clearly, any way forward out of this maze of problems will need to be carefully thought through. First community must be able to understand what the problems are and why they are important. Secondly, the citizenry must be able to use the solutions they have helped develop.

At this point in the discussion a number of interrelated problems are evident, that when put together tend to stand in the way of any way forward to a new science. The first relates to the nature of science and the ways in which it informs the law in the context of the perceived need for certainty. The second is to do with the apparent perception that community is somehow incapable of generating valid knowledge and must be guided and spoken for at every

opportunity. The third relates to the need for new approaches to activism capable of facilitating community involvement and ownership.

It is without doubt that activism will remain a vital tool for initiating important social change well into the future. It is clear, in my mind, the close relationship between governments and business will remain so for quite some time, even though it may be clear to community that its goodwill and tax money is being used to continue with business as usual. In the following sections I will tackle these problems en route to a new science.

9.11 Bringing Science and public participation together

I begin by exploring ways we can bring in participation and take full account of uncertainty. In short, what properties would a new science have?

Harding (1998, p.99) suggests:

Managing uncertainty and factoring in value inputs and broad public participation into the decision-making process is central to the 'new science' which has been referred to as 'Post-normal' or 'vernacular science' (Funtowicz and Ravetz, 1991; O'Riordan 1991b). Post-normal science increases the emphasis on, and acknowledgment of, varying paradigms, uncertainty and subjectivity which are inherent in all forms of science. It acknowledges that dealing with uncertainty or short decision-making time frames while attempting to resolve complex ecological issues, requires the incorporation of a broad range of inputs. These inputs include the extension of peer review to incorporate a wide selection of expertise, wider set of stakeholders and the inclusion of alternative knowledge bases (such as local and indigenous knowledge) and values.

In situations where post-normal science is appropriate, wider participation will require that the public has meaningful access to the decision-making process. This will require that the scientific information is communicated to non-scientists in a form which can easily be understood and that the limitations of science in addressing the issue and associated uncertainties are given prominence...

See Appendix 2 (pp. 320 - 332) for a full explanation of Post Normal Science.

One of the key ideas in Harding's discussion relates to the expansion of the peer review process through community participation. This will require great effort and innovation on the part of community and its facilitators. Harding also sees an opportunity to bring in uncertainty and subjectivity, seeing these as inherent in all forms of science. While I would agree with Harding's ideas, one wonders how such a new science would be implemented, particularly given the many weaknesses described earlier in this chapter. In my view, innovative forms of activism will drive the ensemble of changes. I will discuss this in greater detail later on. I will discuss another weakness before moving on.

The issue not addressed by Harding relates to power and ethics. Given the moral tilt toward deception in much of conventional positivist reductionist science (Guba and Lincoln, 1994, p.112), there will always be issues relating to the use of new knowledge and discoveries. The ethical use of power is a very important aspect of 'doing science' for both scientists and the communities they support. Scientists themselves will need to be open to new ways of communicating knowledge (Martin and Beder, 1993, p.17). The community will also need to be aware of the importance of the *wise* use of knowledge. Knowledge must be used carefully and in an even-handed way, not as a weapon to deride or humiliate those perceived as the opposition.

As more and more scientists take on an activist role they will be supported by innovative community activists. Collectively they will be the vanguard of a new radical form of science. Radical science and community activism can go hand in hand. Martin (1980, p. 3-17) has outlined some interesting ideas

regarding an expanded role of science to include participation by larger fractions of the populace. Of course, vested interest and institutional normalizing will have to be sensitively negotiated. In the end though I believe our communities will not have a choice due to the growing urgency of the complex and serious situations we now face. AIDs, global warming, population growth, and dealing with the myriad of issues resulting from the interactions among these three key crises will require wholistically based solutions and above all co-operation.

9.12 The scientist as facilitator and change agent

More and more we will see scientists playing the role of facilitators and mentors and using participatory methodologies such as action research and action learning. Action research is a methodology for inquiry that lends itself to participation. Specialists and community members are joint inquirers and co-learners (Kemmis & McTaggart, 2005, pp.562-567) about a problem situation. Planned action is undertaken on the problem. The results of the 'action' are reflected upon by the co-learning group, which then plans the next action. The group works its way from understanding the problem to proposed solutions in an iterative process of Plan-Act-Reflect. As important though is the learning that is undertaken at the personal level as participants reflect on and discuss their own learning. Personal growth and improved competence is thus possible using this methodology. The specialist becomes the facilitator (change agent and co-learner) who exits the group when it decides its time.

Science is undergoing some important changes (Weingart, 2002, pp. 2-3). As we continue to engage with the complex concept of sustainability there will be a gradual redefinition of the term 'expert'. This will come about in two

ways. First, there will be improved understanding of the true nature of learning (as opposed to teaching) (Ison, 1990), and the many ways knowledge can be expressed. Second, through sheer necessity, science will move from the domain of the privileged few to a task of the many, as more and more citizens become involved in not just doing science, but reviewing its progress also¹¹⁶. This is where the new activism¹¹⁷ will play an important role as we continue to deal with the reality of uncertainty and issues of power and control.

Community activists in partnership with activist scientists will play an important role as change agents, with innovations that lead to new methods and novel redesigns and perhaps reinvention the way in which technical and legal systems interact. Changes to the methods for formulation of legislation and resource planning will also be one result. One task will be to find ways to incorporate the principles of sustainability into the very codes and protocols themselves rather than, as tends to be the case now, namely placing of such statements in the preambles to numerous Acts. At the same time, resource-planning systems need to be modified to include participation in the initial stages of development proposals. This could be achieved through community working groups, perhaps as part of the roles of Waterwatch, Landcare and community environment groups. For instance, Waterwatch groups could be part of planning application and review committees within local and state governments on issues relating to water management, likewise Landcare groups could enter into similar arrangements. In that way, Waterwatch and Landcare could take a strategic role in local resource management and decision-making¹¹⁸.

¹¹⁶ The work of DEMOS has shown that this move is well afoot in the United Kingdom (Wilson & Willis, 2004).

¹¹⁷ As already mentioned I call this new activism 'Post Normal Activism'.

¹¹⁸ Waterwatch and Landcare are publically funded community programs aimed at restoring and protecting natural resources.

9.13 One Example of Applied Post Normal Science¹¹⁹

Community Based Auditing (CBA) seeks to bring community members together in order to share their concerns on specific issues and to critically inquire into causes and effective solutions. CBA uses a formal auditing framework to create a structured environment for inquiry. The inquiry methodology, based on participatory action research, enables participants to undertake their own critical inquiry (Gschwendtner et al, 2001; Tattersall, 2007; Tattersall ,2008).

The CBA approach is one attempt to bring the community into the decision-making process. I see this as a sequel to Community Based Sampling (Tattersall, 1991) where members of the community were trained to undertake their own sampling for the purpose of environmental surveys.

The current Model of Modern Science (Funtowicz and Strand 2007) needs radical change. In particular, we need to revise the current assumption that scientific assertions (such as those used in natural resource management) are true and certain until proven false. The method of CBA is similar to those of grading peer review in science; the evidence and argument are examined and evaluated, to see whether they are good enough to support the stated conclusion. With this revised and realistic task, citizens can and do produce, and are empowered, both politically and personally.

¹¹⁹ I term this methodology of inquiry *Post Normal Activism* as it takes present forms of activism to a new place in which individual citizens undertake inquiry on many levels. (see Appendix 5, Case 9, p. 371 for further details on the history of CBA).

CBA is a method of auditing, based in part on the internationally recognized standard systems such as ISO 14001 (Virginia Department of Environmental Quality, n.d.). It employs the highest scientific standards, but concerned citizens are quite capable of being trained to full competence in its work. When the arguments of projects' proponents are unravelled, and the assurances of good outcomes are refuted, then within a framework of constitutional governance there is no alternative to negotiation. The 'extended peer community', as discussed in Post-Normal Science (Funtowicz and Ravetz, 1993; Ravetz and Funtowicz, 1999) (see Appendix 2, pp. 320 - 332) can then engage as fully legitimate partners. Although we are a long way from fully participative decision making, the CBA methodology does represent a start in that direction.

9.14 What is Community Based Auditing?

CBA is essentially an experiential tool for empowering citizens to undertake their own disciplined inquiry into natural resource issues affecting them either directly or through their role as taxpaying stakeholders. CBA has arisen in answer to the concerns of increasing numbers of citizens who seek direct input into resource planning and management. Much of the time citizens find themselves on the outside of such process and given only limited opportunity to play an active role in decision-making.

By taking the view that citizens are experts in their own locale, CBA creates a place where citizens can work together to develop their skills and confidence. CBA is about citizens generating valid knowledge using inquiry processes they themselves design and implement. Although still evolving, Community Based Auditing serves as a good example of how citizens can be

effective managers of change. In that sense, CBA should be seen as work in progress.

To date some 14 audits have been completed, directly involving nearly 200 people. This section is an attempt to explain the approach as well as locate it in the broad church of community based change strategies. For ease of presentation, the discussion is divided into two parts. The first part discusses the origin and development of CBA between 1999 and 2003 and the second part discusses the development from 2003 to 2007, during which the philosophy, methodology and central methods had more fully developed.

9.14.1 Summary of experiences over the past 6 years

Over the past few years I have noticed a growing concern within parts of the Tasmanian community regarding environmental issues. This concern is usually expressed in terms of a NIMBY¹²⁰ response where individual families call for help when they feel they are under threat and usually have nowhere else to turn for help¹²¹. In some cases groups can form around an issue, but the risks of failure can be high due to infiltration, destructive egos, or burnout of the few individuals who end up running the campaign.

Community Based Auditing attempts to guide and facilitate individuals and groups through the maze of options open to them as they seek to be heard, listen to and supported in their efforts to influence decisions they believe will affect them. Over the past 9 years we (CBA) have had some 9 cases covering issues such as water pollution, forestry management practices, threatened species protection, protection of public forests, water management and catchment risk assessment. In nearly all of these cases groups and individuals came to us as they had nowhere else to turn.

¹²⁰ Not In My Back Yard (NIMBY), i.e. how an impact might affect 'me or my interests'.

¹²¹ That is they have tried all the 'official' channels only to be either ignored or 'leaned on' in order to silence them.

For those affected there was a feeling of frustration, as they felt let down by the authorities, politicians and the movement. We were told many times how community members often gave up due to the run around they were given by the 'authorities'. Many felt that such tactics were a deliberate campaign to exhaust and confuse. Our work has shown that community is in need of activists capable of facilitating non-political and non-aligned support. CBA has no vested interest nor institutional commitments or allegiances. This means that the goals of the community are first priority. In short, the community's cause is not used as a stepping stone for other agendas or goals.

Strategically it is vitally important to ensure that the community 'comes to the activist', thus creating the situation whereby the activist has been 'tasked'. This must be explicit. This can be triggered by a survey or through advertising a 'service'. This will serve the movement well, as the claim cannot be made that the movement or activists are 'not acting in the public interest'. If such a claim were to be made then the aggrieved parties could seek their own legal action/s.

9.15 The Origin and Initial Development of Community Based Auditing (1999 to 2003)

9.15.1 The origins of CBA

The emergence of CBA is based on a 25-year gestation period, during which I wrestled with the problems of community advocacy and participation. Its development was influenced by my earlier work where I provided pro bono support to citizens affected by pollution from heavy industry and aerial over spraying. During 1989-90 I developed Community Based Sampling

(Tattersall, 1991). Citizens were trained to undertake their own spot checks for contamination in soil, water and food. CBS was similar in many ways to the Science Shop concept (Farkus, 1999; Fischer et al., 2004). A series of workshops were run throughout Tasmania, with some 100 people trained in environmental sampling, laboratory selection and data interpretation. While the approach was effective, it did not enable citizens to become change agents in their own right.

During 1992 to 1997 I began to reflect on ways to bring citizens into decision making processes, not so much as 'clients', but co-inquirers who could convert scientific data into political action, and at the same time become empowered to undertake sustained engagement as agents of change. While CBA has similarities to both the science shop and community research movements it also differs as it places a strong emphasis on personal change. The process of inquiry that sits at the centre of CBA is as much about inquiry into the self as it is about inquiry into the 'problem situation'. This is based on the belief that further progress towards a more just and sustainable society will involve an on-going challenge to the accepted norms that guide the beliefs and expectations of ordinary citizens. The initial idea of CBA came to me in 1998 and further developed as a result of a fortuitous meeting of like minds during 2000.

TCRA was formed in early 2000 by a group of scientists and activists, in response to long running concerns at the way the views and opinions of communities across Tasmania appeared to be dismissed by industry and all levels of government. While each member brought unique experiences and expertise to the group, there was a common concern that stood out from the myriad of natural resource issues we had dealt with over a collective period

of some 50 years. The focus of the concern was the way in which citizens were being treated by industry and government. It was clear to us that citizens were left out of key decision-making processes.

Our experiences were rich with examples where communities were asked for feedback and input, but seldom if ever involved in strategic decision-making. When citizens attempted to assert their arguments a range of ploys were used to shut down or divert debate. We all recalled instances where industry and government referred to community members as non-experts or laypersons, assuming those citizens would find it difficult understand complex matters. More extreme examples included situations where governments stepped in and changed the law when community expectations differed from the direction that government and industry wanted to go. The latest being the fiasco over the diminution of the powers of the Resource Planning and Development Commission (RPDC) in relation to the review of the proposed pulp mill in the Tamar valley in northern Tasmanian (see Flanagan 2007) for further details. The RPDC was the agreed umpire whose role was to review the proponent's application and any other evidence. A number of RPDC personnel resigned and a former chairperson threatened to resign citing alleged government interference and compromise of independence. This caused outrage and deep concern in the community. The developing crisis demonstrates the way in which due process and respect for community are disregarded by those in power here in Tasmania.

Further discussion and reflection within the group revealed that concerned citizens were treated in one or all of the following ways:

1. Outright dismissal of citizen's concerns by institutions and authorities;

2. Citizens given the run around from institution to institution or department to department resulting in burnout and frustration on the part of the affected citizen;
3. Citizens expected to 'prove' their concerns. This was evident in several cases and was a ploy often used to put the onus back onto the citizen, although in some cases it was clear that the government/industry did have a case to answer and owed a duty of care to the community;
4. Citizens threatened or intimidated in order to coerce them into dropping their concerns;
5. Use of experts and advisory groups in order to convince citizens that their concerns were unfounded. Such approaches are an attempt to drown the citizen in facts and figures. This effectively leaves the citizen again isolated as they find themselves unable to connect with the language in order to mount a confident counter argument despite the feeling that their concerns have not been addressed. The air of authority that prevails during such encounters often leaves citizens with a feeling of diminished power;
6. Environmental NGO's (non-government organizations) in the State are able to lend moral support and perhaps support by writing letters of concern to industry and government, but are not able, in the majority of cases, to provide on-going in-depth support. Usually such support is left up to those of us who provide *pro bono* support to community.

For example a case was referred to me by an NGO in 1984, which took 7 years to settle. I supported a farmer whose land was polluted by run-off from a nearby tip site. The case quickly became very high profile. The farmer sued the state government and the local shire council. The end result was an

out of court settlement. I managed the residue sampling, media, and communications with government and had the job of compiling the proofs of evidence for the case to be heard in the Supreme Court. Such support come at a high personal cost, both in terms of time and money as well as reputation. There are many other examples of such support that others and I have provided.

The group agreed that while in some cases the concerns of citizens may be unfounded, there were many other cases where concerns appeared to be legitimate. Time and time again, our experiences showed that citizens with legitimate concerns would have to fight an uphill battle just to be heard, let alone listened to. The official response has been to simply ignore concerns especially where there is the potential for serious outcomes that may reflect badly on industry or the government. For their part, the various groups within the Tasmanian environment movement are so fixed on their main agenda of 'saving the environment' that they simply have little energy, time or resources to support the range and number of issues raised by community members.

On the basis of our experiences it was also clear that governments, industry, environmental NGOs and activists of all persuasions were either telling communities what was good for them or advocating on their behalf without actually ever undertaking regular dialogue as to their concerns and opinions. We found this left citizens confused and de-energized and likely to simply 'turnoff', such was their sense of frustration and feeling of isolation. Little wonder we hear claims by government authorities, industry and sections of the environmental NGO's that communities are growing apathetic. The unfortunate upshot of all of this is that the community is open to exploitation as long as these conditions exist. In short, the waters are continually

muddied, as vested interests claim to be acting on behalf of communities who, some of the time at least, have simply tuned-off. Once that happens the scene is set for overt exploitation by vested interests. Indeed the recent pulp mill proposal for the Tamar Valley has highlighted just that (Flanagan, 2007). In that case, the government, opposition,¹²² and industry were colluding to push the proposal through, supposedly on behalf of the Tasmanian community. This has led to a tangle of problems and dilemmas in relation to democratic and due processes, leading to further divisions and deep conflict within the Tasmanian community.

When TCRA board members reflected on these issues and possible ways forward, the question arose as to whether our efforts would simply be more of the same, namely supporting citizens on a cases-by-case basis, fighting each battle as advocates leading the charge. On the other hand, we wondered whether our efforts would be better spent tackling the problems of citizen empowerment in a more systemic way. We posited that our task was actually about embarking on a process of social change and at the same time providing technical support to concerned citizens. This was an important turning point for our group.

Having identified what we felt was the main problem we then attempted to put in place a strategy to assist citizens in need. At the same time, we reflected on ways to ensure that the process would be self-perpetuating as it spread through the community with citizens helping each other, either on a one-to-one basis or via support groups.

¹²² Except the Tasmanian Greens, who have continued to oppose the mill proposal.

The initial stages of CBA were fraught with difficulties and problems as we wrestled with the emerging issues. Supporting citizens with a view to somehow liberating them, although laudable and gratefully received, still left us with the feeling that we were treating a symptom and not the cause. While there was evidence that CBA was beginning to take off, we still had to work on a case-by-case basis, slogging through the maze of issue and problems surrounding the core problem in each case. We were sure that the key problem was a social one and that working with citizens in the context of their world was a viable way to progress meaningful and informed action that would lead to empowerment. By 2003, a new concept of CBA began to take shape as ideas about context, methodology and methods emerged. By mid-2003 an important finding occurred to do with the basis of the on-going conflict over the way natural resources were being managed. It became clear, on the basis of several interventions and subsequent reflection sessions, that the underlying problem was to do with certain expectations held by all of those affected by the conflicts over natural resource management. At issue were differing expectations over the concept of certainty. For their part, the communities have been led to expect binding guarantees that management proposals would not lead to negative impacts on community or the environment. Industry expects to see approval for projects once the necessary requirements of regulations had been met. The governments expect best practice and that its codes and regulations will be met so that environment and community will be protected from loss or damage. Each expectation is underpinned by an implicit belief in certainty.

Of course several CBA projects had shown quite clearly that the expectations and values of citizens could not be met and furthermore nor could those of industry and government. In short, it was clear that natural resource

planning and management (as practiced in Tasmania) could not guarantee certainty.

In a search for deeper understanding, we undertook further reflection and analysis, which led us to conclude that natural resource managers were making decisions using an inappropriate scientific framework. Applied science is unable to deal with any but the simplest forms of uncertainty, and is totally incapable of accommodating human values and perceptions. Nor can it easily deal with uncertainty. A weakness was soon evident. Other authors (Funtowicz and Strand 2007, pp.263-268) have eloquently discussed the tangle of problems faced by the 'Modern Model' of science and have proposed new approaches to grappling with the above problems. The Model of Expanded Participation is particularly relevant to this discussion.

9.16 The further development of Community Based Auditing (2003 to 2007)

9.16.1 Introduction

2003 to 2004 saw the progressive development of a philosophy and methodology to guide not only our interventions in the field, but also the development of the TCRA group itself.

9.16.2 The philosophy of Community Based Auditing

The present form of CBA emerged out of the critical inquiry paradigm. Inquiry strategies within this paradigm place a strong emphasis on legitimization of the knowledge and ideas of ordinary citizens. Indeed, there

are traditions within the paradigm that advocate empowerment of workers and citizens generally. The case is made for ordinary people as experts, charting their own course and setting their own destiny.

CBA has two parts: the auditing process, or the hard science part, where data is collected, measurements and comparisons are made. The second part is the soft science part, where views, perceptions and emotion enter the process. In this part provision is made to support the growth and development of participants, including the facilitators. At its kernel, CBA is a learning process, where participants explore human nature and the nature of change based on *experience* within the contexts they are operating in. No extant theory is used in any prescriptive way, save the use of a broad process of iterative inquiry, based upon a rigorous search for disconfirmation. I shall elaborate on these matters below.

9.16.3 Methodological basis of Community Based Auditing

The Community Based Audit process uses an action research approach to guide participants as they engage in the strategy of 'plan-act-reflect' (Reason 1994; Heron and Reason 1997; Kemmis & McTaggart 2005). The action research process is a cyclic process that involves joint planning, action and reflection on outcomes and learning (including personal development), prior to subsequent cycles of inquiry. The action research process guides participants as they move from identifying the reasons for their concerns through to clarification of ideas about what is wrong and what should be done. The action research inquiry process invites reflection and discussion on the audit findings as well as reflection on outcomes from the intra- and interpersonal interactions. As well, matters relating to the social and political

context and the personal growth experienced by each participant (including the facilitators) can be explored.

The methodology can draw upon any number of methods and tools during the inquiry process. In the case of CBA we drew inspiration and ideas from Post Normal Science in order to set up the basic inquiry process. Likewise community teams may wish to introduce their own ideas and methods, e.g. use of art or theatre to present findings. The methodology is open to all sorts of ideas and innovations. The only requirement the TCRA facilitators insist on is final publication in order to make findings and the inquiry process available to the public. This ensures on-going debate and the creation of a citable public record.

Figure 9.1(p. 275) shows the interrelationships among the components making up the methodology.

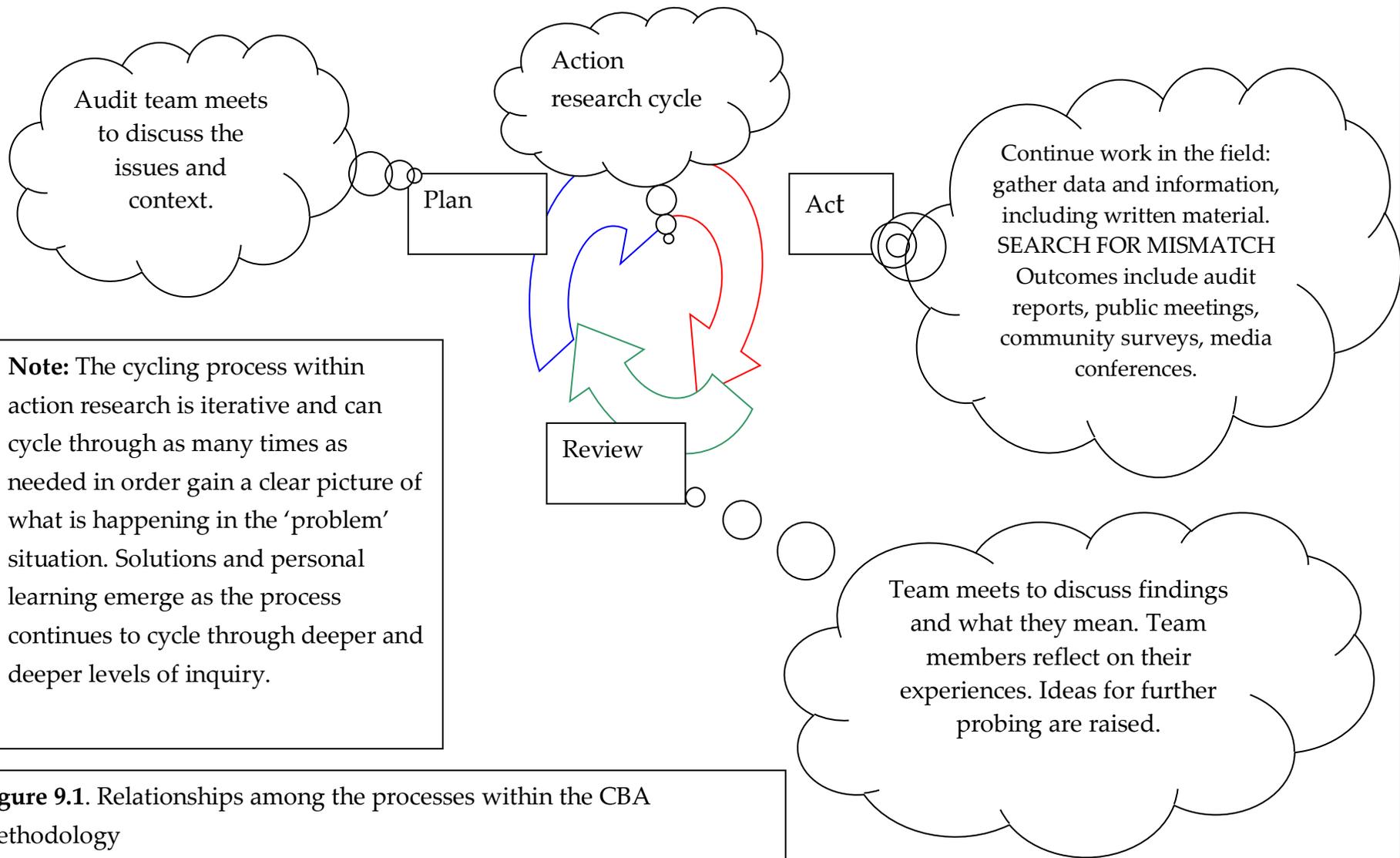


Figure 9.1. Relationships among the processes within the CBA methodology

9.16.4 The key process within Community Based Auditing

CBA is based upon a rigorous search for disconfirmation or mismatch¹²³. This is the process that drives any audit program. The ISO-14001 audit system was reference point in the early days of CBA to show how an audit process could work. ISO 14001 is an internationally recognized environmental auditing system put in place by the International Standards Organization. It is used by industry and government to ensure best practice environmental outcomes. The system was used by TCRA back in 1999/2000 in its first published audit. Reference to 14001 added an air of professionalism and credibility to the community audit, and at the same time took the industry, media and authorities by surprise. This was a very important aspect of the psychological strategy at the time.

This innovation also gave citizens an entry point as it was seen as 'best practice' and as such an accepted standard. Our attempt was to create a space for citizen participation This is distinct from much of the rhetoric coming out of the environment movement that leave citizens with little to hold onto as they struggle to make connections with environmentalism and their daily lives. Reference to ISO-14001 also adds a level of authority and credibility to the process, thus helping citizens feel more at ease with the overall idea. While this smacks of 'top down' I was always clear that it was first and foremost a tool that would not be used prescriptively and never allowed to stymie or prevent citizens from coming into and owning the process. The user-friendly nature of ISO-14001 was a great help in communicating the ideas about auditing.

¹²³ The term is used here to mean bringing opposites together in order to create 'controlled conflict'. That is to say, a way of generating issues and problems that lead to a sense of unease and discomfort and, in the end, call for solutions and resolution.

Over the past 3 years CBA has drawn on the ideas within Post Normal¹²⁴ Science (Harding, 1998, pp. 98-110). Post Normal Science (PNS) seeks to deal with uncertainty through the use of participatory strategies, such as extended peer review. In my view, the adoption of a PNS approach to managing our natural resources here in Tasmania would lead to a significant reduction in conflict now rife at all levels of our community. However, I suggest that any attempt to embrace fully participatory approaches (such as PNS) in the context of the present social/political reality in Tasmania would be futile. Having said that, it is my view that a shift toward more participatory forms of resource planning and management will be made possible by focusing debate on the way uncertainty is managed.

CBA has adopted a process that if used skilfully will bring the issues relating to the notion of certainty into focus, thereby paving the way for the progressive introduction of participative concepts into the wider discourse. The process of disconfirmation, which sits at the centre of the audit process, drives this subtle agenda for change toward a new science that explicitly requires citizen participation.

9.16.5 The disconfirmation process

CBA uses what is termed a dialectic process¹²⁵, whereby the inquiry team¹²⁶ seeks out discrepancy and mismatch. For example, if a proponent's on-ground actions are at odds with directions laid down in their management

¹²⁴ See Appendix 2 for further discussion and definition.

¹²⁵ The term is used here to mean bringing opposites together in order to create 'controlled conflict'. That is to say a way of generating issues and problems that leads in turn to a sense of unease and discomfort and, in the end, a call for solutions and resolution.

¹²⁶ Composed of citizens and TCRA facilitators, who act as co-learners and trainers.

prescription then a mismatch is said to exist. This prescription document forms the basis of the audit process where the actual on the ground practices (actual or proposed) are compared with the requirements as set out in the proponent's plan. From that point, a process of deepening inquiry can begin.

CBA acknowledges that the science and technology used by the institutions (including governments) are based on the notion of certainty. Those using CBA are introduced to science in terms of a quest for knowledge. This distinction between knowledge and certainty is important as it brings to the fore the reality that much of science is based, ultimately, on assumptions and probable outcomes: nothing is certain. This is of particular importance for those proponents who make assertions along the lines of, 'we are assured that there will be no adverse risks resulting from this project....'. Those who beg to differ are expected to prove the proponents wrong. Experiences shows that in pursuing such challenges citizens often fall for what is in effect a trap and seek through protest and use of experts to prove the proponents wrong. This is not to suggest that protest is a waste of time, clearly in some circumstances it is a valuable tool for public expression and its use has led to significant change. However, it alone can be of limited value.

In normal activism what can ensue is a game of expert versus expert that, if not carefully managed, leaves citizens rich with data but poor in useful information. CBA takes a different path involving unpacking the proponents documented arguments in order to unearth the underpinning assumptions, thus opening up the possibility of counter claims as to the soundness of the proponent's science. Of course any such claims are made in a political and social context that assumes *absolute* knowledge and that certainty is possible

(See Tattersall 2007 for further discussion). This condition simply enhances the opportunity to set up a dialectic process to drive the deepening inquiry.

Once the audit process begins to unearth weaknesses in the proponent's science the potential for a spiral of unravelling is then possible as the proponent's science continually fails the test of certainty. This part of the process must be handled in a sensitive and ethical manner, as it is important that the audit team strives to pursue the facts and not the persons involved (the proponents). Here the arguments must be carefully thought through, as it is not just a case of presenting counter facts. It is one thing to meet a fact with another 'counter' fact, but quite another to show that another's 'facts' are resting on faulty reasoning. The situation is analogous to that in a court room. It is not necessary for the defence to prove that someone else committed a crime; it is enough for them to show that guilt has not been established 'beyond reasonable doubt.'

To put it in terms of real world experiences, the community based audits conducted to date demonstrate that in many cases the management prescriptions developed by proponents have failed because they were developed within a hard science framework that cannot deal adequately with uncertainty. The experiences from the field show that proponents go to great lengths to confirm that they are certain about the claims they make in their management prescriptions. For their part, those using CBA simply ask the proponent's to produce evidence in support of their claims, which of course leads to another turn of the spiral of uncertainty.

These experiences told us that planning and management frameworks had to be capable of handling degrees of uncertainty, where professional judgment, local knowledge, and fluid data are admissible. This was the main finding that the disconfirmation process had highlighted in successive audits.

9.17 Auditing methods used in Community Based Auditing

9.17.1 The CBA audit process occurs on 3 levels:

1. Auditing the management prescriptions a proponent intends to use to guide management of a project. Here the auditors, in consultation with their experts, seek to discover inconsistencies in the prescriptions and/or the science that underpins them. Auditors seek verification of any assertions or claims made in support of prescriptions. They also seek proof of risk assessments in support of proposed practices that may have an impact on communities or the environment. This intense cyclic process continues as the audit team mounts an exhaustive search for failed logic and faulty reasoning. The aim is to show that either the basic planning assumptions were wrong in themselves or wrongly applied to the site in questions. Even worse, should the team show that the actual knowledge about the site was incomplete or deficient in some way then this would constitute a major mistake. For example, a number of past audits have shown that the application of general theories to a specific site can be fraught with problems.

2. Auditing the site where the management prescriptions are to be applied. Walking the site is vital. Samples and photographic evidence may be sought during this phase of the inquiry. Experts are used to interpret the application

of the prescriptions to the site. Again inconsistencies are exposed, tested, and documented using a rigorous cyclic process of inquiry.

3. Community members then create a publicly available text of their inquiry. This is an important step in the process, both from the point of view of the participants and the wider community, who can then learn from documented experience, gleaning ideas and inspiration. Each audit represents a growing literature carrying common themes linking the need for participation in order to reduce risk and uncertainty.

In the following section the approach is explained using a recent community support project as an example.

9.17.2 Examples of Community Based Auditing in action

A recent community audit (Nicklason et al, 2004) looked at a proposal to clear-fell a forested area in a catchment in the North East of Tasmania in an area known as The Blue Tier. A local community group was concerned that clear felling in the catchment would adversely impact water quality and yield, flora and fauna, tourism amenity and cultural heritage values. The group initially surveyed their wider community and discovered significant community attachment to the proposed logging area. The group then proceeded to audit. The focus of the audit was to determine whether the proponents¹²⁷ of the logging operation had identified, in the first instance, the same environmental aspects as those already identified by the community group and whether or not a thorough risk assessment had been completed.

¹²⁷ The term 'proponent' as used here means a company or government body who wishes to proceed with a project, e.g. logging of a forest coupe. Usually the proponent produces a plan or prescription detailing the operations they are to perform.

The group began by accessing information on the biophysical aspects of the area including the proponents Forest Practices Plan. The group then walked the site, taking photos and making observations. The group met and asked critical questions of the Forest Practices Plan and then met with the proponents to discuss their concerns and issues. Unresolved issues were then taken for expert review. Remaining mismatches and concerns were then taken back to the proponents for discussion prior to writing up of the audit. The experts working for the community group concluded that the soils were, "...developed on the granites of the Blue Tier are sandy and highly erodible...". This was in contrast to the proponent's findings that the soil erodibility was "moderate" (Nicklason et al., 2004, p .11). Another expert (an Associate Professor of Hydrology) concluded that:

One of the more alarming features of the recent developments on forestry in northeast Tasmania under the Commonwealth Regional Forest Agreement is that major vegetation change is being carried out with no assessment of the consequences for catchment water yield" (Nicklason et al.,2004, p.12).

The issue of water yield was also highlighted in the very first audit conducted in 2001 (Gschwendtner et al., 2001), in which independent experts found that logging and replanting of upper catchments could reduce water yield (as measured in fresh water springs) by up to 50%. These highly significant audit outcomes contributed to the initiation of wide community debate over the impact of tree plantations on water yield from upper catchments. They also showed quite clearly that the proponents had not conducted adequate risk assessments and in some instances were simply unaware of the impacts of their 'management' plans.

The upshot of the inquiry was the discovery that the proponents had not adequately addressed significant environmental issues such as water quality and yield, cultural values and tourism amenity. Once again logging in fragile

catchment areas could not be supported by the available science. The deeper the audit team probed the more tenuous the proponent's case became. On-ground surveys by the audit team showed that the proponents had failed to correctly map streams and take into account a number of other significant matters. Similar findings were made in another audit that led the proponents to withdraw their management plan (Gschwendtner et al, 2001).

The use of a well-designed community survey by the community group was a very useful way to test community feeling and at the same time gather something in the way of an authority to act. Having community backing is vitally important and ensures the audit group has to report back to its community.

The group was also able to put forward logical and convincing arguments relating to inadequacies of the proponents Forest Practices Plan and the State Forest Practices Act. Finally, the group put forward alternative plans for the area, which included the development of a nature recreation area (Nicklason et al, 2004, p.9). The final report was then distributed to the Local Council, the proponent, media, government, libraries, and general community through a series of community forums. This process, given only in summary here, is very powerful in that not only were the community members involved in action and learning (Dakin 2003), but they were also creating a clear record of their work – their science.

Once produced the Community Audit report, replete with its expert evidence, graphic evidence (including transcripts of interviews) and journal format, stands as a credible, well-reasoned and logical case study in an easy read style. Each edition has an ISSN, which means it is sent to State and

National libraries and is in demand in other government and NGO libraries as well. The audit report is a vitally important outcome as it is a building block of an emerging literature that when viewed in total integrates a coherent and citable argument for change.

CBA is an innovation that seeks to come to grips with two key and interrelated problems. The first is about improving the depth and quality of citizen involvement in natural resource planning and management. CBA seeks to answer a call from increasing numbers of citizens for greater accountability on the part of industry, governments, and the environment movement. At the same time citizens want a greater say over the decisions relating to natural resource management and planning. How to make this happen is of itself a major undertaking. Although this was the original reason for CBA, it is not the main or key problem CBA seeks to address. Indeed there is something even more fundamentally wrong, that once addressed will lead, in all probability, to reduced conflict.

The main problem relates to the uncertainty inherent in many of the management prescriptions developed by the proponents managing the natural resources in Tasmania. This has been evident a series of incidents, viewed by many as instances of wrong decisions on the part of the proponents. The legislative frameworks supposedly followed by the proponents are consequently seen as inadequate as they are unable to adequately protect the community and its resources from environmental damage and unfettered exploitation. This is leading to escalating discontent and conflict within the Tasmanian community. Sections of the community

are claiming that industry, with the willing support of governments, is seeking to take control of the State's resources.

Decisions affecting natural resources involve risk and uncertainty. History has shown that many of the prescriptions put in place to manage natural resource projects do not survive rigorous independent scrutiny (Bleaney, 2004; Dockray, 2001, Dockray et al, 2001; Eastaman and Walsh 2006; Gswendtner et al 2001; Nicklason, 2004; Tattersall 2003a&b). The prescriptions fail because they are developed within a hard science framework that cannot deal adequately with uncertainty. This suggests that planning and management frameworks are needed capable of handling degrees of uncertainty, where professional judgment, local knowledge, and fluid data are admissible. I propose a process of extended peer review along the lines of that discussed by Gallopin et al, (2001) (see also Appendix 2, p.320).

Over the past 3 to 4 years CBA has partly addressed these two complex problems, but much more remains to be done. In any case, it is clear that the growing chorus of voices calling for greater citizen involvement represents an ideal opportunity to move forward via innovative approaches to participative decision making such as PNS. In short, part of the answer is in the problem. Setting aside conspiracies, the main obstacle preventing a move forward appears to be the rigid legal systems that require the operationalization of the notion of certainty. For its part CBA seeks to use a reasoned process to challenge and ultimately overthrow that norm.

Appendix 3 (p. 333) presents further details on CBA, including the training program developed by TCRA coordinators. Training is provided to individuals and community groups on a donation-as payment basis.

In my concluding remarks in this chapter, I will address some general conclusions before going on to those conclusions of direct relevance to the Tasmanian situation.

There are important messages here for community, governments, activists, and scientists. As future challenges continue to emerge it is clear that our past methods of engagement will become less and less useful. Based on past experience, our immediate response to conflict has been to try harder, become more aggressive and/or continue to use the old tools. Those days are fast coming to an end. We are in the early stages of a revolution of ideas, leading to new ways of doing. As well a new science is waiting in the wings. I argue that the next scientific revolution¹²⁸ will be that of Post-Normal Science, but that will still only be a small part of what is required for the task ahead. Of course that is not to claim that significant elements of *normal* science are not useful, clearly they are. Such a revolution will see science and the law come to a new position, but perhaps have a similar relationship to that which exists now – a new form of legal science. However, there will be opportunities for community and activists in their quest for a more responsive and reflexive legal science capable of dealing more effectively with uncertainty. These are significant challenges for the activists, who traditionally have been quick to point out the problems and have tended, through necessity, to do the telling. In many ways the activists have come

¹²⁸ see Kuhn, T. 1970. *The structure of Scientific Revolutions*, 2nd ed. Chicago: University of Chicago Press

through a pioneering period in their history, but are now on a new beach – in new time where new tools and methods are required. Science is just one of these tools; there are many more awaiting re-crafting.

The Tasmanian culture has been formed out of a complex colonial history that in my view is still unfolding. It is clear to me that significant sections of the Tasmanian community are still suffering a kind of aftershock of a long and violent history. This is still acted out today with governments and industry holding the community to the constant threat of shutdowns and business exodus in the event that industry cannot be allowed to continue with its pro-development approach, while enjoying low resource-infrastructure costs (usually at the expense of the community). The bottom line of course is always jobs. The isolation of Tasmania and the reality of the skills base of the workforce mean that many are trapped and feel they must cave in to such intimidation.

Here in Tasmania community activists will continue to play important roles in the creation of a more just and sustainable society, however it is clear that considerable change in approach will be needed (perhaps requiring considerable innovation) to meet future challenges brought about by uncertainty. It is believed that a move toward a greater facilitative role is needed to ensure that community takes a more central role in decisions that directly affect it.

While it is without doubt that activists and the movement generally will lead the change process, they will need to undergo a reinvention, part of which will be to gain a far better understanding of the nature of the Tasmanian culture and its communities of attachment. At the same time activists and the

movement need to develop approaches to neutralize the bases of the political and legal attacks¹²⁹ they continue to suffer. Part of the answer will be to seek explicit mandates, which will involve working more closely with community.

These I believe are urgent priorities for action to help us move forward.

¹²⁹ These attacks have, in my view contributed to a damaging shift in public perceptions of activism and the movement.

CHAPTER 10

RESOLUTIONS, CONCLUSIONS AND REFLECTIONS

10.1 Introduction

In this concluding chapter I will discuss the implications of my journey of discovery. The DNA metaphor comes to mind (Ch. 4) as I reflect on my emerging understandings and learning, born of a melding of the many strands drawn from my experience and reflections. While Community Based Auditing has been for me a significant and concrete outcome there are also other less tangible, but no less significant outcomes too. It turns out that problems that aroused my passions many years ago are now back in the limelight, seen through a new lens of understanding.

I will explore what Community Based Auditing now means to me and Tasmanian environmental activism before discussing a possible future for a Community Based Auditing reconfigured by the ideas of the new epistemology that has been called 'Natural Inclusional'. On that account my discussion will be necessarily conjectural and very much in the prospective. That said, such a direction for CBA would appear at this early stage to be very fruitful. In my discussion on the significance of Natural Inclusional in the development of my thinking I will also touch on my other interest – the philosophy of deep physics, another of my lifelong passions.

10.2 At my journey's end?

What have I to offer you the reader at the end of this journey? Did I deliver on my original promise? Can we move beyond 'No!' and did I move beyond 'No!'

Our life stories can be told like a ship's log. We report the adventures at each position on our chartered and maybe uncharted journeys; we are caught by surprise, by fierce storms and as quickly becalmed in what seem never-ending doldrums. If I had a say I'd make autobiographies a compulsory part of one's retirement package. I'm sure the world would be a far more interesting place and hopefully wisdom would trickle down a lot faster than it does.

I have reported and attempted to analyse the events of my life and how they contributed to the shaping of my philosophy and practice and how that has enabled me to be of greater use in supporting others in their resistance against oppressive governance. Is that how the story speaks to you the reader? In undertaking this major task many things have become much clearer to me and while some questions and issues have been laid to rest there remain many other questions and problems that will no doubt permeate my thoughts for years to come. Just like the generative process resident within DNA, the melding of philosophy and practice go on to generate versions of the self as we undergo endless reinvention. Life it would seem is an endless reinterpretation of what has gone before; nothing is entirely new under the Sun and nothing remains fixed forever. Indeed I find myself in a condition of continual reconfiguration and synergy.

10.3 Implications for me

10.3.1 My activist style and practice

What did my practice leave behind? What did my evolving philosophy create in the real world? Is there any end to that generative process? That sounds to me like the subject of another thesis. My attempt to move beyond 'No!' is manifest in the nature of my evolving practice as I moved toward a more participative approach to activism, though still not without its problems of legitimacy and representation. Nowadays I like to see it as 'No!' with a convincing argument hanging off it and what's more it tends to come with the imprimatur of the community. The real work for me was to understand where and why I was stuck and then how to move to a new position such that I could make an informed choice as to what to do. I felt at times that my journey was risky in that it took ages to clarify what I wanted to say. The angst and pain associated with unpacking some of the material took its toll as I was confronted by past hurts and a sense of lack of resolution.

The learning during the transition periods was extraordinary and I guess I did not realize that until I came to actually writing it down. In that sense the act of writing allowed re-interpretation and catharsis. Understanding my philosophy and beliefs was very powerful and, as it turned out, made the development possible. I say that now as I look back through the lens of that second transition. In a sense then it's all a case of learning through looking back: we do not have supernatural foresight. It was not until I underwent change that I could see how I could help others in making their own change. But it was more than that. My personal change meant that I was able to move from a position of 'No!' to a position where I felt empowered to take the discussion to a new place. Without doubt Living Theory has been

essential in the theoretical framing of the thesis as it gave the overall narrative process a clear place and at the same time situated its contribution to a developing body of inquiry and knowledge.

10.4 Implications for activism in Tasmania and Beyond

I think Community Based Auditing will be of use to citizen and activist alike as we strive toward a more just and sustainable world. Already a significant number of volumes of Upper Catchment Issues Tasmania reside on the ENGO¹³⁰ peak body's website here in Tasmania and I note other community based environment groups have taken up the auditing idea¹³¹. There has been interest internationally also with invitations to conferences and community forums¹³².

Throughout this thesis I have used the terms citizen and activist as though they were very different, almost mutually exclusive. Of course, one problem is that all activists are citizens, but only few citizens are activists.

Nevertheless, I believe that more and more citizens must become activists in one form or another, perhaps right along the continuum proposed by Carson (2001) and others.

No longer can the ENGO's and lone activists see themselves as sole custodians of the knowledge as to what is best for our environment. For a start, they simply do not have the numbers to sustain the effort and secondly

¹³⁰ Environment Tasmania, pdf's of the Journal are available at <http://www.et.org.au/campaign/upper-catchment-issues-community-audits>

¹³¹ See <http://www.southsister.org/articles2/ingles2.htm> and <http://www.southsister.org/articles.htm>

¹³² See http://www.bettertransport.org.uk/system/files/11.06.03.slacc_.pdf and <http://www.sustainablebrampton.org/node/157> and <http://www.youtube.com/watch?v=APnHinx0ys1E&feature=relmfu> and <http://www.nusap.net/jerryRavetz80th/>

they do not have the mandates, solutions, or methods of inquiry capable of dealing with the huge complexity of the new socioeconomic-environmentalism. More than ever activists must find ways to relate with citizens as partners in change, using co-creative change strategies that not only tackle environmental issues but also empower and facilitate the development of citizen-as-activist. Community participation must move beyond the yearly clean-up Australia and bands of folks planting trees on degraded land. Those jobs are important, but more important is getting citizens involved beyond the role of helper, data collector or donor for this or that campaign.

I assert that in order for us activists to become fully competent and able to meet these challenges we must undergo significant personal change. The move from simply repeating that something is a good idea, to a point where we engage the *other* in reasoned discussion is for many quite a step. Indeed many published Community Based Audits have shown that having a passion is one thing, but writing it down in well-reasoned terms and in languages that others can understand is quite another. In my view this is activism has fallen down. It has failed to facilitate systems of communication that are accessible and practiced by community members. This makes the community tend to see the activists as another group of experts lobbying for its approval. Activists should seek to ensure that citizens become active participants in an expanded peer review process along the lines of that proposed by advocates of Post-Normal Science (PNS). Community Based Auditing seeks to do just that by placing itself as a methodology within PNS and as such introduces an initial starting point for the emergence of what I term Post Normal Activism. That is a form of activism that utilizes the philosophy and methodologies within Post Normal Science and as such opens the way for activists to recognise creative and innovative ways to deal

with the reality that is the new environmentalism. Activists too need an expanded peer review process that will see citizens as key colleagues, rather than simply 'stakeholders'.

It is without doubt that what is proposed here is a significant challenge to the prevailing orthodoxy of Tasmanian environmentalism and perhaps also international, but I am confident that change is not only possible, but also inevitable.

10.5 The Future of CBA within an Inclusional Framing

10.5.1 Embracing the epistemology of Natural Inclusionality

Although very early days and still learning, my new epistemological position has, in my view, enabled me to further explore other ways of knowing. The role that Natural Inclusion and Living Theory may take in the development of new approaches to activism, including the refinement of Community Based Auditing continues to absorb me.

In some ways I feel it is true to say that during my early to mid-teens my thinking showed signs of Natural Inclusionality. I remember having an on-going debate in my mind as to what and was not matter. I remember at age 14 or 15 being very concerned over the idea of 'nothingness'. My key problem was to do with measuring it. I would ask at what point does 'something' become 'nothing', i.e. the *same* as the empty space around it? To answer this I had to first know what space was. It was a very tough problem for one so young. I figured that we really knew very little about space, and in fact we knew even less about 'nothingness'. If that was the case then would it

be possible for 'something' to come from what seems to be 'nothingness'? As I grew older and learnt about Relativity, the supposed nature of space and the problem of 'action at a distance', the more concerned I became that we may have been missing something. By age 18 or 19 my exposure to the "Ascent of Man" (Bronowski, 1973) led me to wonder whether the 'reality' we talked of was little more than a construction resulting from the imposition of our own rationalistic view born of the philosophy and the science of Newton and his forbearers.

And then along came quantum entanglement, the idea that co-created particles (e.g. photons) are in some way connected, such that what happens to one particle immediately affects the other no matter what their distance apart. Truly extraordinary in that action at a distance is confirmed in the most breath taking way. Like gravity and magnetism an effect is demonstrated, but the causes elude us. I found this exquisitely eerie to say the least.

My feeling was that maybe there is something in the nothingness such that everything is in fact connected and that to explain action at a distance we must move beyond holism. In fact all of reality may well be in a kind of dynamic relationship. In this sense the idea of distance becomes only a figure of speech born of our 'upbringing' in a 3 dimensional world, shaped by a dialectically rationalistic worldview.

It was at this point in my thinking that I came upon Inclusionality. It was late 2008. Natural Inclusionality is a way of thinking that fluidly includes space in form and form in space instead of treating them as opposites (Rayner and

Tattersall, 2010). This suggests a fluid and variable kind of connectivity where matter is thought of in terms of flow forms, which are energetically distinctive but not absolutely discrete. The key idea is that space does not stop at boundaries (Rayner, 2011b). This was a key awakening for me as I could then see a continuity of matter and space. This insight has enabled me to further explore the problem of gravity, the cause of which continues to elude the best efforts of quantum physics. At this point in the development of my cosmology I see space and gravity as linked, but not necessarily in an Einsteinian sense, rather I see gravity as emerging into the 3-dimensional from the virtual field of space itself. This view has parallels with Sakharov's proposition that gravity is not a fundamental physical field, but is induced or emerges from a quantum field (Wüthrich 2005). I therefore see mass/energy as manifestations of the virtual field. I contend that the fact we detect glimpses of this virtual activity (i.e. Casimir Effect and the Unruh Effect) (Matthews 1994) indicates a sub quantum world not directly observable from our 3-dimensional vantage point. Natural Inclusionality continues to influence my philosophical trajectory in relation to my reflections on these problems. Indeed my past fascination with these problems is once again rekindled to the extent that my dabbling in the philosophy of physics may well become much more. In this way Inclusionality has helped me to make vital and important linkages within and across many areas within my calling. Likewise Living Theory has provided an important means of 'making sense', in a structured and yet sensitive way. I am now at a cross-road as I find myself gravitating toward what feels like a path to a new physics that is Inclusionality (Rayner,, Sidebotton, Peleshok, & Tattersall,2012; Rayner & Tattersall 2010). So for me Natural Inclusion may help explore and indeed see many areas anew, of which activism is just one.

But there are also important implications for my practice as an activist. I can now see how the ideas of Inclusionalism could be applied to what I previously saw as other discrete systems, such as human activity systems within society. I can see the potential for new possibilities for sharing and inclusiveness that effectively overcome the dialectic, judgemental, adversarial and soul destroying ways we have become so used to and never seem to question. Even now this still remains a big step for me and something I wrestle with on a daily basis. Finding ways to enrich and change my current approach to activism, forged from many years of conditioning, is always a challenge. This is to be expected as I have only recently 'opened the door to a new way, a new epistemology of practice and being. As discussed in depth below, I feel Inclusionalism has already had an impact on Community Based Auditing and my activist thinking generally. I am now planning for my new project whereby I intend to move to new forms of engagement through a gentle movement away from the competitive and adversarial (win-lose) tactics so common in the past. In this way I feel there will be further implications not only for me, but for Tasmanian activism too.

10.5.2 How am I generating a living theory of environmental activism with inclusionalism?

I come now to considerations of my on-going intentions to further develop my living theory along the lines of an Inclusional approach. I do so recognizing that I am at the start of a new turn in my development and thinking. In this sense my discussion here is very much in the prospective as I look forward.

As this thesis has shown environmental activism is a complex and difficult endeavour. I have called for a better, more socially relevant environmental activism that is more inclusive of the citizenry which it is supposed to serve. I have highlighted the activism here in Tasmania (and I'm sure elsewhere) mirrors the culture it is so eager to change. That is to say it is not only using the same tools as the broader context, but is also prisoner to the underlying rationality that dominates the reasoning of the context. It is this line of thinking that has led me to the door of Inclusional thinking and perhaps a new direction for environmental activism.

But my mission is more than a quest to change the content of activist thinking; rather I seek to influence the very framework itself – a kind of paradigmatic shift so to speak. CBA is a step toward a new way, but it too is firmly rooted in the dialectic rationalistic frame. This was partly necessary as those who wish to participate need to feel safe in 'familiar surroundings'. In any case, CBA asks so much of those who wish to participate and that can be daunting enough. Even after nearly a decade of work I am still wondering whether CBA has had any influence on the nature and trajectory of Tasmanian environmental activism. By the same token noticeable change can take a long time to emerge. Every ripple we create in the great sea of change has an effect in time or place.

The main purpose of CBA is to deal with root causes of environmental problems by first focussing on recognizable symptoms that are of interest and manageable to the concerned citizen. However, CBA also displays aspects of Inclusionality that could be further developed. The CBA process encourages the participants to explore opportunities for their personal

growth as well as growth in the competencies and effectiveness of the collective of persons involved in an issue.

This is very similar to the ideas of co-creativity and reconfiguration talked about in Inclusionality. I can see the opportunities to further develop this aspect of CBA, in a co-creative way. Over the past ten years co-ordinators have often raised concerns about the effectiveness of CBA to help citizens become empowered change agents in their own right. After all this was key goal of the project and arose from a belief that empowerment of the individual is essential when attempting to bring about change in the broader context. Ways of bringing concerned citizens to the realization that their concerns are symptomatic of deeper problems that also require their attention is still a significant problem worthy of attention. One reason for a lack of progress on this problem may have been due to deficiencies in the philosophical framing of CBA.

It would seem then there may be an opportunity to reconfigure the CBA framework by incorporating an Inclusional epistemology. In operation this could begin by reconfiguring the way language is used. Therefore further thought needs to be given to ways in which I can bring to the surface the necessary forms of expression that imply flexibility, openness and flow in place of the rigidity placed upon us through the use of the language of rationality. To do this however will require significant re - learning and change on my part. Therefore there are opportunities for further research aimed at understanding and developing personal practice and competency for myself and others.

10.5.3 A Postscript

There are two things that came to me during a period of reflection in that twilight between thesis submission and the final result that I must share. There is an opportunity and indeed a calling for the further research regarding development of CBA, particularly its participatory aspects, within the frame of Post Normal Science, thereby leading to an enhancement of Post Normal Science itself. Recent developments¹³³ in the area of citizen responses to the challenges of sustainability has seen CBA methodology referred to in the Course, “Science and citizens meet challenges of sustainability” run by the University of Luxembourg. In recent times my involvement in other conferences and forums around that globe has also shown interest not only in the approach itself, but moreover in the way I have come to it. This realization has been of immense value as I can now see that there is yet another important imperative for the development of CBA that relates to communicating and sharing it with others so that it may take on new forms and applications as others own and nurture it. After all one of my ‘aims’ was to make available something for all to use, free of charge. This is where the metaphors of Inclusionality come to the fore: Like the river that shapes and is in turn shaped by the land. The co-creative influences that ebb and flow across time and space also work with ideas. Setting CBA free in the ‘virtual cloud’ will, without doubt, see the beginning of new co-creative influences as others share in the development of their loving influences. What Jack Whitehead and Alan Rayner have shown me is a new way – a melding of the Inclusional and Living Theory: The loving, spiritual all within and through all, no-thing-ness yet everything.

¹³³ (http://www.en.uni.lu/sustainability/education/science_and_citizens_meet_challenges_of_sustainability)

REFERENCE LIST

- Argyris, C. & Schon, D. (1974). *Theory in practice: Increasing professional effectiveness*. San Francisco: Jossey Bass.
- Alexander, J., Heffenden, S. & White, T. (1996). *Listening to the land*. Australian Conservation Foundation, Maryborough, QLD, Australia: Australian Print Group.
- Anderson, L. (1997). Argyris and Schon's theory on congruence and learning. Resource papers in action research. Retrieved September 24 2012 from <http://www.aral.com.au/resources/argyris.html>
- Baptiste, I. (2001). Qualitative data analysis: Common phases, strategic differences. *Qualitative research*, 2(3), 1-15.
- Battle cry for our Tasmania. (2008, April 12), *The Hobart Mercury*, p.20.
- Bawden, R. (1995). Systematic development: A learning approach to change. Centre for Systemic Development, University of Western Sydney, Hawkesbury.
- Bleaney, A. (2004). Community based audit of chemical incident preparedness and response in catchments above St. Helens in North Eastern Tasmania. *Upper catchment issues Tasmania*, 2(3), 5-30.
- Bronowski, J. (1973). *The ascent of man*. BBC, London, U.K.

- Bullough, R.V. & Pinnegar, S. (2001). Guidelines for quality in autobiographical forms of self study research. *Educational researcher*, 30(3), 13-21.
- Carson, R. (1966). *Silent spring*. London:Penguin Books.
- Carson, L. (2001). Innovative consultation processes and the changing role of activism. *Third sector review*, 7(1), 7-22.
- Christoff, P. (2005). A wilderness in the making? Challenges for the Australian environment movement at the start of the 21st century. *Chain reaction*, (94), 1-9.
- Cochrane, K. (nd), Are You Tapping Your Learning Potential? Workshop papers based on the Kolbe Learning Cycle, UNE-Orange Agricultural College, NSW.
- Crotty, M. (1998). *The foundations of social research, meaning and perspective in the research process*. Thousand Oaks, California: Sage Publications.
- Dakin, S. (2003). Challenging old models of knowledge and learning: new perspectives for participation in environmental management and planning. *Environments*, 31(1), 93-107.
- Denzin, N.K. (1997). *Interpretive ethnography: ethnographic practices for the 21st century*. London: Sage Publications.

- Denzin, N.K. and Lincoln, Y.S. (2005). *The discipline and practice of qualitative research*, (pp.1 – 32). In N. Denzin and Y.Lincoln (Eds), *Handbook of qualitative research*, (pp.1-17). California: Sage Publications.
- Denzin, N.K. and Lincoln, Y.S. (1994). Introduction: *Entering the field of qualitative research*. In N. Denzin and Y.Lincoln (Eds), *Handbook of qualitative research*, (pp.1-17). California: Sage Publications.
- Dick, B. (1992-93). *You want to do an action research thesis?*. Brisbane, Australia: Interchange.
- Dockray, M. (2003). Community based audit of forestry operations at Lebrina coupe RT241F and adjacent Bare Point area. *Upper catchment issues Tasmania*, 1(3), 1-116.
- Dockray, M., Wearne, S. and Strie, F. (2002). A community based audit of forestry operations in the Mt Arthur upper catchment. *Upper catchment issues Tasmania*, 1(2), 1-162.
- Dow, H. (ed) (1962). *Science speaks*. Melbourne, Australia: F.W. Cheshire.
- Doyle, T. (2001). *Green power: The environment movement in Australia*. NSW, Australia: UNSW Press.
- Duncan, M., (2004). Autoethnography: critical appreciation of an emerging art. *International Journal of qualitative methods*, 3(4), 1-14.
- Dyson, M. (2007). My story in a profession of stories: auto ethnography – an empowering methodology for educators. *Australian Journal of teacher education*, 32(1), 36-48.

- Eastman, K. and Walsh, T. (2006). Protecting the Tasmanian giant freshwater lobster, saving the *Astacopsis gouldi* from the Recovery Plan process. *Upper catchment issues Tasmania*, 3(2), 5-123.
- Eastman, K., Eastman, P., Andrewartha, P. and Tattersall, P. (2008). Dam development in North East Tasmania, Issues and implications for community involvement, equity and governance. *Upper catchment issues Tasmania*, 5(1), 5-22.
- Exeter tip dispute settled (1995, August 18), *Tasmanian country*, p.18.
- Farkas, N. (1999). Dutch Science Shops: Matching Community Needs with University R&D. *Science studies*, 12 (2), 33-37.
- Feldman, A. (2003). Validity and quality in self study. *Educational researcher*, 32(3), 26-28.
- Fischer, C., Leydesdorff, L. & Schophaus, M. (2004). Science shops in Europe: The public as stakeholder. *Science and public policy*, 31 (3), 199-211.
- Fisher, K. (2003). Activism in the face of globalization: lessons for emancipatory action research (the story of how a thoroughly modern girl came to confront postmodern realities). *ALAR Journal*, 8(2), 3-25.
- Flanagan, R. (2007). Paradise razed, *Daily Telegraph*. United Kingdom.
- Retrieved September 24, 2012 from <http://www.telegraph.co.uk/earth/environment/conservation/3298789/Paradise-razed.html>

- Funtowicz, S.O. & Ravetz, J.R. (1993). Science for the post-normal age, *Futures*, 25, 735-755.
- Funtowicz, S. and Strand, R. (2007). *Models of science and policy*. In T. Traavik & L.C. Lim (Eds), *Biosafety first: Holistic approaches to risk and uncertainty in genetic engineering and genetically modified organisms* (pp. 263-278). Trondheim, Norway: Academic Press, Tapir.
- Gallopín, G., Funtowicz, S., O'Connor, M., & Ravetz, J. (2001). Science for the twenty-first century: from social contract to the scientific core. *International Journal social science*, 168, 219-229.
- Gill, J. and Johnson, P. (1991). *Research methods for managers*. London: Paul Chapman Publishing Ltd.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative Report*, 8(4), 597-607.
- Gomez, I. (2004). *Art of interpretation through narrative of the self: A method of inquiry*. Paper presented at the 16th Annual Conference on Ethnographic and Qualitative Research in Education, University at Albany, Suny, Albany, New York.
- Goodfellow, J. (1998a). *Analysing data in narrative inquiry research*. In J. Higgs (Ed.), *Writing qualitative research* (pp. 105-119). Sydney: Hampden Press.
- Goodfellow, J. (1998b). *Narrative inquiry: musings, methodology and merits*.

In J. Higgs (Ed.), *Qualitative research: Discourse on methodologies* (pp.61-74).
Sydney: Hampden Press.

Gould, K. A., Weinberg, A. S. and Schnaiberg, A. (1993). Legitimizing
impotence: pyrrhic, victories of the modern environment movement. In
A. Schnaiberg (Ed.), Special issue: Social equity and environmental
activism: Utopias, Dystopias and Incrementalism. *Qualitative Sociology*,
16(3), 207-246.

Gruppetta (2004). *Autophenomenography? Alternative uses of autographically
based research*. AARE: Australian Association for Research in Education,
Annual Conference, Melbourne, 28th Nov to 2nd Dec, 2004, pp.
Retrieved October 3^h, 2012 from
<http://www.aare.edu.au/04pap/gru04228.pdf>

Gschwendtner, A., Eastman, K., Mills, D. & Tattersall, P. J. (2001). Catchment
issues in the North Eastern Highlands of Tasmania – A community
based case study. *Journal of the community based risk assessment group of
Tasmania*, 1(1), 5-69.

Guba, E.G. and Lincoln, Y.S. (1994). *Competing paradigms in qualitative
research*. In Y. Lincoln and N. Denzin (Eds), *Handbook of qualitative
research*, (pp. 105-117). Thousand Oaks, California: Sage Publications.

Guba, E.G. and Lincoln, Y.S. (2005). *Paradigmatic controversies, contradictions,
and emerging confluences*. In Y. Lincoln and N. Denzin (Eds), *The Sage*

- Handbook of qualitative research* (pp. 191-215). Thousand Oaks, California: Sage Publications.
- Harding, R. (1998). *Gathering and using data-beyond the scientific paradigm*. In R. Harding (Ed.), *Environmental decision making: The roles of scientists, engineers and the Public* (pp.82-107). Sydney, Australia: The Federation Press.
- Heron, J. and Reason, P. (1997). A participatory inquiry paradigm. *Qualitative inquiry*, 3(3), 274-294.
- Higgs, J. (1998 a). *Structuring qualitative research theses*. In J. Higgs (Ed.), *Writing qualitative research* (pp. 137-150). Sydney: Hampden Press.
- Higgs, J (1998 b). *The context of qualitative research*. In J. Higgs (Ed.), *Qualitative research: Discourse on methodologies* (pp. 2-12). Sydney: Hampden Press.
- Higgs, J. and Adams, R. (1998). *Seeking quality in qualitative research*. In J. Higgs (Ed.), *Qualitative research : Discourse on methodologies* (pp.82-94).Sydney: Hampden Press.
- Holt, N.L. (2003). Representation, legitimation and autoethnography: an autoethnographic writing story. *International Journal of qualitative methods*, 2(1), 1-22.
- Holman Jones, S.(2005). *Autoethnography*. In N. Denzin and Y.Lincoln (Eds), *Handbook of qualitative research* (3rd ed.), (pp. 763-792). Thousand Oaks California: Sage Publications.

Ison, R.I. (1990). Teaching Threatens Sustainable Agriculture. *Gatekeeper series*, (21), London: Sustainable Agriculture Programme, IIED. 2-20.

Retrieved September 27, 2012 from

<http://www.fao.org/sd/erp/toolkit/Books/SARDLEARNING/CD>

[SL/Sources/teaching%20threatens%20sustainable%20agriculture.pdf](http://www.fao.org/sd/erp/toolkit/Books/SARDLEARNING/CD/SL/Sources/teaching%20threatens%20sustainable%20agriculture.pdf)

Jean, J. (1950). *The growth of physical science*, The Readers Union, London: The University Press, Cambridge.

Kemmis, S. & McTaggart, R. (2005). *Participatory action research*. In N. Denzin and Y.Lincoln (Eds), *Handbook of qualitative research*(3rd ed.) (pp. 559-603). Thousand Oaks, California: Sage Publications.

Ketelle, D. (2004). Writing truth as fiction: administrators think about their work through a different lens. *The qualitative report*, 9(3), 449-462.

Retrieved October 4, 2012 from <http://www.nova.edu/ssss/QR/QR9-3/ketelle.pdf>

Kitchener, K. (1983). Cognition, Meta-cognition and Epistemic Cognition: A Three Level Model of Cognitive Processing. *Human development*, (26), 225-232.

Kochis, B., and Gillespie, D. (2006). Conceptual metaphors as interpretive tools in qualitative research: a re-examination of college students' diversity discussions. *The qualitative report*. 11(3), 566-585. Retrieved October 5th, 2012 from <http://www.nova.edu/ssss/QR/QR11-3/kochis.pdf>

Lee, A. (1998). *Doctoral research as writing*. In J. Higgs (Ed.), *Writing qualitative*

- research* (pp. 121-133). Sydney: Hampden Press.
- Lovelock, J. (1979). The independent practice of science. *New scientist*, Sept. 6, 1979, 83(1171), 714-717
- Martin, B. (1980). The goal of self-managed science: implications for action. *Radical science journal*, (10), 3-17.
- Martin, B. (1992). Intellectual suppression – why environmental scientists are afraid to speak out. *Habitat Australia*, 20(3), 11-14.
- Martin, B. and Beder, S. (1993). The arrogance of scientists. *Chain reaction*, (68), 16-17.
- Matthews, R. (1994). Inertia: does empty space put up the resistance?, *Science*, (263), 613-614.
- McNiff, J. & Whitehead(2006). *All you need to know about action research*. London. United Kingdom: Sage
- Meredith, F. (Ed.) (1996). *Restoring forests and forestry, An exploration of options for the restoration and expansion of ecologically and economically sustainable forest based industries*. A summary of proceedings of forest forums from a series of community forums sponsored by Senator Robert Bell, Australian Democrats, Hobart, Tasmania: Australian Democrats.
- McIntyre, P. (2006). Creative practice as research: ‘testing out’ the systems model of creativity through practitioner based Inquiry. School of design, communication and information technology, University of Newcastle, Australia, 1-16.

- Midgley, G. (2000). *Systemic intervention – Philosophy, methodology and practice*.
New York: Kluwer Academic/Plenum Publishers.
- Moyer, B. (1990). Movement Action Plan, *The practical strategist*, San
Francisco: Social Movement Empowerment Project.
- Nicklason, L., Hansberry, B. & Coghlan, F. (2004). Community based audit of
the Blue Tier proposed forestry operations – North East Tasmania. *Upper
catchment issues Tasmania*, 2, (1A & 1B), 5-92 (A) ;6-104 (B).
- Orange Agricultural; College, The University of Sydney, nd. *Managing
change*, a learning module by K. Cochrane, Orange Agricultural; College,
The University of Sydney, Orange, NSW.
- Ostrom, E., Janssen, M.A., Anderies, J.M. (2007). Going beyond panaceas.
PNAS, 104(39), 15176-15178.
- Pakulski, J & Tranter, B. (2004). Environmentalism and social differentiation.
Journal of sociology, 40(3), The Australian Sociological Association, 221-
235.
- Peshkin, A. (2000). The nature of interpretation in Qualitative Research.
Educational researcher, 29(9) 5-9.
- Ponterotto, J.G. (2006). Brief note on the origins, Evolution, and meaning of
the qualitative research concept “Thick Description”. *The qualitative
report*, 11(3) 538-549. Retrieved October 15, 2012 from
<http://www.nova.edu/ssss/QR/QR11-3/ponterotto.pdf>

- Rayner, A.D.M (2011a). *NaturesScope Unlocking Our Natural Empathy and Creativity* (1st ed.). U.K.: O Books.
- Rayner, A.D.M (2011b). Space cannot be cut. *Integr Psych Behav*, 45, 161–184.
- Rayner, A. D. M., & Tattersall, P. (2010). From field theories to pool theory: the inclusional basis of natural physicality. Retrieved September 26, 2012 from <http://www.bestthinking.com/articles/science/physics/from-field-to-pool>
- Rayner, A.D.M., Sidebotton, B., Peleshok, D., and Tattersall, P.J. (2012). Place-Time: The Flow-Geometry of Space. Retrieved September 28, 2012 from <http://www.bestthinking.com/articles/science/math/place-time-the-flow-geometry-of-space>
- Ravetz, J. R. and S.O. Funtowicz (1999). Post-Normal Science – an insight now maturing. *Futures*, 31, 641-646.
- Reason, P. (1994). *Three approaches to participative inquiry*. In N. Denzin and Y. Lincoln (Eds), *Handbook of qualitative research* (pp.324-329). Thousand Oaks, California: Sage Publications.
- Richardson, L. & Adams St. Pierre, E. (2005). *Writing: A method of inquiry*. In N. Denzin and Y.Lincoln (Eds), *Handbook of qualitative research* (3rd ed.), (pp. 959-978). Thousand Oaks California: Sage Publications.
- Roberts, A. (1993). Blinding us with science. *Chain reaction*, (68), 18-20.

- Rodriguez, A. (2002). Redefining our understanding of narrative. *The qualitative report*, 7(1), pp. Retrieved September 25, 2012 from <http://www.nova.edu/ssss/QR/QR7-1/rodriguez.html>
- Runes, D. (ed) (1962). *A treasury of world science*. London: Peter Owen Ltd.
- Settelmaier, E .and Taylor, P.C. (2002. July 11-14). *Using autobiography to map interpretive research's sensitivities toward her subjects*. Paper presented at the conference of the Australian Science Education Research Assoc., Townsville, Queensland, Australia.
- Smith, L.M. (1994). *Biographical method*. In N. Denzin and Y.Lincoln (Eds), *Handbook of qualitative research* (pp. 286-305). Thousand Oaks, California: Sage Publications.
- Stake, R.E. (2005). *Case studies*. In N. Denzin and Y.Lincoln (Eds), *Handbook of qualitative research*(3rd ed.) (pp. 443-466). Thousand Oaks, California: Sage Publications.
- Stewart, R. (2001). *Practice vs praxis: constructing models for practitioner-based research*. Web paper of an earlier paper published at the ACUADS Conference, Adelaide, Australia, September 2000). Retrieved September 10, 2012 from <http://www.textjournal.com.au/oct01/stewart.htm>
- Tamar tip costs top \$280,000 (1994, March 23), *The Launceston Examiner*), p. 12.
- Tattersall, P. & Jones G. (1973a). Cloning – A preliminary study. Unpublished report, pp. 1-83.

- Tattersall, P. (1973b). Effects of biodegradable phosphates on protozoic systems. Unpublished Report, pp. 84-173.
- Tattersall, P. (1985). The Laboratory 1967 – 1985. Unpublished papers, p. 64.
- Tattersall, P. (1986a). 'A Study of *Anaspides tasmaniae*', *The Australian Journal of science technology*, 2(2), 13-17.
- Tattersall, P. (1986b, July15-16). The biology of *Anaspides tasmaniae* (Tasmanian mountain shrimp). An abstract in Proceedings of the ANZAAS/AIST conference on science technology. , Macquarie University, Sydney, 41.
- Tattersall, P. (1986c). TEMCo 1962-1980 – A discussion. Unpublished Report.
- Tattersall, P.J. (1988a). 'Letters to the Editor', *Tasmanian country*, September 2, 1988.
- Tattersall, P.J. (1988 b). Towards a new system of soil sampling and analysis. *The Australian Journal of science & technology*, 5(1), pp.10-13.
- Tattersall, P.J. (1989). Report on findings – Exeter tip site and surrounding area. Unpublished report for United Scientists for Environmental Responsibility and Protection, pp. 1-30.
- Tattersall, P.J. (1991). Community based sampling – what is it? *Organic growing*, 16(3), 3-4.
- Tattersall, P. J. (1994). Managing change in rural communities, Waste management in the West Tamar municipality – northern Tasmania.

Unpublished report on community based inquiry as final assignment in
Managing Change unit, Orange Agricultural College.

Tattersall, P.J. (1999). A story of change. *Green connections*, 22, 48-49.

Tattersall, P.J. (2003a. October 16-19). Community based auditing:
empowering the community to take charge – pathways to a just and
sustainable society. In R.Worthington (Ed.), Proceedings of the
Community Research Network, 6th Annual Conference, Powerful
Collaborations: Building a Movement for Social Change, Sandstone
Minnesota, USA. Retrieved April 5th, 2012 from
www.loka.org/conf2003/2003_conference.htm

Tattersall, P.J. (2003b). Towards a new science for resource planning and
management. *Seasons, Tasmanian Journal of organic sustainable agriculture*,
9(4), 13-21.

Tattersall, P.J. (2007). What is Community Based Auditing and how does it
work?' *Upper catchment issues Tasmania*, 4(2), pp.31-48.

Tattersall, P.J. (2008). The case for a new form of community involvement in
resource planning and management in Tasmania. *Upper catchment issues
Tasmania*, 4(3), 5-42.

Tattersall, P.L. (2010). *Balm for the soul*. Beauty Point, Tasmania: Resource
Publications.

- Tenni, C., Smyth, A. and Boucher C. (2003). The researcher as autobiographer: analysing data written about oneself. *The qualitative report*, 8(1), 1-12. Retrieved April 10, 2012 from <http://www.nova.edu/ssss/OR/QR8-1/tenni.pdf>
- Virginia Department of Environmental Quality (n.d.). 'ISO 14001 Environmental Management System'. Retrieved September 24, 2012 from <http://www.deq.virginia.gov/AboutUs/EnvironmentalManagementSystem/ISO14001EnvironmentalManagementSystem.aspx>
- Watson, J.D. and Crick, F.H.C. (1953). A Structure for Deoxyribose Nucleic Acid. *Nature*, 3(171).
- Weingart, P. (2002). The moment of truth for science. *EMBO Reports*, 3(8), 1-9. Retrieved June 15, 2012 from www.nature.com/embor/journal/v3/n8/full/embor093.html
- Whelan, J. (2002). Education and training for effective environmental advocacy, Ph.D Thesis, Griffith University. Retrieved April 5th, 2011 from <http://www.thechangeagency.org/download.asp?varAction=part2&ID=51>
- Whelan, J. and Lyons, K. (2005). Strategic environmental campaigning: reflections on the Queensland landclearing victory. *Chain reaction*, (95), 1-7.
- White, J. (2005). Verisimilitude and reflexivity: contemporary issues in qualitative research. Paper presented at the Biennial Conference of

Australian Qualitative Researcher, La Trobe University, Melbourne
Australia, 15-16th July, 2005.

White, S. (1993). Scientists and the environmental movement. *Chain reaction*,
(68), 31-33.

Whitehead, J. (2008). Using living theory methodology in improving practice
and generating educational knowledge in living theories. *Educational
Journal of living theories*, 1(1), 103-126. Retrieved May 25, 2012, from
<http://ejolts.net/node/80>

Whitehead, J. (2011. November 16-17). *Theories produced by practitioner
researchers: contribution to improvement both locally and globally*. A Key
Note address presented at Research on Teacher Education: Past Present,
Future, Solstrand, Norway.

Whitehead, J. (2012. April 14). *To know is enough, or is it?* A presentation at To
Know is Not Enough: Action Research as the Core of Educational
Research, AERA Symposium, Vancouver, Canada

Whitehead, J. and Rayner, A.D.M. (2009). From dialectics to inclusionality: A
naturally inclusive approach to educational accountability. Retrieved
December 15, 2011 from
<http://www.actionresearch.net/writings/jack/arjwdialtoIncl061109.pdf>

Why the RPDC chief really quit. (2007, January 6), *The Launceston Examiner*,
pp. 1&5.

Williams, M.D. (1961). *Out of the mist, book IV*. Hobart, Tasmania: O.B.M. Pty,

Ltd.

Williams, W. (1971). *The four prisons of man – and other insights*. Peter Pockley

(Ed.). Sydney: The Australian Broadcasting Commission.

Wilsdon J. and Willis, R. (2004). *See-through Science: Why public engagement*

needs to move upstream, DEMOS. Retrieved January 12, 2012 from

<http://www.demos.co.uk/people/jameswilsdon>

Wüthrich, C. (2005). To quantize or not to quantize: fact and folklore in

quantum gravity, *Philosophy of Science*, (72), 777-788.

Zoretic, M. (2006). Various forms of activism: an overview of the Change

Agency case studies. *The change agency*, 1-6. Retrieved April 5th, 2011

from

http://www.thechangeagency.org/_dbase_upl/CaseStudySynthesis.pdf

Appendix 1: Publications produced during the course of the research

Tattersall, P.J. (2003a. October 16-19). Community based auditing: empowering the community to take charge – pathways to a just and sustainable society. In R.Worthington (Ed.), Proceedings of the Community Research Network, 6th Annual Conference, *Powerful Collaborations: Building a Movement for Social Change*, Sandstone Minnesota, USA. Retrieved April 5th, 2011 from www.loka.org/conf2003/2003_conference.htm

Tattersall, P.J. (2003b). Towards a new science for resource planning and management. *Seasons, Tasmanian Journal of organic sustainable agriculture*, 9(4).

Tattersall, P.J. (2007). What is Community Based Auditing and how does it work? *Upper catchment issues Tasmania*, 4(2).

Tattersall, P.J. (2008). The case for a new form of community involvement in resource planning and management in Tasmania. *Upper catchment issues Tasmania*, 4(3),

Tattersall, P.J. (2009). A story of change. *Earth Song Journal*. Issue 10, Autumn.

Tattersall, P.J. (2009, June 26 and 27). *What is Community Based Auditing?*
Presentation at a seminar on Post-Normal Science – Perspectives and
Prospects', St. Anne's College, Oxford.

Tattersall, P.J. (2010). *Beyond No!, Reflections and lessons from 36 years
experience as a scientist and environmental activist*. Beauty Point, Tasmania:
Resource Publications.

Tattersall, P.J. (2010). What is Community based Auditing and how does it
work? *Futures*, 42(5).

Tattersall, P.J. (2010). On becoming an activist: A 'progress report' on a 37
year journey to date. *Educational Journal of Living Theories*, 3(1).

Tattersall, P.J. (2010). A story of Change. in *Activist Lives – activist perspectives,
Colloquium Collected Readings*, P. Tattersall, P and K. Eastman (Eds). Special
Edition of *Upper Catchment Issues Tasmania*, 6(1).

Tattersall, P.J. (2010). Community Based Auditing a methodology within
Post Normal Science. Location, structure, processes and case examples.
Upper Catchment Issues Tasmania, 6(2).

Appendix 2: Post Normal Science

Post Normal Science

(Printed with permission of the Authors)

The following quote best describes the origin and approach of Post Normal Science,

(Source: <http://www.nusap.net/sections.php?op=viewarticle&artid=13>)

POST-NORMAL SCIENCE - Environmental Policy under Conditions of Complexity

S. Funtowicz, EC-JRC/ISIS, Ispra (Va), Italy; J. Ravetz, RMC Ltd., London (England)

1. Introduction

In relation to policy, "the environment" is particularly challenging. It includes masses of detail concerning many particular issues, which require separate analysis and management. At the same time, there are broad strategic issues, which should guide regulatory work, such as those connected with "sustainability". Nothing can be managed in a convenient isolation; issues are mutually implicated; problems extend across many scale levels of space and time; and uncertainties and value-loadings of all sorts and all degrees of severity affect data and theories alike.

This situation is a new one for policy makers. In one sense the environment is in the domain of Science: the phenomena of concern are located in the world of nature. Yet the tasks are totally different from those traditionally conceived for Western science. For that, it was a matter of conquest and control of Nature; now we must manage, accommodate and adjust. We know that we are no longer, and never really were, the "masters and possessors of Nature" that Descartes imagined for our role in the world (Descartes 1638).

To engage in these new tasks we need new intellectual tools. A picture of reality designed for controlled experimentation and abstract theory building, can be very effective with complex phenomena reduced to their simple, atomic elements. But it is not best suited for the tasks of environmental policy today. The scientific mind-set fosters expectations of regularity, simplicity and certainty in the phenomena and in our interventions. But these can inhibit the growth of our understanding of the problems and of appropriate methods to their solution. Here we shall introduce and articulate several concepts, which can provide elements of a framework to understand environmental issues. They are all new, and still evolving. There is no orthodoxy concerning their content or the conditions of their application

The leading concept is "complexity". This relates to the structure and properties of the phenomena and the issues for environmental policy. Systems that are complex are not merely complicated; by their nature they involve deep uncertainties and a plurality of legitimate perspectives. Hence the methodologies of traditional laboratory-based science are of restricted effectiveness in this new context.

The most general methodology for managing complex science-related issues is "Post-Normal Science" (Funtowicz and Ravetz 1992, 1993, Futures 1999). This focuses on aspects of problem solving that tend to be neglected in traditional accounts of scientific practice: uncertainty and value loading. It provides a coherent explanation of the need for greater participation in science-policy processes, based on the new tasks of quality assurance in these problem-areas.

2. Complexity

Anyone trying to comprehend the problems of "the environment" might well be bewildered by their number, variety and complication. There is a natural temptation to try to reduce them to simpler, more manageable elements, as with mathematical models and computer simulations. This, after all, has been the successful programme of Western science and technology up to now. But environmental problems have features which prevent reductionist approaches from having any, but the most limited useful effect. These are what we mean when we use the term "complexity".

Complexity is a property of certain sorts of systems; it distinguishes them

from those which are simple, or merely complicated. Simple systems can be captured (in theory or in practice) by a deterministic, linear causal analysis. Such are the classic scientific explanations, notably those of high-prestige fields like mathematical physics. Sometimes such a system requires more variables for its explanation or control than can be neatly managed in its theory. Then the task is accomplished by other methods; and the system is "complicated". The distinction between science and engineering, the latter occurring when more than a half-dozen variables are in play, is a good example of the distinction between simple and complicated systems.

With true complexity, we are dealing with phenomena of a different sort. There are many definitions of complexity, all overlapping, deriving from the various areas of scientific practice with, for example, ecological systems, organisms, social institutions, or the "artificial" simulations of any of them. Here we adopt a more general approach to the concept. First, we think of a "system", a collection of elements and subsystems, defined by their relations within some sort of hierarchy or hierarchies. The hierarchy may be one of inclusion and scale, as in an ecosystem with (say) a pond, its stream, the watershed, and the region, at ascending levels. Or it may be a hierarchy of function, as in an organism and its separate organs. A species and its individual members form a system with hierarchies of both inclusion and function. Environmental systems may also include human and institutional sub-systems, which are themselves systems. These latter are a very special sort of system, which we call "reflexive". In those, the elements have purposes of their own, which they may attempt to achieve independently of, or even in opposition to, their assigned functions in the hierarchy (Funtowicz and Ravetz 1997b).

First, any "system" is itself an intellectual construct, that some humans have imposed on a set of phenomena and their explanations. Sometimes it is convenient to leave the observer out of the system; but in the cases of systems with human and institutional components, this is counterproductive. For environmental systems, then, the observer and analyst are there, as embedded in their own systems, variously social, geographical and cognitive. For policy purposes, a very basic property of observed and analysed complex systems might be called "feeling the elephant", after the Indian fable of the five blind men trying to guess the

object they were touching by feeling a part of an elephant. Each conceived the object after his own partial imaging process (the leg indicated a tree, the side a wall, the trunk a snake, etc); it was left to an outsider observer to visualise the whole elephant. This parable reminds us that every observer and analyst of a complex system operates with certain criteria of selection of phenomena, at a certain scale-level, and with certain built-in values and commitments. The result of their separate observations and analyses are not at all "purely subjective" or arbitrary; but none of them singly can encompass the whole system. Looking at the process as a whole, we may ask whether an awareness of their own limitations is built into their personal systematic understanding, or whether it is excluded. In the absence of such awareness, we have old-fashioned technical expertise; when analysis is enriched by its presence, we have Post-Normal Science.

We can express the point in a somewhat more systematic fashion, in terms of two key properties of complex systems. One is the presence of significant and irreducible uncertainties of various sorts in any analysis; and the other is a multiplicity of legitimate perspectives on any problem. For the uncertainty, we have a sort of "Heisenberg effect", where the acts of observation and analysis become part of the activity of the system under study, and so influence it in various ways. This is well known in reflexive social systems, through the phenomena of "moral hazard", self-fulfilling prophecies and mass panic.

But there is another cause of uncertainty, more characteristic of complex systems. This derives from the fact that any analysis (and indeed any observation) must deal with an artificial, usually truncated system. The concepts in whose terms existing data is organised will only accidentally coincide with the boundaries and structures that are relevant to a given policy issue. Thus, social and environmental statistics are usually available (if at all) in aggregations created by governments with other problems in mind; they need interpreting or massaging to make them relevant to the problem at hand. Along with their obvious, technical uncertainties resulting from the operations of data collection and aggregation, the data will have deeper, structural uncertainties, not amenable to quantitative analysis, which may actually be decisive for the quality of the information being presented.

A similar analysis yields the conclusion that there is no unique, privileged

perspective on the system. The criteria for selection of data, truncation of models, and formation of theoretical constructs are value-laden, and the values are those embodied in the societal or institutional system in which the science is being done. This is not a proclamation of "relativism" or anarchy. Rather, it is a reminder that the decision process on environmental policies must include dialogue among those who have an interest in the issue and a commitment to its solution. It also suggests that the process towards a decision may be as important as the details of the decision that is finally achieved.

For an example of this plurality of perspectives, we may imagine a group of people gazing at a hillside. One of them "sees" a particular sort of forest, another an archaeological site; another a potential suburb, yet another sees a planning problem. Each uses their training to evaluate what they see, in relation to their tasks. Their perceptions are conditioned by a variety of structures, cognitive and institutional, with both explicit and tacit elements. In a policy process, their separate visions may well come into conflict, and some stakeholders may even deny the legitimacy of the commitments and the validity of the perceptions of others. Each perceives his or her own elephant, as it were. The task of the facilitator is to see those partial systems from a broader perspective, and to find or create some overlap among them all, so that there can be agreement or at least acquiescence in a policy. For those who have this integrating task, it helps to understand that this diversity and possible conflict is not an unfortunate accident that could be eliminated by better natural or social science. It is inherent to the character of the complex system that is realised in that particular hillside.

These two key properties of complex systems, radical uncertainty and plurality of legitimate perspectives, help to define the programme. They show why environmental policy cannot be shaped around the idealised linear path of the gathering and then the application of scientific knowledge. Rather, the formation of policy is itself embedded as a subsystem in the total complex system of which its environmental problem is another element.

3. Post-Normal Science as a bridge between complex systems and environmental policy

The idea of a science being somehow "post-normal" conveys an air of

paradox and perhaps mystery. By "normality" we mean two things. One is the picture of research science as "normally" consisting of puzzle solving within an unquestioned and unquestionable "paradigm", in the theory of T.S. Kuhn (Kuhn 1962). Another is the assumption that the policy environment is still "normal", in that such routine puzzle solving by experts provides an adequate knowledge base for policy decisions. Of course researchers and experts must do routine work on small-scale problems; the question is how the framework is set, by whom, and with whose awareness of the process. In "normality", either science or policy, the process is managed largely implicitly, and is accepted unwittingly by all who wish to join in. The great lesson of recent years is that that assumption no longer holds. We may call it a "post-modern" "rejection of grand narratives", or a green, NIMBY (Not In My Back Yard) politics. Whatever its causes, we can no longer assume the presence of this sort of "normality" of the policy process, particularly in relation to the environment.

The insight leading to Post-Normal Science is that in the sorts of issue-driven science relating to environmental debates, typically facts are uncertain, values in dispute, stakes high, and decisions urgent. Some might say that such problems should not be called "science"; but the answer could be that such problems are everywhere, and when science is (as it must be) applied to them, the conditions are anything but "normal". For the previous distinction between "hard", objective scientific facts and "soft", subjective value-judgements is now inverted. All too often, we must make hard policy decisions where our only scientific inputs are irremediably soft.

The difference between old and new conditions can be shown by the present difficulties of the classical economics approach to environmental policy. Traditionally, economics attempted to show how social goals could be best achieved by means of mechanisms operating automatically, in an essentially simple system. The "hidden hand" metaphor of Adam Smith conveyed the idea that conscious interference in the workings of the economic system would do no good and much harm; and this view has persisted from then to now. But for the achievement of sustainability, automatic mechanisms are clearly insufficient. Even when pricing rather than control is used for implementation of economic policies, the prices must be set, consciously, by some agency; and this is then a highly visible controlling hand. When

externalities are uncertain and irreversible, then no one can set "ecologically correct prices" practised in actual markets or in fictitious markets (through contingent valuation or other economic techniques). There might at best be "ecologically corrected prices", set by a decision-making system. The hypotheses, theories, visions and prejudices of the policy-setting agents are then in play, sometimes quite publicly so. And the public also sees contrasting and conflicting visions among those in the policy arena, all of which are plausible and none of which admits of refutation by any other. This is a social system, which, in the terms discussed above, is truly complex, indeed reflexively complex.

In such contexts of complexity, there is a new role for natural science. The facts that are taught from textbooks in institutions are still necessary, but are no longer sufficient. For these relate to a standardised version of the natural world, frequently to the artificially pure and stable conditions of a laboratory experiment. The world as we interact with it in working for sustainability, is quite different. Those who have become accredited experts through a course of academic study, have much valuable knowledge in relation to these practical problems. But they may also need to recover from the mindset they might absorb unconsciously from their instruction. Contrary to the impression conveyed by textbooks, most problems in practice have more than one plausible answer; and many have no answer at all.

Further, in the artificial world studied in academic courses, it is strictly inconceivable that problems could be tackled and solved except by deploying the accredited expertise. Systems of management of environmental problems that do not involve science, and which cannot be immediately explained on scientific principles, are commonly dismissed as the products of blind tradition or chance. And when persons with no formal qualifications attempt to participate in the processes of innovation, evaluation or decision, their efforts are viewed with scorn or suspicion. Such attitudes do not arise from malevolence; they are inevitable products of a scientific training which presupposes and then indoctrinates the assumption that all problems are simple and scientific, to be solved on the analogy of the textbook.

It is when the textbook analogy fails, that science in the policy context must become post-normal. When facts are uncertain, values in dispute, stakes

high, and decisions urgent the traditional guiding principle of research science, the goal of achievement of truth or at least of factual knowledge, must be substantially modified. In post-normal conditions, such products may be a luxury, indeed an irrelevance. Here, the guiding principle is a more robust one, that of quality.

It could well be argued that quality has always been the effective principle in practical research science, but it was largely ignored by the dominant philosophy and ideology of science. For post-normal science, quality becomes crucial, and quality refers to process at least as much as to product. It is increasingly realised in policy circles that in complex environment issues, lacking neat solutions and requiring support from all stakeholders, the quality of the decision-making process is absolutely critical for the achievement of an effective product in the decision. This new understanding applies to the scientific aspect of decision-making as much as to any other.

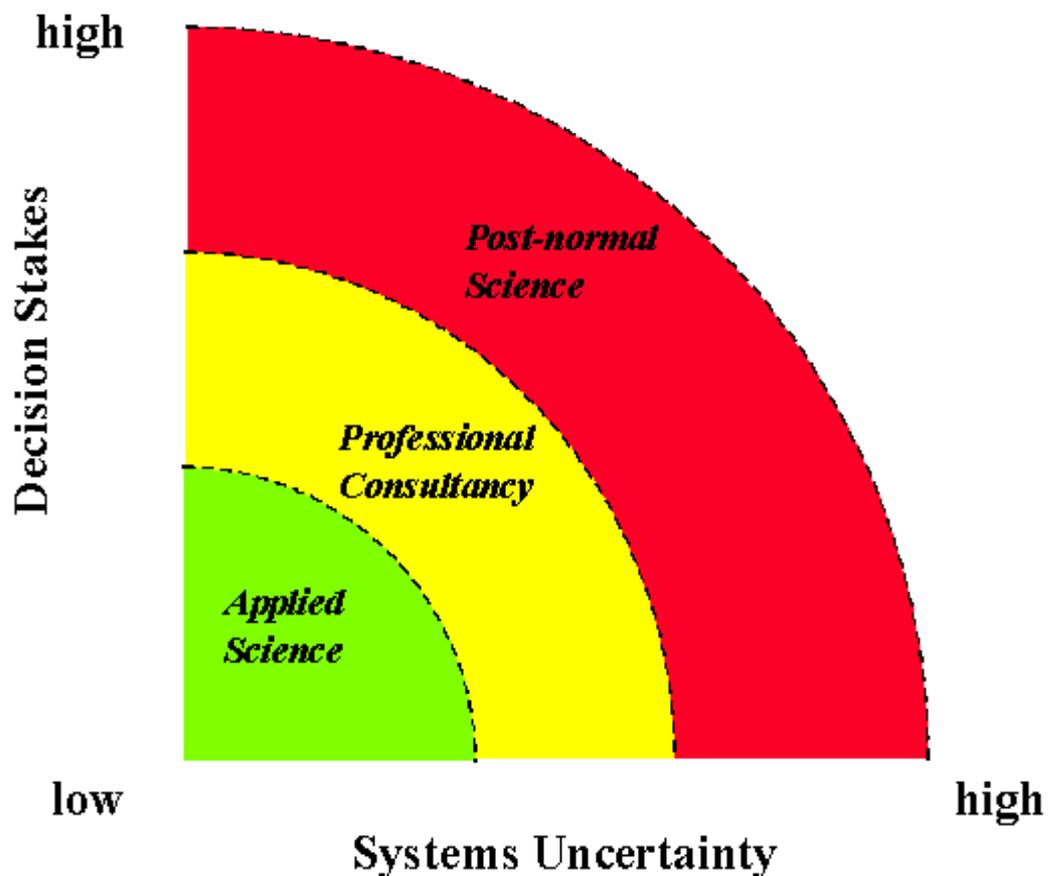


Figure 1 Location of Post Normal Science relative to Applied science and Consultancy

Post-Normal Science can be located in relation to the more traditional complementary strategies, by means of a diagram (see Figure 1, p.324). On it, we see two axes, "systems uncertainties" and "decision stakes". When both are small, we are in the realm of "normal", safe science, where expertise is fully effective. When either is medium, then the application of routine techniques is not enough; skill, judgement, sometimes even courage are required. We call this "professional consultancy", with the examples of the surgeon or the senior engineer in mind. Our modern society has depended on armies of "applied scientists" pushing forward the frontiers of knowledge and technique, with the professionals performing an aristocratic role, either as innovators or as guardians.

Of course there have always been problems that science could not solve; indeed, the great achievement of our civilisation has been to tame nature in so many ways, so that for unprecedented numbers of people, life is more safe, convenient and comfortable than could ever have been imagined in earlier times. But now we are finding that the conquest of nature is not complete. As we confront nature in its reactive state, we find extreme uncertainties in our understanding of its complex systems, uncertainties that will not be resolved by mere growth in our data-bases or computing power. And since we are all involved with managing the natural world to our personal and sectional advantage, any policy for change is bound to affect our interests. Hence in any problem-solving strategy, the decision-stakes of the various stakeholders must also be reckoned with.

This is why the diagram has two dimensions; this is an innovation for descriptions of "science", which had traditionally been assumed to be "value-free". But in any real problem of environmental management, the two dimensions are inseparable. When conclusions are not completely determined by the scientific facts, inferences will (naturally and legitimately) be conditioned by the values held by the agent. This is a necessary part of ordinary research practice; all statistical tests have values built in through the choice of numerical "confidence limits", and the management of "outlier" data calls for judgements that can sometimes approach the post-normal in their complexity. If the stakes are very high (as when an institution is seriously threatened by a policy) then a defensive policy will involve challenging every step of a scientific argument, even if the systems uncertainties are actually small. Such tactics become wrong only when they

are conducted covertly, as by scientists who present themselves as impartial judges when they are actually committed advocates. There are now many initiatives, increasing in number and significance all the time, for involving wider circles of people in decision-making and implementation on environmental issues.

The contribution of all the stakeholders in cases of Post-Normal Science is not merely a matter of broader democratic participation. For these new problems are in many ways different from those of research science, professional practice, or industrial development. Each of those has its means for quality assurance of the products of the work, be they peer review, professional associations, or the market. For these new problems, quality depends on open dialogue between all those affected. This we call an "extended peer community", consisting not merely of persons with some form or other of institutional accreditation, but rather of all those with a desire to participate in the resolution of the issue. Seen out of context, such a proposal might seem to involve a dilution of the authority of science, and its dragging into the arena of politics. But we are here not talking about the traditional areas of research and industrial development; but about those where issues of quality are crucial, and traditional mechanisms of quality assurance are patently inadequate. Since this context of science is one involving policy, we might see this extension of peer communities as analogous to earlier extensions of franchise in other fields, as allowing workers to form trade unions and women to vote. In all such cases, there were prophecies of doom, which were not realised.

For the formation of environmental policy under conditions of complexity, it is hard to imagine any viable alternative to extended peer communities. They are already being created, in increasing numbers, either when the authorities cannot see a way forward, or know that without a broad base of consensus, no policies can succeed. They are called "citizens' juries", "focus groups", or "consensus conferences", or any one of a great variety of names; and their forms and powers are correspondingly varied. But they all have one important element in common: they assess the quality of policy proposals, including a scientific element, on the basis of whatever science they can master during the preparation period. And their verdicts all have some degree of moral force and hence political influence.

Along with this regulatory, evaluative function of extended peer communities, another, more intimately involved in the policy process, is springing up. Particularly at the local level, the discovery is being made, again and again, that people not only care about their environment but also can become ingenious and creative in finding practical, partly technological, ways towards its improvement. Here the quality is not merely in the verification, but also in the creation; as local people can imagine solutions and reformulate problems in ways that the accredited experts, with the best will in the world, do not find "normal" within their professional paradigms.

None can claim that the restoration of quality through extended peer communities will occur easily, and without its own sorts of errors. But in the processes of extension of peer communities through the approach of Post-Normal Science, we can see a way forward, for science as much as for the complex problems of the environment.

A sort of manual for Post-Normal Science practice has recently been produced by the UK Royal Commission on Environmental Pollution. In its 21st Report, on Setting Environmental Standards, makes a number of observations and recommendations reflecting this new understanding. Thus, on uncertainty, we have:

9.49: No satisfactory way has been devised of measuring risk to the natural environment, even in principle, let alone defining what scale of risk should be regarded as tolerable;

on values:

9.74: When environmental standards are set or other judgements made about environmental issues, decisions must be informed by an understanding of peoples' values. ...;

and on extended peer communities:

9.74 (continued): Traditional forms of consultation, while they have provided useful insights, are not an adequate method of articulating values;

and on a plurality of legitimate perspectives:

9.76: A more rigorous and wide-ranging exploration of people's values

requires discussion and debate to allow a range of viewpoints and perspectives to be considered, and individual values developed.

(UK Royal Commission on Environmental Pollution 1998) Chapter 9 - Conclusions].

4. Conclusion

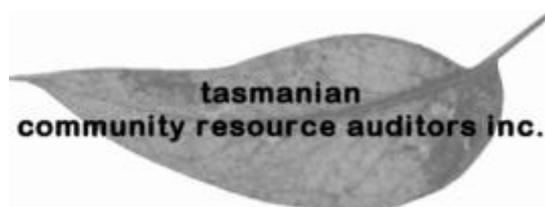
The inadequacies of the traditional "normal science" approach have been revealed with dramatic clarity in the episode of "mad cow" disease. For years the accredited researchers and advisors assured the British government that the risk of transfer of the infective agent to humans was not significant. They did not stress the decision-stakes involved in the official policy, in which public alarm and government expense were the main perceived dangers. Then infection of humans was confirmed, and for a brief period the government admitted that an epidemic of degenerative disease was a "non-quantifiable risk". The situation went out of control, and the revulsion of consumers threatened not only British beef, but also perhaps the entire European meat industry. At this stage there had to be a "hard" decision to be taken, on the number of cattle to be destroyed, whose basis was a very "soft" estimate of how many cattle deaths would be needed to reassure the meat-eating public. At the same time, independent critics who had been dealt with quite harshly in the past were admitted into the dialogue. Without in any way desiring such an outcome, the British Ministry of Agriculture, Forests and Fisheries had created a situation of extreme systems uncertainty, vast decision stakes, and a legitimated extended peer community.

The Post-Normal Science approach needs not be interpreted as an attack on the accredited experts, but rather as assistance. The world of "normal science" in which they were trained has its place in any scientific study of the environment, but it needs to be supplemented by awareness of the "post-normal" nature of the problems we now confront. The management of complex natural systems as if they were simple scientific exercises has brought us to our present mixture of triumph and peril. We are now witnessing the emergence of a new approach to problem-solving strategies in which the role of science, still essential, is now appreciated in its full context of the uncertainties of natural systems and the relevance of human values.

References

- Descartes, 1638: *Discours de la Methode*, Part VI.
- *Futures*, 1999, Special Issue: Post-Normal Science, J. R. Ravetz (ed), 31:7.
- S. O. Funtowicz and J. R. Ravetz, 1992, Three Types of Risk Assessment and the Emergence of Post-Normal Science, in Krinsky S. and Golding D. (eds) *Social Theories of Risk*, Westport (CN), Praeger, pp. 251-273
- S. O. Funtowicz and J. R. Ravetz, 1990: Uncertainty and Quality in Science for Policy, Kluwer Academic Publishers, Dordrecht , NL, 1990.
- S. O. Funtowicz and J. R. Ravetz, 1993: Science for the post-normal age, *Futures* 25:7, 739-755.
- S. O. Funtowicz and J. R. Ravetz, 1994: The worth of a songbird: ecological economics as a post-normal science, *Ecological Economics* 10 (1994) 197-207
- S. O. Funtowicz and J. R. Ravetz, 1997b : The Poetry of Thermodynamics, *Futures*, 29:9, 791-810.
- T. S. Kuhn, 1962: *The Structure of the Scientific Revolutions*, University of Chicago Press, Chicago, IL.
- UK Royal Commission on Environmental Pollution. Setting Environmental Standards, 21st Report, Chapter 9 - Conclusions.

Appendix 3 : Community Based Auditing Training



The purpose of audit training is to provide people with skills in environmental/project auditing to enable them to compare and analyse projects against the stated planning, execution and outcome of the operation. Some examples of what can be audited include:

The effectiveness of a community action project, i.e. Are key assertions adequately supported by evidence and can statements be substantiated?

Implementation of a Landcare plan or the effectiveness of a Forest Practices Plan i.e. is the plan being implemented as designed? Are there effective safeguards for violations?

An audit can be applied to any operation where an operational plan or strategy has been documented.

The one day workshop is structured as follows:

1. **Introduction to Community Based Auditing.** What do we mean by auditing? Who can audit? Why audit? Auditing in the context of managing your own community based project.

2. **The audit frame work.** To audit we need a consistent reference point, e.g. with forestry operations it would be the Forest Practice Code, the Forest Practices Plan or the Forest Practices Act. With industrial pollution it would

be the Environment Management Plan or project operational plan held by the company and so on.

3. **The importance of gathering background information.** Be clear on the reasons why an audit is being proposed, e.g. is there an issue or problem? Is it a matter of measuring how well a proponent has prepared themselves for a project or how committed they are to the projects stated outcome? Answers to these and other questions form an important starting point for the audit.

4. **Making use of experts.** The use of experts to cross check your findings and any assertions you may make in the final audit report. This step is vital in ensuring the validity and professionalism of your work.

5. **What constitutes an audit.** The search for mismatches and inconsistencies (this is very much at the heart of the audit process). Preparing check sheets, what counts as evidence, photographic evidence, quantitative and qualitative evidence, letters of proof and discovery of documents. Production of the report and publication. The media and public right to know.

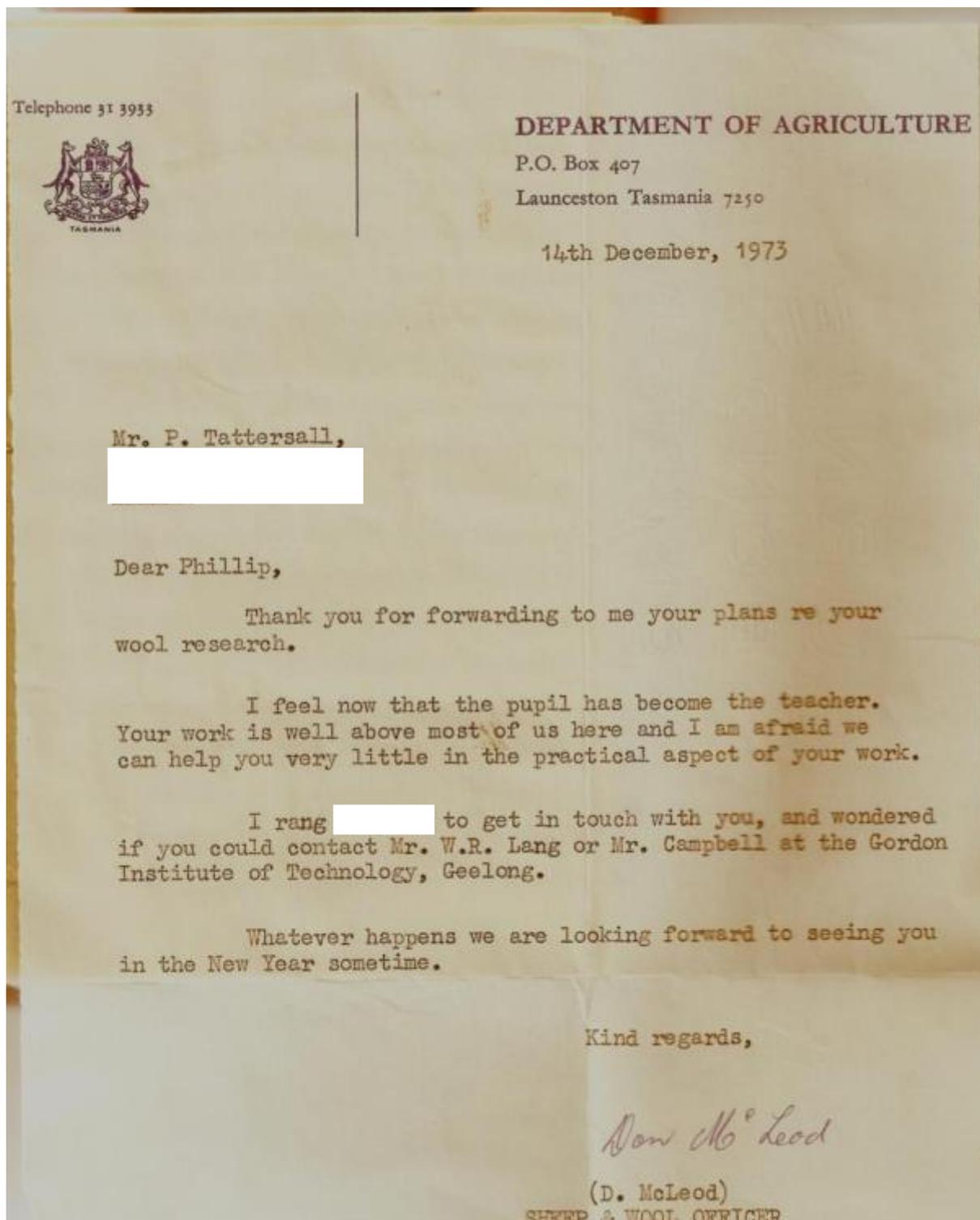
A Case Study. The group walks through an actual case study.

The cost of holding the workshop is \$10 per person with a minimum of 6 people. To find out more about this Auditing Training Course please contact:

Kim Eastman Ph: 6352 3429.

© 2003, Philip J. Tattersall

Appendix 4: Letters from 'colleagues' I called upon as sounding boards when I was a young scientist.



COATS PATONS

(AUSTRALIA) LIMITED
(INCORPORATED IN VICTORIA)

GLEN DHU MILLS, LAUNCESTON TASMANIA 7250
TELEPHONE 44 4222 (6 lines) P.O. Box 298

TELEGRAMS. ALLOFAX, LAUNCESTON
TELEX, BEEHIVE, AA58524, LAUNCESTON

Mr. P. J. Tattersall,

Tasmania 7302

17th July, 1973.

Dear Mr. Tattersall,

Thank you for your letter of the 8th July, I can only commend you on your enquiring mind and your ability to someday contribute something to the Textile Industry.

Regenerated man made fibres have been most successful since their inception about 1884 when Chardonnet manufactured nitro cellulose yarn commercially and started the rayon industry.

As you will know the regenerated man made are manufactured from substances of natural origin which in themselves, are no use as textile fibres, but which can by chemical means be converted into continuous filaments such as viscose rayon. The success of the regenerated cellulose fibres stimulated the imagination of chemists and the minds of people such as yourself. The obvious sequel was to produce a regenerated protein with properties resembling wool or silk. Much research and capital expenditure have been devoted to the production of Lanital from milk casein, Ardil from peanut protein, Saran from soya bean and Vicara from the maize plant. None of these proved really commercially successful and their manufacture has now virtually ceased.

Your approach has been tried by dissolving the wool in caustic soda and then extruding the protein solution into a hardener solution. Unfortunately the regenerated protein so produced has not been acceptable to the textile trade as such factors as wet and dry strength, degree of stretch recovery etc., are not to standard for a textile fibre.

It may surprise you to know that their is very little wool wasted, even when the useful life of a garment is reached. There are organizations who convert by shredding, the fabric into very short length fibres where it is respun, blended with other wool, and utilized in so many industries.

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY AND NOT TO INDIVIDUALS

Appendix 5 : All my activist and advocacy interventions since 1971 listed chronologically and case summaries

Catalogue of Cases Past and Present

Client	Issue	When did it happen	What did I do?	What changes occurred for the client	What change occurred in me and to my practice	Did anything go wrong? Did the project lead to anything?
Society	Chemical pollution of water from farm run-off	1971-1973	Carried out investigations	No effect on "Client" as such. Resistance from landowner – forced me to shut down project	Suspicion and mistrust of authority	I was bullied into keeping quiet. It led me to take a strong interest in the social and political aspects of pollution and environmental damage.
Society	Lead and cadmium in vegetables	1983-1989	Sampled vegetables and found Cd and Pb	Public made aware through media. Official departments in denial. Action taken later on to make it look like they became aware of the issue through "legitimate" means.	Consolidated my view About the way authority reacted to any perceived challenge to its authority.	This issue was years ahead of its time. The community and media could not see the significance of the issue. Gov departments were very jumpy and ran in all directions.
Launceston Environment Centre (LEC)	Industrial pollution in Tamar valley	1983-1998	Wrote a report during 1983 and then carried out a survey during 1990. Culminated in a report to Canberra and LEC in 1998. CBA first raised in that letter (Jan 13, 1998)	The LEC were not keen to pick up on the issue. The institution seemed better suited to the 'softer' issues, which reflected a possible concern over maintaining funding?	Reinforced the view that progress really does depend on the efforts of inspired individuals.	The LEC failed to take up the issue, preferring instead to work around the edges of the issue. Direct confrontation was not part of their mandate.

Client	Issue	When did it happen	What did I do?	What changes occurred for the client	What change occurred in me and to my practice	Did anything go wrong? Did the project lead to anything?
Launceston Resident	Chemical Poisoning	1988-1989	Supported with letters to politicians, and coordinated sampling of soil to show that chemical was present	No compensation was forthcoming	Experience with dealing with politicians. Preoccupation with Exeter meant my input was limited. I ran media.	The affected citizen was sidelined by the Unions and the employer. He did not get compensation, nor recognition that things were wrong.
Exeter Resident	Farm pollution from nearby tip	1988-1995	Conducted a 7 year project starting with environmental audit (using Community Based Sampling (CBS)) handled scientific and media	Client was paid out (out of court settlement)	Honed the CBS process and became adept public speaker and media manager. Became more aware of the moral and ethical issues within government and public service	In hindsight the matter should have gone to court so that all would have been made public, thus passing the message to all. The project also showed how the political process can interfere in order to gain kudos.
Society	River bank erosion	1989-1993	Conducted surveys around Longford-Cressy in the Northern midlands of Tasmania	Raised media, ran LEC story, did radio media and raised profile, Rivers & Water Supply Commission seminar poster and paper 1n 1992	Completed course with Darling Downs Inst. Realized what it meant to be an outsider.	The main thing that went wrong was the reaction from the farming community. The issue was not taken up by the environment movement. It sat for a decade before it came into vogue.
Society/Tasmanian Conservation Trust (TCT)/Sandy Tiffin	CBS	1989-1994	Coordinated the development and application of CBS. Got support from TCT in order to secure funding.	An awareness that CBS was a new direction for community	Produced several papers and posters on the system, including the special feature in "Listening to the Land". My thesis had solidified.	The project led to Community based Auditing some years later. CBS provided an important learning opportunity.

Client	Issue	When did it happen	What did I do?	What changes occurred for the client	What change occurred in me and to my practice	Did anything go wrong? Did the project lead to anything?
Society	Toxics Action Network (TAN)	1989-1992	The aerial spraying issues and CBS had to have a coherent vehicle. TCT had already constituted TAN, so I began to become better organized, and along with TAN personnel took on a new focus.	The journal "The TAN Commandments" was started in October 1991. This gave the movement a clear platform for ideas, debates and messages re environmental toxicology.	A feeling of being part of the activist movement. Plying a leadership role. But could see the political manipulation going on. So led me to reflect on ways around that.	The backlash from the industry and farming community was very strong. It caused me to be blackballed for many years, and it still goes on today.
Lutana Action Group	EZ pollution	1990-1991	Used CBS to detect Heavy Metals in and around affected homes, ran media (7.30 Report) and Mercury newspaper (see newspaper story later this Appendix)	Initial work was very good and positive. But group soon got 'taken over' –government and industry co-opted concerned citizens as a way to control the agenda (in my view).	Learnt very fast about conspiracy and manipulation.	In the end the community group failed to maintain control over the issue. The government set up an 'information' www page, but citizens still advised not to eat vegetables on fruits from their gardens in the affected area.
Longford Resident	Tip site placement	1991	Took on the Longford council, who had given permission for the State Mines Dept to commence tests as part of a waste disposal site on a farm.	The project was stopped after considerable effort on my part.	Just how dangerous and subversive people can be. New skills re contact with state Governor in order to get action!!	The matter was taken over by the Greens and I was seen as "working for them". While I support many of their ideas I was never 'working for them'. I saw this as further evidence of subtle manipulation.
Aerial Spray-	Aerial	1989-1993	My involvement with the group over the period	A move to a more systematic approach was	Many public meetings, reports and media. Some	Again the political influence where I felt the labor folks

Client	Issue	When did it happen	What did I do?	What changes occurred for the client	What change occurred in me and to my practice	Did anything go wrong? Did the project lead to anything?
Drift Watch	overspray		1989 to 1990 led to the formation of TAN. I also set up and run the environmental monitoring project at Forest (State;s North West)and surrounding areas.	evident, more reasoned, less confrontation.	group members were insiders for the Labor party. The process was crook from word go, but the learning was vital and essential.	trying to use me against the greens. This was the key thing that went wrong.
Braeside group	Tip siting	1990/91	Helping with strategy to convince the local council that placing the tip on a hill was not the way to go.	The group won the day and the council decided to take the refuse to an already established tip in another part of the municipality	Several meetings with the group and an onsite visit to the proposed tip site. My involvement helped me to see the view from the citizen's perspective. I began to see the importance of engagement and mentoring.	I stepped back from the intervention when it was clear that the group (Braeside Community Group) were about to 'win the day'.
Lorinna group	Atrazine pollution of water	1991-1993	Helping with strategy and conducted immuno assay tests that found the atrazine in water	Community taking control, but political undercurrents	Further learning about political undercurrents. One of the community members had political ambitions. Ended up on local council.	The issue ended up very big. The presence of atrazine in the water put the forestry-water issue firmly on the agenda.
Concerned Citizens of West	Tip site	1993-1994	Supported with strategy and	Group was able to confidently confront the	The community can lead	A local Councillor was leading the charge so very well until

Client	Issue	When did it happen	What did I do?	What changes occurred for the client	What change occurred in me and to my practice	Did anything go wrong? Did the project lead to anything?
Tamar	locations		conducted 2 hearings	issues concerning them, led to a public meeting where there were 400 people in attendance!!		he let himself down at the public meeting with just one slip of the tongue.
Society	PCB's at childcare centre	1996-1998	Carried the whole project to completion. Government had issued a clearance cert, for which no real auditing had been done. I showed that PCB's were present! (see newspaper story this Appendix)	The centre was cleaned up and roof replaced. Considerable media resulted from this as well as improvements in rehabilitation practices.	Again the lone operator comes through and persistence works!	The issue was very well run, but failed to connect with the other PCB issues around the state.
Launceston Resident	Urban Land use issues	1997-1998	Land use issue	Sink holes and land disturbance. Council had to make sure the land was right before selling blocks	Local area initiatives with a single operative can lead to change.	The intervention was a great help in dealing with the clients concerns, but did not grow into a community concern.
Deloraine Resident	Fertilizer dust that was blowing onto homes and property.	1998	Pollution of house and gardens by fertilizer factory	The offending company was ordered to stop dust generation and investigate methods to suppress dust emissions.	Persistence and making opportunity out of seemingly negative situations	The client's needs were satisfied, but the matter did not get any further publicity so as to show the power of the individual.
Forth Resident	Potato	2000	Pollution from potato	Client was active with	Could not get the client to	Yes. Failure to engage wider

Client	Issue	When did it happen	What did I do?	What changes occurred for the client	What change occurred in me and to my practice	Did anything go wrong? Did the project lead to anything?
	fumigation		fumigation	letter writing.	take next steps.	community.
Society	Community Based Auditing (CBA)	2000-	TCRA, the journal and community training	Started with Anne and Martin's case at Diddleum Plains in North eastern Highlands of Tasmania (see Case 9 this Appendix).	Never say die, always be optimistic. Innovation by an individual pays off.	A major piece of work. The important thing is getting folks to work at a level of personal effectiveness. And getting them to work effectively in groups with strategic capability.
GreenPeace	Waste incineration at Brighton	2003	Showed group how the strategy would work	Great relief being shown a way forward	Able to put the CBA case to the public and gain feedback.	Useful networking and opportunity to gain views of others.
Howrah Resident	Howrah tip site	1995-	Got a government sponsored audit of the proposed tip site completed	Very happy that someone had taken an interest	Always someone in need. The elderly resident had kept on thru thick and thin - a role model for all concerned and active citizens.	The group failed to effectively deal with the issues. One elderly resident is a lone gun. The main problem has been that the issue must move beyond the concerns of a single resident and out into the whole community. Community scared of what will happen to land and property values. This has led to silence on the part of the local community.
Tasmanian	Genetically	1999	NoGall a GMO material	Did not know what to do	I Conducted a RA and report	The issued served TOP very well,

Client	Issue	When did it happen	What did I do?	What changes occurred for the client	What change occurred in me and to my practice	Did anything go wrong? Did the project lead to anything?
Organic-Dynamic Producers (TOP)	Modified Organisms		used on plat material that the State Gov. said was okay for organic farms.	– being overrun by DPIWE and Industry.	– opened a new era for the industry in Tas and put TOP on professional footing...	but again there was a failure of engagement from the wider industry. Some of this may have been down to a perception of TOP.
Dorset Water Watch	Strategic planning	2003-	Being used by local council – the locus of corrupt and incestuous power	Convinced DWW that they must develop a MoU and thus must sit in the firm basis of the DWW Business Plan and QMS	A great opportunity for me to do further work on my Strategic Development skills.	This worked well. Kim Eastman had to do a lot of work with her group to ensure that there was empowerment and involvement.
Tamar Valley Resident	Lead pollution	2004	Facilitated media and government contacts	The gun club was closed when it was discovered that lead shot is a pollutant.	Once again this showed that ordinary folk have nowhere to turn for real help. Client came to me after months of frustration with council and government agencies.	This showed how vital persistence is. While nothing went wrong it did show how close cases can come to collapse due to frustration and burnout.
Break O' Day Catchment Issues	Catchment risk assessment	2004/07	TCRA effort – trained community members re what to do	Helicopter crash, believed chemicals spilled and polluted waterway. The audit highlighted a deeper problem of systemic failure in emergence response and failure in risk assessment by council and government!!!	A huge project that took both me and TCRA through an immense learning curve as we worked through a very complex issue.	This work is ongoing and has been conducted under CBA. The level of co-operation/participation could have been better, e.g. the no resolution at the public meeting where there were several hundred citizens in attendance.
<i>Astacopsis gouldi</i> working group	Protection plan for the animal	2004-05	TCRA workshops	After 8 years still no plan. Clear evidence of stalling by government and Forestry Tasmania	Working with the group hilited the difficulties with vested interest and holding onto old ways.	The initial W/S was too much for them. The group did not know what to do so stayed with previous methods and the plan is still delayed a year after the W/S.

Case summaries of selected interventions in later years (1972 to present).

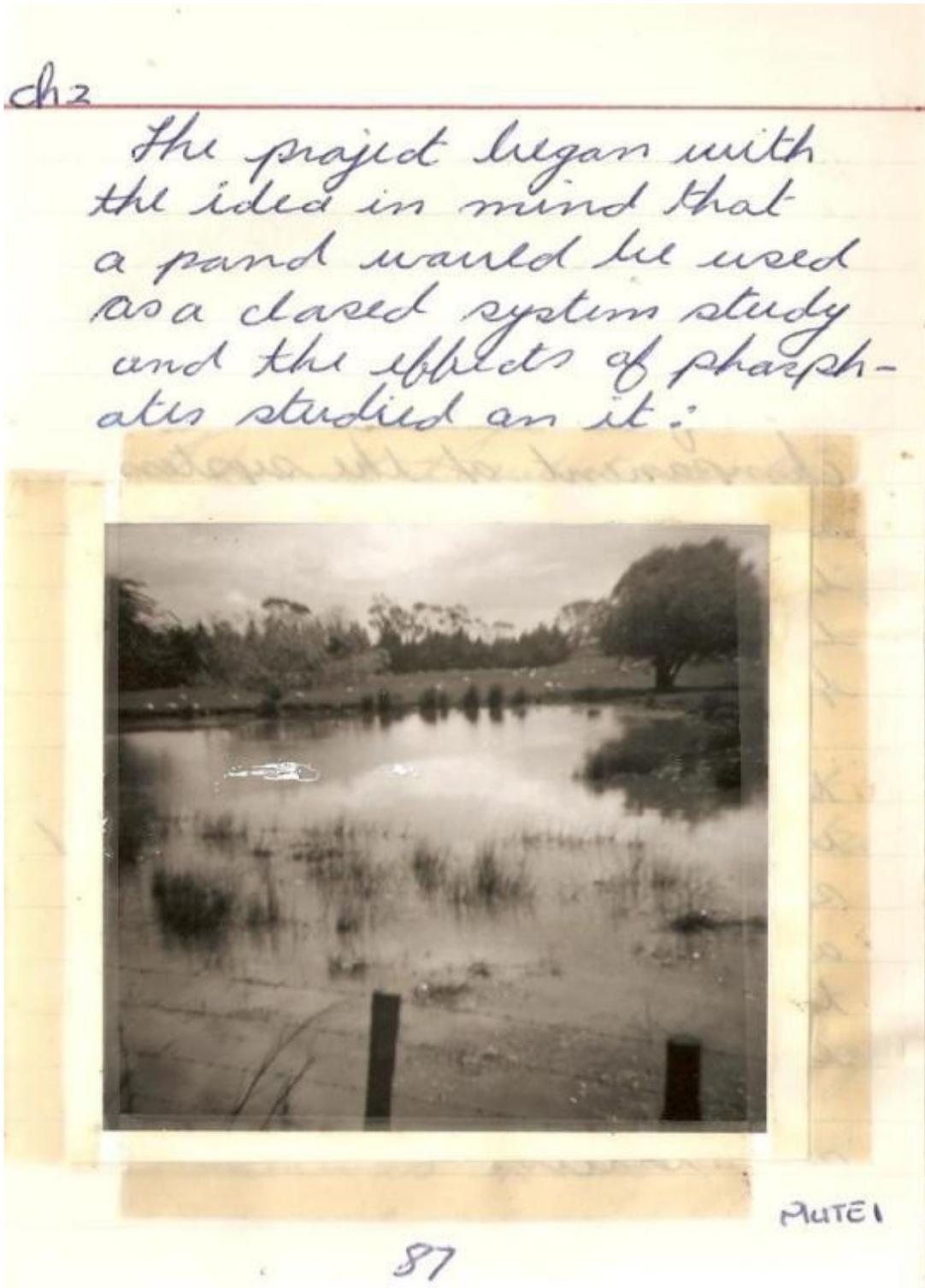
Case 1. My First Case of Intellectual Suppression (1972 – 1973)

Below is an exact copy of my original research diary entry of December 21, 1973. I was nearly 18 years of age at the time and really didn't know what to do. But the whole episode really got my back up. I ended up writing up my findings from my study into diazinon pollution. The next couple of pages (from my research report (Tattersall 1973(b))) introduce the work as well as show the "affected farm dam" (water hole).

1973
 It has also become apparent that the help I have sought has been refused, for example the help I sought from the agricultural dept was flatly refused - I can't see why the sudden unhelpfulness. I have also found that the owner of this farm does not want any of my work here to be made public at all - that is, work directly pertaining to the actual polluting of water on this farm that the animals drink.

My Journal entry reporting my 'run in' with the farm owner regarding my research.

Pages from my Research Report on diazinon contamination of a water hole (farm dam) (Tattersall 1973 (b)). I started the research in 1972 and completed in 1974 (age 17 to 19).



chi

plate and shows the water
hale. This had been polluted
with waste phosphates.

It was later decided after
much thought to devote
myself to the smallest
component of the system
at that time namely the
protazoan, which I found
to be the paramecium
protazoan

The research started in
the latter months of 1972,
when data was taken about
several different waterhales
and one was chosen for
the tests, all were 'normal'
except one.

and the others were used
as controls.

88.

Case 2. My Second Case of Intellectual Suppression (1978)

My Research diary entry for the end of year report, 1978 details the nature of the accusations against me.

1978

Yearly Report - 1978

This year has been one of tremendous activity in both research and study.

The lab has gone ahead well during 1978, study has gone along well also.

The data work finished on a very firm note for 1978 and its conclusions were interesting.

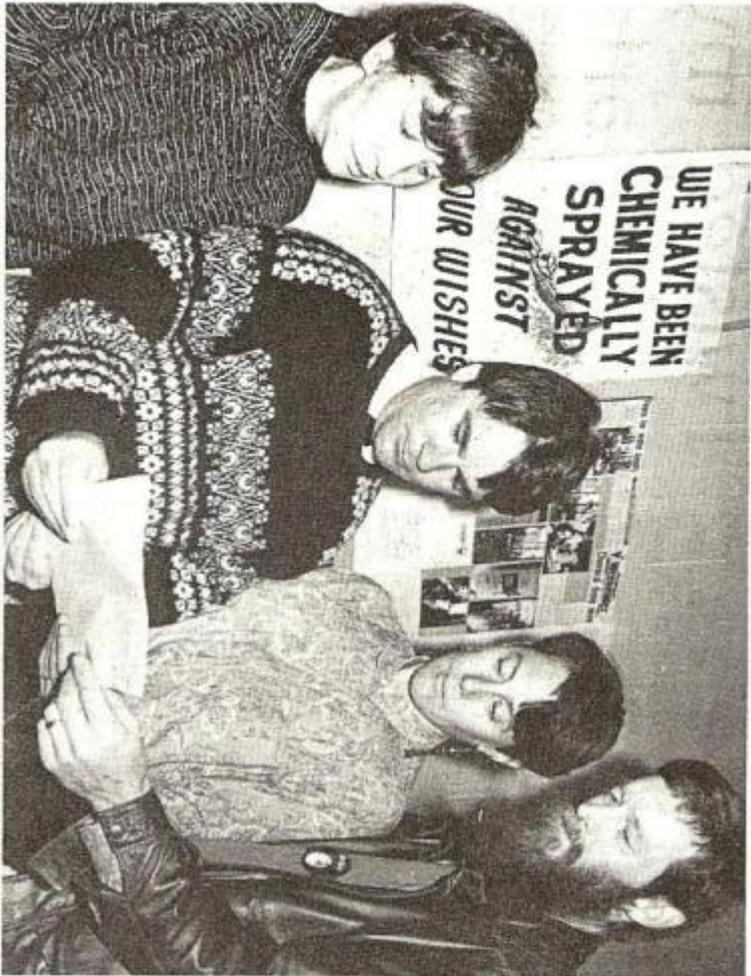
1978 saw a lot of trouble
14/12/78 saw me being accused at work for giving information to the Union re PH_3 poisoning on the plant this was untrue - it was a set up by a metallurgist and the chemist - I had to seek legal advice on this one.

Case 3. The Years as an Activist Against Toxic Chemicals (1989 – 1993)

The following copies of newspaper clippings tells some of the story of my involvement in Tasmania's toxic chemical campaign.

The Advocate, Tuesday, October 9, 1990 – Page 17

Chemicals seminar at UIV.



THE USE of chemicals in the home, workplace and in agriculture was discussed at a seminar at Ulverstone yesterday.

The seminar, presented by the Toxics Action Network, a sub-committee of the Tasmanian Conservation Trust, was an information session on the dangers of chemicals and safer alternatives.

The seminar organiser and co-director of the Conservation Trust, Ms Sandy Tiffin, said the aim of the seminar was to establish a programme to allow people to test their own water and soil for dangerous residues.

The trust hoped to establish a network of experienced people who could help people with testing.

Among those attending the seminar were representatives of Servag and other agricultural chemical companies and distributors.

The afternoon speaker was Dr Kate Short, of the Total Environment Centre in Sydney.

Ms Tiffin said the second most common cause for children being sent to hospital was poisoning, which mostly happened in the home.

The seminar discussed the use of alternatives in the home.

Ms Tiffin called for people to revert to old fashioned cleaning methods such as bicarbonate of soda and vinegar.

"Ailing and frail people are using strong chemical cleaners," she said. "These low-level poisons are causing general bad health."

The use of agricultural chemicals also came under attack at the seminar.

Ms Tiffin conceded a total ban on these chemicals was not an option, but said alternative methods of removing weeds and insects were available.

Discussing the agenda before the opening of the toxic chemicals seminar at the Ulverstone Civic Centre yesterday are (from left) chemical researcher Sue Rafferty, soil technical researcher Phillip Tattersall, co-director of the Tasmanian Conservation Trust Sandy Tiffin and Damian Thompson, co-ordinator of Tasmanian Pesticides Drift Watch.

Article appeared in The Advocate Newspaper, October 9, 1990. Reproduced courtesy of the Advocate newspaper

THE EXAMINER, Saturday, November 17, 1990 — 11

Group criticises on-farm dumps

By ROD SMITH

The whole concept of on-farm chemical disposal is under siege by the Toxic Action Network and not just the possibility of water pollution in an isolated case according to group spokesman Phillip Tattersall.

Mr Tattersall, a qualified chemist, was reacting to media reports that disputed claims made by the TAN action group on Wednesday that a chemical dump on a property at Paloona had not been properly managed.

While an investigation into the group's claims by the Kentish Council concluded that there was no danger of the chemical dump polluting the nearby Forth River, Mr Tattersall said that it was the concept of chemical dumps and not just a specific case that the group was interested in.

"I'm not going to say that water pollution wasn't mentioned (in the Paloona case) because it was, but what we're saying is that the whole idea of dumping chemicals on farms is a real danger," he said.

"The whole philosophy of on-site dumping is what we're concentrating on, not individual farmers, cases or councils."

He said that the group's aim in highlighting specific cases was to give a public profile to a problem that TAN sees as highly dangerous and a threat to the future.

"You only have to look at the Exeter tip problem (where waste chemicals from the tip contaminated nearby farmland) to see that there should be proper controls implemented where possible," he said.

By a combination of what he termed 'the shock treatment' of



• Phillip Tattersall of solving the problems.

"We're only touching the tip of the iceberg in this case, but what we're trying to do is show that there are dangers," he said.

"We aren't happy with having to shoulder the responsibility for trying to do something about these problems, but there isn't anyone else who will."

One possible way of solving the problem according to Mr Tattersall would be to make the companies who manufacture the chemicals responsible for disposing of any excess or waste chemicals.

"We are proposing that the chemical companies be brought into the picture with some sort of protocol established to make them responsible for safe chemical disposal," he said.

Recently returned from a world trip Mr Tattersall said that his investigations of chemical dumping problems in the US have reinforced his commitment to having legislation passed for their disposal.

"I spoke to people whose water supplies had been polluted by chemical disposal and I saw places in Ohio where groundwater supplies inland to the sea were affected," he said.

"These people told me if only they had known 15 years earlier about the problems, they would have done something about it.

"We have a chance here in Australia to do something now and not to create a huge problem that our children are going to have to fix."

(News article courtesy of *The Examiner*)

TOXICS ACTION NETWORK

PUBLIC MEETING



ARE THE CHEMICALS WE USE IN OUR HOMES,
INDUSTRIES, AND AGRICULTURE REALLY SAFE ?

SPECIAL GUEST SPEAKER

DR. KATE SHORT

FROM THE TOTAL ENVIRONMENT CENTRE

WITH SARAH HANCOCK,

PHILLIP TATTERSALL,

AND AERIAL SPRAYING CAMPAIGNERS CAROLINE BURNETT

SUE RAFFERTY AND DAMIAN THOMPSON

WEDNESDAY 4TH OF SEPTEMBER, 7.30 PM

PENGUIN SURF LIFESAVING CLUB ROOMS

TOXICS ACTION NETWORK IS A SUB-COMMITTEE OF THE TASMANIAN CONSERVATION TRUST

Urine tests best bet at Lutana, says White

By BRANDT TEALE

CLAIMS that a cadmium contamination survey of 1000 Lutana residents might be a whitewash have been slammed by the State Government and a medical expert.

And the Minister for Health, Mr John White, has admitted his reputation is riding on the efficiency of the tests.

Mr White yesterday rejected claims on Thursday night's edition of the *7.30 Report*, on ABC-TV, that the survey, to be conducted by the Menzies Centre for Population Health Research, would not use the best methods.

Industrial chemist and soil researcher Mr Philip Tattersall, of Tasmanian Toxics Action Network, said analysis of hair samples would give better indications of long-term exposure to cadmium than urine samples.

The director of the centre, Professor Terry Dwyer, said urine tests were accurate and appropriate in assessing the extent of heavy-metal contamination in humans.

Mr Tattersall said: "We can't sacrifice people but the most accurate method would be to test tissue samples, such as bones, and internal organs, including the kidneys.

"Failing that, hair samples are the next best thing."

Mr White said: "For anyone to claim the survey is a whitewash . . . ignores the fact there was extensive consultation with recognised Australian experts to determine the most accurate form of testing."

On ABC Radio yesterday, an angry Mr White said criticism of the survey was irresponsible.

"It [urine sampling] is a suitable method," he said. "Australia is looking at what we're doing."

Mr Tattersall's suggestion has been publicly supported by other toxicologists during the past two days.

But Professor Dwyer yesterday said there were too many problems with hair analysis.

"The main problem is discerning recent contamination, usually from airborne particles landing on the hair's surface, from long-term contamination absorbed through the body and found in the hair tissue," he said.

Professor Dwyer said the problem of varied urine concentrations, which might affect accurate results, could be overcome by defining the levels of cadmium in a urinary substance called creatinine.

"Establishing a cadmium-creatinine ratio in the samples will give accurate results," he said.

Professor Dwyer leaves Tasmania next Saturday to attend an epidemiological conference in the United States.

"I will use the opportunity to discuss the cadmium survey with experts from around the world and if I can be convinced on scientific grounds that there is a better method than taking urine samples, I will seriously consider it," he said.

"But, at present, we are looking at the best method concerning the situation in Lutana and nearby areas."

Mercury 20/7/91

The Mercury Newspaper, July 20, 1991. (News article courtesy of *The Mercury*)

8 — MERCURY ON SATURDAY

The State Government has a responsibility to ensure that residents are informed

Sick soil fears for tenants

MICHELLE PAINE

RESIDENTS of homes affected by lead and cadmium should be warned of the contamination, the Tenants Union of Tasmania says.

Residents of Lutana and some parts of the Eastern Shore were told of the heavy metals when the problem was revealed nearly 20 years ago.

But locals have told the *Mercury* many newcomers had no idea of the potential health risks.

Tenants Union principal solicitor Sandy Duncanson said renters moved more often than homeowners.

"From our point of view, the State Government has a responsibility to ensure that residents are informed, whether

by direct information door-to-door, or sending out information," Mr Duncanson said.

He said it could not be known if previous or current owners were passing on information.

"Either way, I think it is a duty of the State Government to ensure residents are informed."

But Environmental Health manager Stuart Heggie said the public health risk was low.

"Two separate investigations by the Menzies Centre have found no adverse health effects on people living in the area, either adults or children," Mr Heggie said.

The Department of Environment still advises reducing ingestion of soil to minimise the risk of intake, especially for

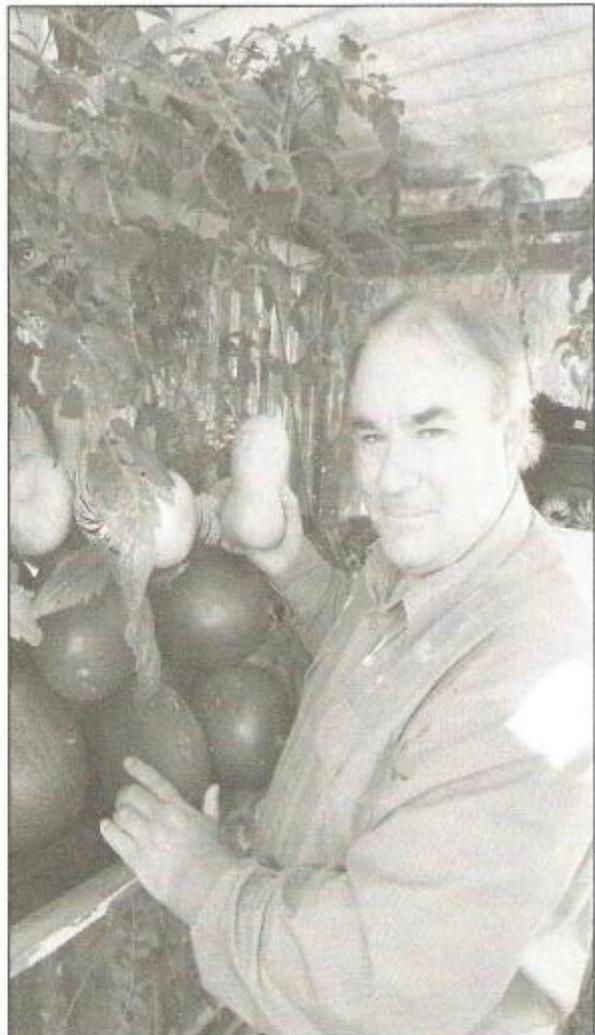
children, by washing hands and pets and avoiding home-grown leafy vegetables.

Industrial chemist Philip Tattersall worked with affected residents nearly 20 years ago and has taught many Tasmanians how to do soil testing.

"I wonder what would happen in the event that a person bought a home in the affected area and later found that it was contaminated," Mr Tattersall said.

"Is the Government, its agencies and/or the real estate industry compelled or required to advise prospective purchasers of the risks?"

● See Land Contamination at environment.tas.gov.au



GROWING FEARS: Philip Tattersall worked with affected residents and has taught many Tasmanians how to do soil testing. Picture: STEVE DIXON

The Mercury, May 3, 2008 (News article courtesy of *The Mercury*)

Case 4. The Exeter Tip Issue (1988 – 1995)

During mid August of 1998 I had been working on a number of projects for USERP (United Scientists for Environmental Responsibility and Protection). On the 18th of August I received a letter from USERP regarding some problems a farmer was having in the Exeter area of Northern Tasmania. It turned out that over the previous two or so years the farmer had experienced a series of problems with animal health, including chicken and cattle deaths. Right next door to the farm was an active refuse disposal tip site. The farmer had for some time blamed the tip for all the problems he had faced. On one occasion he had a calf born with its stomach on the outside of its body and on several occasions chicks would fail to hatch or only partly hatch and displayed missing beaks, deformed heads and missing feet. The local vet concluded that some kind of poisoning had occurred.

Following an intensive period of interviews and observations I decided to commence a series of tests for standard screens for heavy metals, organo-chlorine pesticides and organo-phosphate pesticides. During the initial stages of my inquiry I could not find any evidence that the relevant Government departments had completed any environmental survey work. Despite this departmental officers had approached the farmer on several occasions asking him to sign a “memorandum of understanding”, where reference was made to a department investigation that found the affected farmer had, in effect failed to properly care for his stock. The officers concluded that examination of soil, water and plants had failed to detect any toxic substances. The only problem was I could not find any analytical data in their report to substantiate that claim.

My site audit took place in the November-December of 1988. I completed the initial soil sampling run for metals and pesticides during December. Samples from the farm returned positive results for organo-chlorine pesticides and certain heavy metals.

The case was set down to go to the Supreme Court in 1995 and the matter was settled out of court. The images below tell some of the story of what went on in the case. The reports cover the period 1989 to 1995.

Tip broke rules, council admits

THE Beaconsfield Council has admitted that for at least seven months it operated the Exeter tip outside guidelines set by the Department of the Environment.

The government schedule setting out the conditions under which the council was licenced to operate the tip required monthly sampling of water in a nearby creek downstream from the tip face.

For the past two months the tip has been the centre of a scare about chemical contamination of soil and water.

Independent tests found organochlorine contamination on farmland in the area. Only a few months earlier, official government tests had given the all-clear. New government tests have since

confirmed the independent findings.

According to the tip's licencing schedule, the Beaconsfield Council was required to sample water monthly from July last year.

Beaconsfield's deputy town clerk, Mr Graeme Stagg, told *The Mercury* yesterday that testing did not start until February this year.

He said: "It took us some time to work out how the sampling would be done and who would pay for it.

"We have taken samples, but it began a little later than we planned."

Claims that the council had not acted according to its environmental licence were raised earlier this week by an independent soil researcher, Mr Philip Tattersall.

Mr Tattersall told *The Mercury*

a senior department officer suspected that the council had not started testing creek water until as late as April this year.

Another licence condition was that a log be kept of daily activities at the tip. Mr Stagg was unable to confirm whether a logbook had been used.

A spokesman for the Minister for the Environment (Mr Peter Hodgman) said discussions on the future of the Exeter tip had taken place yesterday and Mr Hodgman was expected to make an announcement today.

Mr Tattersall has written to Mr Hodgman outlining what he claims were errors and inconsistencies in an official department report on the problems at the tip.

Article that appeared in the Hobart Mercury May 25, 1989, (News article courtesy of *The Mercury*)

No clean-up for 'poisoned' farm

By BRIAN BASSANO

A report to Beaconsfield Council on the Exeter tip has recommended that no remedial work be carried out on a farm adjacent to the tip.

The report detailed the findings of the Australian Groundwater Consultants' investigation of the tip and adjoining farm land owned by Mr Royce MacDonald.

It said that no significant contamination of ground water had been found and that no Dieldrin above 0.02 mg/kg had been detected in any soil.

But the report recommended that the Exeter site not be reopened "due to the shortage of available trenching space."

It also said that no specific site remedial work was required on the MacDonald property.

For some time Mr MacDonald has fought a war of words with the council over his assertions that his land has been contaminated by the insecticide Dieldrin, washed out from the tip.

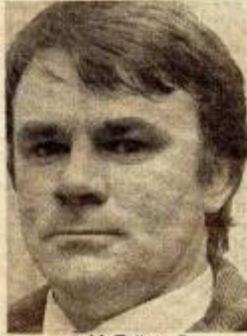
He blamed deformities in his cattle on this cause, and has spent considerable time and money in an attempt to prove his case.

Yesterday Mr MacDonald vowed to keep fighting.

And a director of Soil Tech Research, Mr Philip Tattersall, said yesterday that the council's report was based on incorrect research.

"There are significant, but not massive, levels of Dieldrin on Mr MacDonald's property in areas where the creek floods.

"These deposits have been laid down in silt left when the flooding receded," he said.



● Mr Tattersall

He attributed the failure of the groundwater consultants to find significant evidence of Dieldrin to their methodology in taking samples.

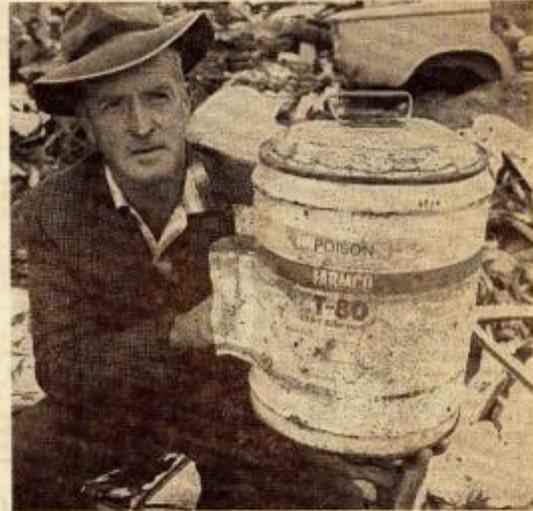
"As most of the chemical is in layers close to the surface, samples taken in sub-soil did not reveal its presence," he said.

Mr Tattersall criticised the State Government's failure to legislate for an acceptable level of Dieldrin in the soil.

"It is amazing that they have not set guidelines in this important matter," he said.

Mr Tattersall said that his investigations had cost him more than \$3000 personally, and that Mr MacDonald had also paid out a considerable amount in analysis fees.

"I have devoted a great deal of time and effort to this investigation to try to safeguard the individual's right to clean land.



● FLASHBACK: Mr Royce MacDonald with a drum of poison dumped on the Exeter tip.

"But a protracted battle with bureaucracy and the council has made it an expensive exercise," he said.

Mr MacDonald has made it clear that he is claiming no compensation.

He wants the council to remove the affected soil and replace it with clean topsoil, supply fresh water for his cattle and refund the amount he has spent in costs to prove his point.

"Whatever happens I will keep fighting," he said.

Mr Tattersall added: "As far as the effect of the chemical on the cattle is concerned, we have exhumed some of the carcasses, and preliminary examinations have been very interesting."

He said that he would be making a statement when more tests had been carried out.

(News article courtesy of *The Examiner*)

Prosecution bid over Exeter tip

By MARK POLONSKY

A national scientific organisation yesterday called on the Environment Minister, Mr Aird, to prosecute the Beaconsfield Council for breaching the Environment Protection Act over the alleged chemical contamination of a farmer's land next to the closed Exeter tip.

The United Scientists for Environmental Responsibility and Protection said also that it was considering taking civil action on behalf of Exeter farmer Mr Royce Macdonald if the council did not pay compensation to Mr Macdonald.

A spokesman for Mr Aird said yesterday that USERP would have to produce a far more comprehensive range of data than it had so far for a prosecution to be considered.

"They have provided no evidence to the department to persuade it to doubt the results of the consultants (Australian Groundwater Consultants Pty Ltd) who are acclaimed Australia wide as experts in their field," the spokesman said.

Beaconsfield council clerk Mr Paul Ransom yesterday refused to comment on any legal action against the council, but said that Mr Macdonald had never formally approached the council to seek compensation or to have his land rehabilitated.

The Exeter tip was closed in April, 1989, after chemicals including dieldrin were found on and around the tip site.

Mr Macdonald had fought a two-year battle to have the refuse disposal area

sealed off, claiming that the tip, which adjoins his 14 ha property, had been used as a dumping ground for toxic chemicals.

He said that chemicals, including dieldrin, had leached through to his land since at least 1986, causing mystery illnesses to his cattle and chickens as well as inhibiting pasture growth.

The Government directed the council to hire an independent consultant to investigate any contamination.

The \$32,000 report completed in June by Victorian company Australian Groundwater Consultants Pty Ltd said that no significant contamination of groundwater had been found and that no dieldrin above 0.02 mg/kg had been detected in any soil.

But the report recommended that the Exeter tip not be reopened "due to the shortage of available trenching space."

It also said that no specific site remedial work was required on Mr Macdonald's property.

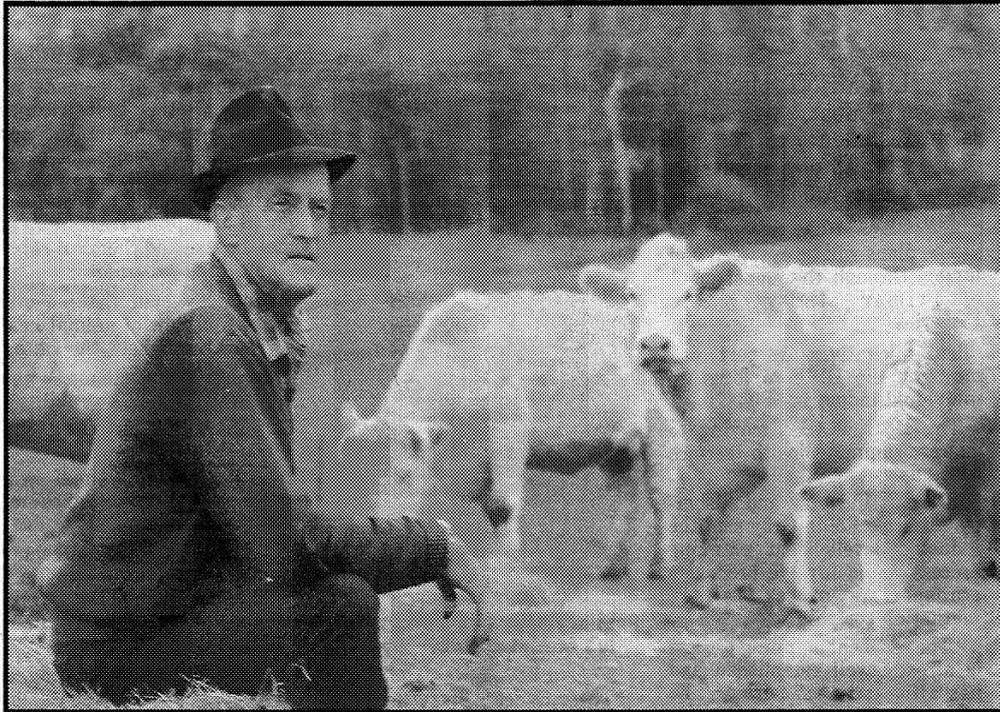
The convenor of USERP, Mr Rob Alliston, yesterday said that his group had collected an enormous body of evidence which would prove that Mr Macdonald's farm had been contaminated by chemicals from the tip.

"We're confident that once the council sees the evidence, it will settle out of court, but we're prepared to proceed whatever the conclusion to get justice for Mr Macdonald," Mr Alliston said.

(News article courtesy of *The Examiner*)

TASMANIAN COUNTRY, Friday, August 18, 1995

Exeter tip dispute settled



Exeter farmer Royce MacDonald with some of the cattle on his property.

By **SIMON KEARNEY**

EXETER farmer Royce MacDonald has been compensated for contamination on his farm caused by runoff from the local tip.

Mr Macdonald who has refused any further comment on the issue has received a settlement payment as part of an out-of-court agreement.

The former Exeter tip became prominent over five years ago after the deadly organo-chlorine

pesticide dieldrin was found to be contaminating soil on an adjacent farm.

After a period of confusion about whether the contamination was real or not the government finally closed the tip.

Mr MacDonald started legal action in 1989 suing for damages from the local West Tamar Council, the Department of Environment and an employee with the Department of Primary Industry and Fisheries.

The issue began in 1987 when

Mr MacDonald's cattle were effected by deformities and many died as a result.

Between then and 1989 Mr MacDonald fought a lone battle to have his claim recognised until an independent soil researcher Phillip Tattersall detected traces of Dieldrin on the property 852 times the amount which the World Health Organisation recommends as a safe level.

Mr Tattersall said Mr Macdonald's story would be told in a book which was soon to be published.

(News article courtesy of *The Mercury*)

Case 5. My involvement with the Australian Democrats (1992-1994)


 AUSTRALIAN
 DEMOCRATS

bellviews

produced by Senator Robert Bell's office

14 August 1993

Since the previous edition of Bellviews there has been significant progress on a number of issues; a new appointment to help our chemicals work, interest in London in Tasmania's Tree ferns, plans to rip-off Tassie's small rental cars put on hold, and a good result on *Acacia axillaris*. We've also helped to stall plans to carve up CSIRO, but it will be difficult to stave off budget cuts and fee increases in education, health and welfare.

Philip Tattersall to Co-ordinate Chemicals Campaign

Philip Tattersall, a Board member of the Launceston Environment Centre and its Education Officer, has been appointed to co-ordinate our work on toxic chemicals.

As a Director of Soil Tech Research, he made a significant contribution to the exposure of contamination from the Exeter tip. Recently he has conducted workshops in Launceston and Hobart on the effects of chemicals.

Philip will develop and implement a parliamentary strategy initiated by Kate Short of the Total Environment Centre in Sydney. This follows a successful workshop held in Newcastle in June in response to letters, information and requests from people throughout Australia.

Philip is using material sent to us by people from all over Australia to write parliamentary questions and speeches. To quote from a

paper by Dr Larry Budd, a Consultant Paediatrician actively practising in a geographical area having high chemical exposure:

I am in no doubt that our children are already exhibiting effects of chemical injury. Failure to recognise and act on the warning signs has extraordinarily worrying implications for the survival of the human race.

...ignorance and politics are the major factors currently preventing intelligent and logical examination of the issues of chemical injury...
 (But) societies are not static.
 Change will inevitably occur.

This project is intended to be part of that change.

Philip will also provide advice on the proposed legislation governing the operation of the National Registration Authority. The very latest news is that the "Exposure Bill" will be available at the end of August.



Portfolios

Employment
 Education
 and
 Training

Young
 Australians

Industrial
 Relations

Local
 Government

ACT



INVITATION

to a

FORUM

on

Economic Sustainability

with

Phillip Tattersall

Pilgrim Church

Wednesday 15 June

7.30pm

Chair: Senator Robert Bell

What it means, and what it doesn't mean; for banks, economic growth,
population growth, development, agriculture, forestry,
a national resource inventory, ethanol.....

Hear some facts, contribute your views.

Australian Democrats..... changing the world

Case 6. The Concerned Citizens of West Tamar Issue (1993 –1994)

During 1993 I was contacted by Richard Pearn, a landowner along Yorktown road, just north of Beaconsfield. Richard had heard of my work on Exeter tip and was seeking help. His story followed a well worn pattern. Apparently, the local council had sent a person to sample Richard's bore water (and the bore water from his neighbours) in order to get base line data. When Richard quizzed the person as to why, he sheepishly explained that a tip was proposed for the area of ground above where Richard and a number of other families were living, all of whom were dependent on bore water. So began a 2 year project, at the start of which Richard founded The Concerned Citizens of West Tamar. The group took on the Council and Government and won! Then the Council wanted to site the tip up on the hill above Beaconsfield adjacent to the hospital, and it was on again. This time we took it to appeal, along with concerns over a buffer zone, within which landowners could not build or modify their property! I represented the Concerned Citizens on two occasions and we won the appeal each time.

Case 7. The Exeter Childcare Issue (1996 – 1997)

I was scanning the local newspaper one Thursday and noted a story about converting the former HEC works at Exeter into a childcare centre. I wondered whether a risk assessment had been completed, so I contacted the local Council. One of the officers I spoke to was very defensive. I guessed that this may have been baggage from the Exeter tip issue. I felt concerned enough to write a letter to the editor asking the question regarding risk assessment. This drew an angry response from the local Mayor, who suggested that nothing was wrong and that everything had been done. Feeling uneasy I wrote several letter to the Minister for the Environment, who likewise attempted to brush my question aside. So I asked him for the risk assessment report – nothing was forthcoming. In the meantime I survey several former employees who had worked at the depot. All explained how for years many litres of transformer oil were spilt in and around the site. The stories were graphic. They also explained how power poles, treated with copper arsenate were delivered to the site with chemical still running out of them. There was also the question of the asbestos roof and the underground

fuel tank. At the time of the original newspaper article the centre was only weeks from opening! I immediately contacted the Minister and the media. It was on for young and old. The Minister and council were in denial as was HEC, so I offered to complete a site audit in the public interest. They locked the site and would not let me in. I enlisted the support of the National PCB register. The accusations and innuendo flew – I was labelled a trouble-maker, and anarchist. I continued my public offer to complete the audit, The Minister demanded that I tell what I had found from the former employees, so I sent the information and a signed site map showing the areas of probable contamination. The Minister ordered testing. Two days later I was being interviewed on ABC news when the results of the testing came through – the Department had found PCB's. The site was closed pending a full clean up, including the roof and the underground fuel tank!

The following letters to the editor and newspaper stories show the progressive stages of the case.

Exeter child-care

I refer to the report (*The Examiner*, June 13) regarding the relocation of the Exeter Child Care Centre to the former Hydro-Electric Corporation depot in Glen Ard Mohr Rd, Exeter.

I am concerned about what appears to be asbestos roofing on some of the depot

out buildings and that transformer oils may be present on the site.

I hope that the site has been audited and appropriately cleared for its intended use. — PHILIP J. TATTERSAL
Beauty Point.

One question in a letter to the editor started the whole childcare centre issue off. (*The Examiner* June, 1996) (Courtesy of the *Launceston Examiner*)

WEST TAMAR NEWS
 THE EXAMINER, Tuesday, August 19, 1997 — 13

Child centre on hold until site clean-up

By IAN MACPHERSON

The West Tamar Council wants the HEC to obtain an independent assessment of the contamination situation at the former HEC depot site at Exeter.

The council bought the site for the relocation of the Exeter Child Care Centre, after the site was given the "all clear" by the Department of Environment and Land Management.

However, acting on concerns raised by soil scientist Phillip Tattersall of Beauty Point that the site may be contaminated with toxic PCBs from spilt transformer oil, the Department and the HEC conducted further tests which found significant contamination in a small area.

The relocation of the child care centre is now waiting on a clean-up of the site and a clearance from DELM.

Mr Tattersall has offered to do an independent assessment for the council, at no cost, but at its meeting yesterday, the council decided against becoming involved.

Cr Eldon Griffiths said that it was clearly the responsibility of the HEC to have the site cleared of contamination and the responsibility of DELM to give the clearance.

Cr Max Burr said that the odium over the issue had to be worn by the HEC and the Department.

Cr Burr said that if the council became involved in gaining and accepting its own independent assessments, it could leave itself open to legal liability, if anything went wrong.

(Courtesy of the *Launceston Examiner*)

THE EXAMINER, Friday, August 29, 1997

Exeter clean-up

I should like to raise some matters in relation to the story "Child centre on hold until site clean-up" (The Examiner, Aug. 19).

The West Tamar councillors should be aware that my audit is not for their benefit, rather the work is to be conducted on behalf of the community who is the end user, and the group ultimately responsible for the site.

Cr Burr's comments that the "odium over the issue had to be worn by the Hydro and the department", was not constructive nor useful. It is our collective responsibility to ensure that the site has been exhaustively tested and cleared.

To that end the Hydro and the department, along with the council and broader community, are simply stakeholders in a process of "getting it right for good".

The fact that three agencies failed in their respective areas to insure that the site was safe suggests to me that Cr Burr should rethink his comments regarding who should be responsible for testing. He should know that it is not so much a matter of legal liability as the health of our children that is at stake here.

Through its decision not to support an independent audit it is clear that the council has missed the point over the role of community participation in creating a safe and equitable future for our community.

For the record I am acting for the community and not the council. To this end I am an advocate for a rigorously tested democracy. Isn't that how our society grows? —
PHILIP J. TATTERSALL, Beauty

(Courtesy of the *Launceston Examiner*)

Toxic find at Exeter child-care centre site

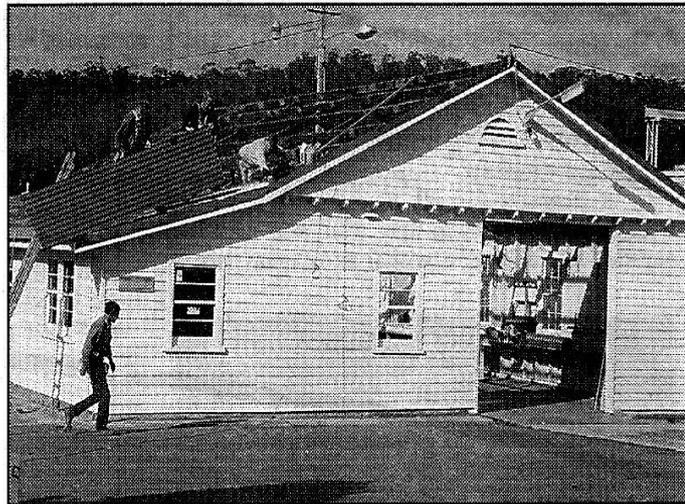
By IAN MACPHERSON

Sampling by the Department of Environment and Land Management has revealed polychlorinated biphenyl contamination at the former HEC depot at Glen Ard Mohr Rd, Exeter.

The site, bought from the HEC through a financial agreement between the State Government and the West Tamar Council, is being redeveloped for the Exeter Child-Care Centre.

Environment and Land Management Minister Peter Hodgman said yesterday that his department had sampled the site 10 days ago in response to concerns raised by soil scientist Phillip Tattersall, of Beauty Point.

"Mr Tattersall alerted my department to conversations that he had with former HEC employees who suggested that there might have been spills of



CONTAMINATION FEAR: The site of the former HEC depot at Exeter, which is being redeveloped as a child-care centre.

transformer oil at the site," Mr Hodgman said. "Before that information was raised, the available site history, together with consultants' reports conducted for the HEC, showed no evidence of such spills, and only minor general soil contamination had occurred."

Laboratory results from the department's testing, which became available yesterday, showed significant PCB contamination in a small area of soil adjacent to the former transformer storage area.

Minor contamination in the vicinity of a stormwater drain was also detected but at levels below national guidelines.

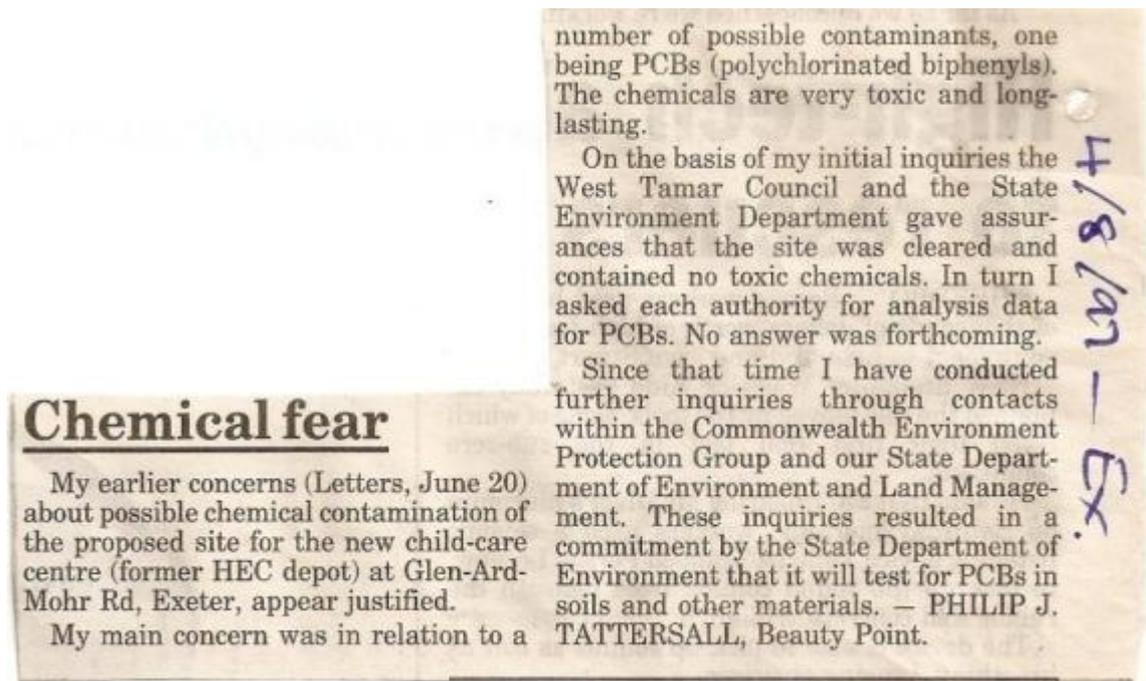
"I am advised that the HEC, although no longer owner of the site, has agreed to co-operate fully with the necessary clean-up of the contaminated soil," Mr Hodgman said.

"My department will assist with laboratory analyses and site verification."

Mr Hodgman said that the sampling of areas where building work for the child care centre was under way showed no PCB contamination.

The West Tamar Council has been having asbestos removed from the roofs of buildings at the former HEC depot.

Article that appeared in *The Examiner* newspaper, August 8, 1997. My appearance on "ABC 7.30 Report" on August 4 triggered a huge response. (Courtesy of the *Launceston Examiner*)



Letter published in *The Examiner* August 4, 1997 telling of the conclusion to the saga.

(Courtesy of the *Launceston Examiner*)

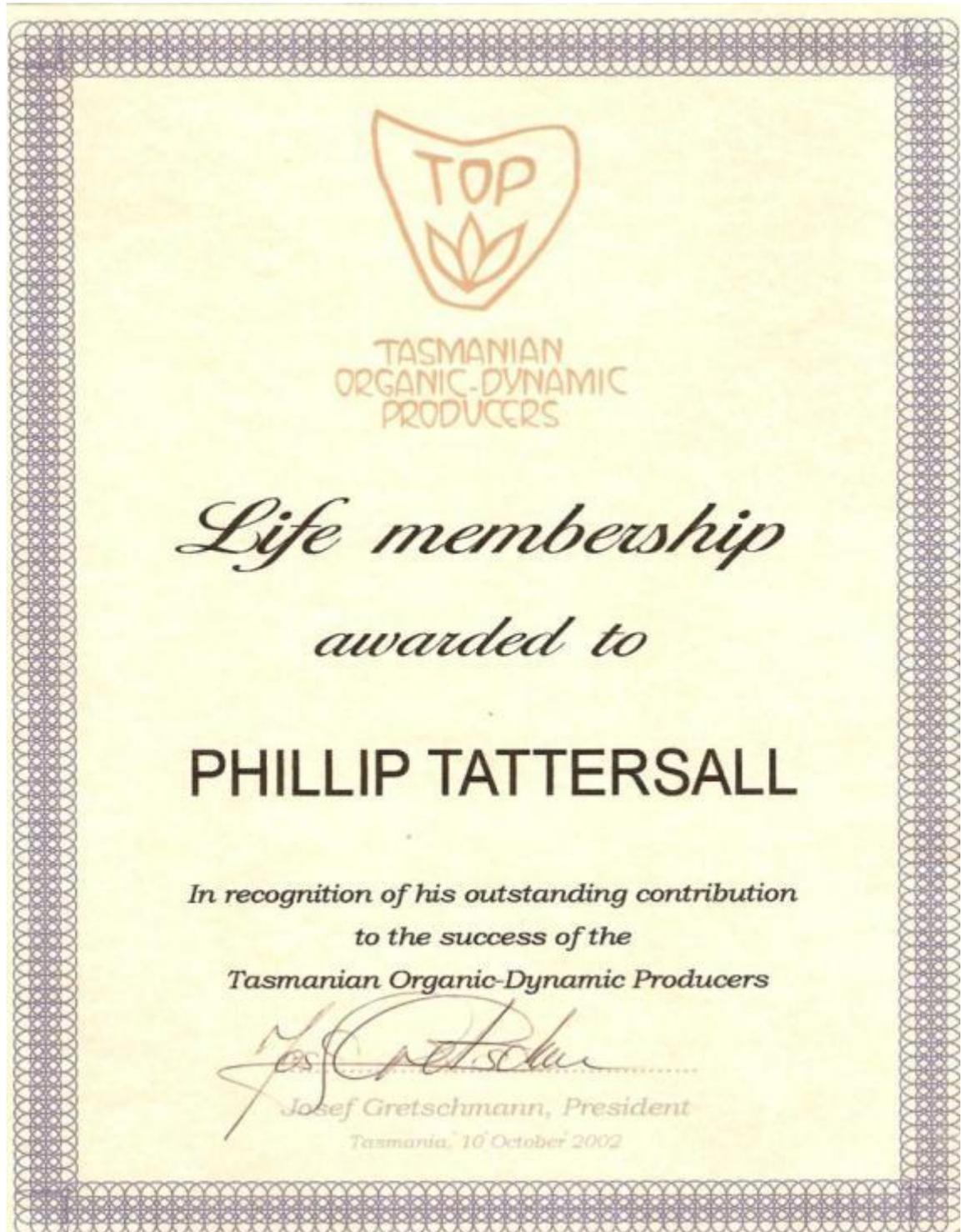
Case 8. The Tasmanian Organic Industry (1989 - 1999)

During 1989 to 1995 I had dabbled in organic farming. I was secretary for National Association for Sustainable Agriculture Australia-Tas during the late 1980's. I remember moving toward organics after reading Eve Balfour's book "Living Soil" back in 1983/84. My research also took a leaning that way as I was becoming more concerned about the path conventional agriculture was on, particularly the fragmented, non-holistic way things were done. I sensed crisis in my own practice as I saw myself as part of the problem. The main "problem" with conventional agriculture related to the way it focused on the problems "in" agriculture rather than the problem "of" agriculture. I just could not get away from that.

It was during 1995 that I took an interest in the newly formed Tasmanian Organic-Dynamic Producers (TOP). So began a fascinating and rewarding partnership that has lasted up until the present day! My job during 1997-2002 was to develop the organization. TOP was run by volunteers and had “changing agriculture” as its key mission. The certification of organic farms was key element of the mission. I developed Australia’s first organic Quality Management System and took the organization through to AQIS approved certification. We took Certified membership numbers from 25 to 50 over a few short years and had a total membership of over 100. I also founded Tasmania’s organic farming journal, *Seasons, the Tasmanian Journal of Organic-Sustainable Agriculture*. The founding fathers of TOP, Joe Gretschmann, Mark Patton, Steve Kapolice, Ian Cairns, Phil Sedgman and Jon Sturm had, through suggesting the idea of TOP, set Tasmania on a new footing toward a new agriculture.

In 2002 I was awarded a Life Membership and in 2006 I was invited to chair the Organic Coalition of Tasmania (the organization which I proposed during late 1999).

The following pages tell some of that story.





ELGAAR FARM
TASMANIA

ELGAAR DAIRIES
ORGANIC
AUSTRALIAN ORGANIC CERTIFIED

Elgaar Grains
AUSTRALIAN ORGANIC CERTIFIED

PO Box 17
Deloraine
Tasmania 7304
Tel (03) 6368 1227
Fax: (03) 6368 1206

8 November 2002

Phillip Tattersall
Hobart Road
Youngtown
Tasmania 7204

Dear Phillip

After many weeks, I finally got around to write to you. Only recently have I read the article in Acres Australia where you outlined your findings at Elgaar Farm. Reflecting on your work over the last few years, I wanted to express my thanks for your support and courage to pick up our philosophy on sustainable farming and have the guts to publicly write about it. I can say that you are one of only a few who have the lateral thinking capability to challenge the present doctrine of soil - nutrient - plant systems. I consider it to be of paramount importance to the organic industry to leave this doctrine in order to move forward.

On the other matter, I would like to sincerely thank you for your contribution, financially and intellectually, that you have given to TOP. We have only been notified of TOP's successful application with the MAFF minister as a foreign certifying organization in Japan. This is largely due to your excellent work on the Quality Systems and your professional handling of the application. Thank you.

Regards,

Josef Gretschmann

PS: As you are aware, we had to reschedule our AGM due to a delay in the official auditors report. It would be great to see you at this Sunday's meeting.

*Elgaar Farm is the national winner of the Organic Federation of Australia's Inaugural award
"Australia's Best Organic Farm 2001"*



MINISTER *for* PRIMARY
INDUSTRIES *and* WATER

21 AUG 2006

Philip Tattersall
8 Lenborough St
BEAUTY POINT TAS 7270

Dear Philip

I wish to thank you for your contribution as the Chair of the Minister's Organics Advisory Group (MOAG). It is unfortunate that you were only able to hold this position for a short period of time.

I believe that the strategic approach that you were bringing to MOAG would have been very valuable and I am aware that the current members are keen to build on the ideas that you promoted.

I am keen to see the organics industry in Tasmania grow and believe that MOAG can play a valuable role in the future.

Yours sincerely



David Llewellyn MHA
MINISTER FOR PRIMARY INDUSTRIES AND WATER

Case 9. The Community Based Auditing Years (1999 – present)

The progressive move to CBA is presented below. The text appeared on the back cover of *Upper Catchment Issues Tasmania*. The second piece (a reprint from "Seasons, the Journal of Tasmanian Organic-Dynamic Producers") tells of the result of the very first use of CBA (see Gschwendtner, Eastman, Tattersall and Mills 2001).

Where did Community Based Auditing and Upper Catchment Issues come from?

This question continues to be asked. The story begins back in 1998 when current TCRA Board member and Editor, Philip Tattersall was reflecting on ways to involve community directly in the resource planning process, not so much as sources of feedback and "doers" of various projects, but as actual project designers. In short, he was looking at new way to bring community, the ultimate "responsible persons", directly into the environmental management and planning process. His own research and indeed much of the emerging literature on the subject of participation provided keys to a possible way forward. One of the strengths of community involvement lies in the knowledge held by the community. For too long community knowledge has been considered "anecdotal" and "unscientific". The fact is that local knowledge (Harding 1998) and community science can play a vital and important role in resource planning and action. Over the past 5 years the subject of community participation in shared decision making has taken on a new prominence (Dakin 2003).

During 1999-2000 Philip had the opportunity to work on the Diddleum Plains project with Ann Gschwendtner (Gschwendtner, Eastman, Tattersall and Mills 2000). The project was an opportunity to test the ideas of community involvement out in the real world, so to speak. The project began with an examination of the forest practices plan, which in turn generated questions and thereby an ongoing process of enquiry involving many other players in the local community. The audit and enquiry teams were guided by the reality that it is the community who are the ultimate "responsible persons". At the end of the enquiry the community were able to recommend better ways to manage the forest and water resources in question - Community Based Auditing was born...

References

- Dakin, S. 2003, 'Challenging old models of knowledge and learning: new perspectives for participation in environmental management and planning', *Environments*, vol. 31, no. 1.
- Harding, R. (ed) 1998, 'Gathering and using data - beyond the scientific paradigm', in *Environmental Decision Making: the Roles of Scientists, Engineers and the Public*, The Federation Press, pp.82-107.
- Gschwendtner A., Eastman K., Tattersall P. and Mills D., 2000, 'Catchment issues in the North Eastern Highlands of Tasmania - a community based study', *Upper Catchment Issues Tasmania*, vol. 1, no 1, Resource Publications, Beauty Point Tasmania.

A GROWER STORY

BY

*Ann and Martin Cschwendtner
Diddaleum Plains*

Our story begins about two years ago in the North Eastern Highlands of Tasmania. Martin and I bought our farm in 1985, specifically with the intention of farming organically. The farm was a run-off block for dairy and beef cattle, so we continued in the same vein. Being in a highland area, our farm is situated between 600 and 700 meters elevation, with an annual rainfall of around 1600mm. We moved onto the farm in 1990 and applied for certification with BFA, which was granted in 1993.

We confronted Forestry Tasmania in 1994 about the application of atrazine and 1080 on land adjoining our northern boundary. We were concerned about possible impacts and long-term effects. We were not reassured by their answers to our questions and so we campaigned to prevent atrazine and 1080 being used by Forestry Tasmania during plantation establishment in the area. Due to community effort and the then recent experience at Lorinna, atrazine and 1080 were not used. We had hoped that this was the end of conflict with Forestry Tasmania – not to be!

In July 1999 we discovered Forestry Tasmania intentions to log an area above and behind us across an upper catchment area servicing three major rivers in the Northeast. They are covered some 300 hectares. Naturally we were concerned about the way a logging and plantation operation would impact upon our farm. The obvious concern was possible impact on our water supply. It was about this time (some 14 months ago) I contacted T.O.P and spoke to Secretary Philip Tattersall about our situation. We had only been friends of T.O.P since its beginning, even so we were given clear and professional advice as to what direction we could take. Drawing on Philip's varied and multi-faceted talents we followed a community based risk assessment strategy to address the issues at hand – namely to determine the nature and likelihood of impact upon our farm. This information was gathered from a number of professionals, including a forest hydrologist, soil engineer and risk management consultant, forest management consultant and the numerous letters extracted from Forestry Tasmania. The overall conclusion drawn from the professional reports and critique of Forestry Tasmania information was that our farm was undoubtedly at risk and so was the

integrity of our certification status. The next stage of the strategy began. Under the guidance of Philip's sound advice we developed further key strategic issues. In the meantime we applied for and were granted Full Certification Status with T.O.P as organic beef producers.

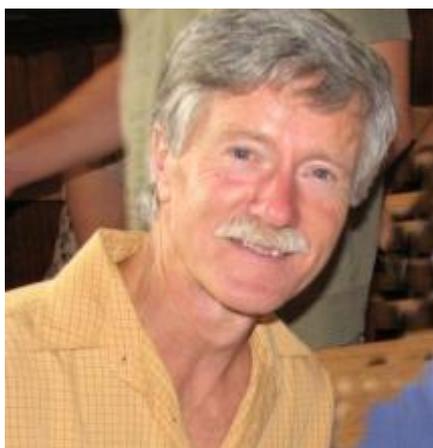
Due to concern from our local Waterwatch group and two neighbouring councils (the controversial logging area straddles the Launceston and Dorset Municipal boundary), the issues had been raised and maintained in the media. A seminar was organized for an on-site tour by Dorset Waterwatch (closely monitored and directed by Philip) to inform the council and associated groups as to the nature of the area of concern. Philip presented the issues and explained the purpose of organic certification and in turn the significance of TOP accreditation with AQIS, and how the Forest Practices Code is not appropriately harmonized with the National Standard for Organic and Biodynamic Produce. A journal was founded (Upper Catchment Issues Tasmania) to report on the finding of our risk assessment case study. Copies were distributed to those in attendance at the seminar (over 60 people), media, researchers and general public.

Due to the intransigent attitude of Forestry Tasmania and their reluctance to consider a fair and reasonable solution, we chose to take the matter before the Resource Management and Planning Appeal Tribunal (we were represented by the Environmental Defenders Office). The outcome from this hearing saw Forestry Tasmania withdraw its Forest Practices Plan, and they cannot log the coupe until another Forest Practices Plan is drawn up and approved. This expected to take place over the next two months. We will consider our options upon reviewing the Forest Practices Plan.

I'd like to extend our sincere appreciation to T.O.P for its donation to Dorset Water Watch and the new Journal edited by Philip Tattersall. The constant support and encouragement given by Philip Tattersall throughout this challenging time. We would not be where we are now if it were not for this.

Appendix 6: Colleagues and mentors

Kim Eastman is the Chairperson of Dorset Waterwatch, originally established as part of the federally funded Waterwatch initiative under the Natural Heritage Trust. She is a community representative appointed to the Giant Freshwater Lobster Recovery Team, charged with the task of creating and overseeing the implementation of a Recovery Plan for this species. She holds a long standing interest in water conservation and has authored and co-authored several published Community Based Audits on topical water issues. Kim is a graduate of the Landmark Forum, Landmark Advanced Course and Landmark Communications course. The courses are a skills development program that enables people from all walks of life to improve their personal and professional effectiveness. Kim's special research interest is in new strategies for community change and development. Her principal area of interest is environmental management relating to water management.



Peter Eastman is a Dorset Waterwatch member. His commitment to the environment has seen him take on the role of Dorset Waterwatch investigator on a number of the group's projects. Like his wife Kim, Peter also is a graduate of the Landmark Forum, Landmark Advanced Course and Landmark Communications course. Peter's particular area of interest is the protection of native aquatic fauna.

Kim and Peter hold no academic qualifications beyond high school diplomas.

Appendix 7: Ethics Approval

Ethics Statement by University of Western Sydney

The statement below was sent Lauren Sinclair, (Human Ethics Officer, University of Western Sydney) to the Principal Supervisor who made application on behalf of Philip J. Tattersall

From: Lauren Sinclair

Sent: Friday, 30 September 2011 2:38 PM

To: Maree Gruppetta

Subject: High Importance- Maree Gruppetta's application

Importance: High

Dear Maree,

I have sought advice from the Chair of the Human Research Ethics Committee, who has made the following comment:

“Since the researcher is only using publically available information (such as a published book), there is no need for ethics clearance unless supporting or different information were to be sought outside that already in the public arena (examples of this may include further interviews of those who are named in the book).”

Kind Regards,

Lauren

Human Ethics Officer