

ROUTLEDGE RESEARCH IN GENDER AND SOCIETY

Ecofeminism and Systems Thinking

Anne Stephens



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This book brings together two vitally important strands of 20th-century thinking to establish a set of simple and elegant principles for planning, project design and evaluation. It explains the backgrounds of cultural ecofeminism and critical systems thinking, and what we find when they are systematically compared. Both theories share a range of concepts, have a strong social justice ethic, and challenge the legacy of modernity. The book takes theory into practice. The value of the emergent principles of feminist-systems thinking are described and demonstrated through four chapters of case studies in community development settings. The principles can be used to influence project design and outcomes across a range of disciplines including project management, policy, health, education, and community development. This book has much to offer practitioners who seek to create more socially just and equitable project and research outcomes.

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- 34 **Street Sex Workers' Discourse**
Realizing Material Change Through Agential Choice
Jill McCracken
- 35 **Gender, Ethnicity, and Political Agency**
South Asian Women Organizing
Shaminder Takhar
- 36 **Ecofeminism and Systems Thinking**
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**This work is dedicated to my family: Bill, Lea, Clare, Josh,
Jordie and Caitie, and close friends: Tanz, Shawn, Kristen,
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Contents

<i>List of Figures and Pictures</i>	xi
<i>List of Tables</i>	xiii
<i>Preface</i>	xv
<i>Acknowledgments</i>	xvii

PART A

1	Introduction	3
2	Ecofeminism and Systems Theory	15
3	Comparing and Contrasting Ecofeminism and Systems Thinking	28
4	Principles of Feminist-Systems Thinking	43

PART B

5	Case Study 1: Exploring FST Principles in Community Development—The <i>Carrot on a Stick</i> Early Health Intervention Program	61
6	Case Study 2: The Yarrabah Kinship Gardens	81
7	Case Study 3: Evaluating Changes—Community Awareness Growth and Change	97
8	Case Study 4: Greening the Economy—Mapping and Identifying Ways to Transform a Regional Economy	115

x *Contents*

9	Drawing Conclusions and the Value of the Feminist-Systems Thinking Framework	122
	<i>Notes</i>	131
	<i>References</i>	133
	<i>Index</i>	141

Figures and Pictures

FIGURES

2.1	A bounded object A within a boundary B and C. (Adapted from Midgley 2000, 37.)	24
4.1	The feminist systems thinking principles.	44
6.1	Adapted from the group's concept map of the project.	89
7.1	The community and beneficiaries of the Real Food Network.	110

PICTURES

5.1	Program coordinator, Sarah Gosling.	66
5.2	Kids rock climb and abseil with <i>Carrot on a Stick</i> staff.	67
6.1	Percy Neal and the Yarrabah Kinship Gardens (December, 2012).	86
6.2	The Yarrabah Kinship Garden (December, 2012).	86
7.1	Real Food Network founder Chris Gloor.	104
8.1	Aerial view of Marlin Marina, Cairns, Australia.	116

Tables

3.1	Selected Cultural Ecofeminist Texts	29
3.2	Core Categories and Sub-Categories	29
5.1	Carrot on a Stick's Program Intentions, Objectives and Curriculum	63
5.2	Carrot on a Stick Survey Instrument	65
5.3	Benefits of the Program Outcomes—Feedback from Participants	77
6.1	Potential Benefits and Desirable Outcomes towards Sustainable Social Change at Yarrabah	93
7.1	The Application of Each Principle to the RFN	105
8.1	Alignment of the FST Principles to the Stated Project Objectives	117

Preface

It is a great honour and privilege to write a preface to this important work. This project has been the result of a challenge and a determination to make clear the common elements of two important alternative views for complex problem analysis and solutions.

The imbrications of the ecofeminist perspective and critical system thinking's systemic intervention has developed from an exercise of pure social science, a grounded theoretical exercise, through reflective analysis, wherein emergent principles were recognised and clarified and then the principles were tested, analysed and enunciated in a range of projects in real settings.

As the work evolved it became apparent that these principles applied to many situations and projects, at many (perhaps all) scales and in many (perhaps all) realms without necessarily adding to their cost. Anne Stephens has articulated apparently simple principles, which may even appear obvious at first encounter, in a rich and deep analysis. Her work was encouraged with acknowledgment from the International Society for the Systems Sciences, with the 2009 Sir Geoffrey Vickers Award.

My hope for you who read this work is that you find the principles are just that, principles, which apply to your projects and may assist identify roadblocks, areas of comfortable emphasis and help you and your community articulate areas and influences that are not immediately obvious that may strengthen your effectiveness when brought to light and given their due regard.

Articulating principles for practice requires a discipline and honesty to avoid the luxury and arrogance of telling you what to do, pretending to provide certainty while further entrenching power relations that may be part of the stabilizing that maintains the problem situation your projects are trying to ameliorate.

I trust that this work is not too late and that individuals and small groups working to keep hope alive for the vast majority of people who are affected by critical situations find their resolve to work for the improvement of their communities inhabit-*ablity* strengthened. This work is important as the principles apply in projects that aim to improve peoples' lives, experience and heritage.

William Liley
MBBS DipEdSt BPhy

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Part A

1 Introduction

To put it bluntly, we are in a great mess.

(Brydon-Miller et al., 2003)

This book challenges the legacy of modernity. In this book, the sacrosanct nature of positive science is contested. Putting this book together is an effort to do something to improve situations of unchecked ecological harm, false claims of ‘sustainability’, and research and evaluation methods that continue to pit ‘man against man’, ‘man against nature’, ‘man against woman’. Our reasoned and rational scientific approach has caused a chasm between human experience and ways of valuing the natural world. Despite decades of thinking into the deep ecological connections between our own existence and the ecology of every other living thing on Earth, our planet is poised like no other time in human memory to tip over a balancing point that will unleash untold damage upon the biological world. Human induced climate change was first raised by Svante Arrhenius in the 1890s (Arrhenius et al., 2008). Despite warnings throughout the twentieth century we are now living with an increasingly “disturbed and reactive state of nature” which brings with it “extreme uncertainties in our understanding of its complex systems, uncertainties which will not be resolved by mere growth in our data bases or computing power” (Ravetz, 1999). At the time of finalizing this manuscript, the World Bank released its own call to nations with *Turn Down the Heat: Why a 4°C Warmer World Must be Avoided* (2012). There are unison calls for an urgent redress to the dominant scientific method. We need to reconnect the experience of the body, our subjectivity and our surrounding ecological nature with others, involve their thinking and adopt what Peter Reason once called a ‘participative mentality’ (1994). If participation is the key to reconnecting, it is the consequences of reductionist science that has led us to a chronic state of separation ‘of knower from known’, ‘of self from other’, ‘researcher from subject’ and ‘purpose from people’ (Flood 1998). Through participatory, emancipatory and reflective actions and research practices, we can ‘make things whole again’. Explorations and greater understandings of the links between feminist thinking and critical systems thinking are both timely, and likely to yield valuable insights into how both approaches could be developed.

Given the state of environmental problems we face, the importance of a book like this is to bring together theory and practice, in a format that

helps us reflect upon values that enhance the outcomes of social projects for change. This book is intended for the people involved in making change happen in a collaborative and participatory way. It is for people in a range of disciplinary roles—social workers, teachers, health workers as well as those who work across the boundaries such as project managers, community development officers, researchers and academics. It is also for scientists who wish to know how to better engage with the communities where they see the impact of their work, politicians and all people in positions of business and social leadership.

It is with a mixed sense of reticence and pride that the ‘f’ word, feminism, is included in the title. Reticence, because I do not wish to alienate readers before I’ve even begun. The term ‘feminism’ has a history and many readers will bring some preconceived notion about the term to the reading of this book. Pride, because I consider feminism to be the most paradigm-shifting influence in the history of human-kind—changes in our societal outlook that have brought immense benefit to women and girls everywhere and in turn our spouses, brothers and sons. Yet, as the experience of marginalized and impoverished women and girls attests, the project of emancipation from subjugation is not yet complete and liberation has been for some—far from all.

‘Systems thinking’ is a discipline for considering complexity and change, with its own paradigm, language and methodological dimensions. Central to the discipline is the concept of a ‘system’, which refers to a collection of parts that interact with others to function as a whole. A system is a recognizable whole, as a product of interaction between its parts (Maani and Cavana, 2000) and remains recognizable despite the constant change of its parts. Expanding systems thinking to include a conscious consideration of gender will fill an analysis gap in systemic thinking practice. In fact this book starts with a conclusion. I conclude that the early work of systems thinkers *is not finished*, and will not be, until gendered power relations are revealed.

Feminists are often frustrated when feminism is marginalized or excluded from the academy. A rich literature has accumulated around themes of female specific forms of marginalization, i.e. prejudice and de-valuation, discriminatory practices, sexual mistreatment and inequality, across a vast number of social contexts. Ignoring this work is an exclusionary practice itself. In the applied research setting, when writers overlook what is distinctive about women’s experience in studies, we implicitly assume that the experiences of women are unimportant and/or parallel to those of men (Forrest 1993).

I cannot claim to be the first to be concerned about the exclusion of women in the systems thinking literature. My work owes a debt to Barbara Hanson who in 2001 argued that there are grounds to find linkages between feminism and systems science. She wrote that systems thinking and feminism are ‘compatible, even inseparable’ (p. 546). Her concern was

that feminists ignore general systems theory. I flip this focal concern and ask why do applied system's thinkers ignore feminism?

Feminist discourse around concepts or issues relating to women's oppression is rare in the critical systems thinking literature (see Chapter 2). Searches revealed work by Cohen (1996), Forrest (1993), Gregory (1996), Hanson (2001), Romm (1996b), Taket (1994, 2008), Taket and White (1994), and Walby (2007). Neither does critical systems thinking literature provide an extensive body of work dealing with issues of environmental and ecological issues (Luckett, 2004, Midgley, 2000, Midgley and Reynolds, 2004). If overlooking specific forms of marginalization is a form of exclusionary practice, the very near absence of gender specific, feminist research and ecological sciences in the 'soft' or social systems thinking schools is revealing.

Parallel concerns have been voiced within the action research tradition. Action research and in particular *participatory action research*, challenge claims that research must, or can be, objective and value-free and is a common problem-solving method in applied systems thinking (and indeed used as the basis for much of the applied research we examine later in the book). It is useful and relevant to consider the influence of feminism in this field. Not unlike the laudable emancipatory themes of critical systems thinking, participatory action researchers also commit to a practice that contests unjust and undemocratic economic, social and political systems and practices (Flood, 1998). Yet feminism was largely ignored until writers such as Brydon-Miller, Maguire, and McIntyre (2004) and Greenwood and Levin (2007) critiqued and reconfigured the practice of participatory action research so that it may live up to its transformative possibilities.

Hanson (2001) demonstrated the theoretical compatibility of systems thinking and feminism when analyzing the easy criticism that feminism centers on blame. Hanson pointed out that a systems-feminist approach renders blame irrelevant. If feminists enter a discourse using the notion of blame, they are separating parts of a system in order to isolate the causal factor then attributing responsibility to that factor. This requires two aspects of epistemology: separating parts from the whole and finite linear causality. Neither is appropriate in systems thinking (Hanson, 2001). However, this should not preclude researchers pursuing methodologies that actively seek to find the gendered contribution of either men or women, or for that matter, other groups of self-identified people, i.e. Indigenous people, people of color or those living with disability.

The purpose of this book is to produce a useful philosophic background and an aid to clarifying the values of stakeholders in particular problem situations. The book is presented in two parts. The philosophic background is detailed in Part A; fleshing out the comparative similarity and areas of distinctive difference between two schools of thought drawn from feminism and systems thinking. These are *cultural ecofeminism* and *critical systems thinking*, which I will explain shortly. The aid I have produced to

help clarify the values we can derive from an imbrication of them both, is a set of principles for practice which I have called *feminist-systems thinking (FST) principles*. Part A is conceptual, and may be of interest to readers who wish to learn more about critical systems thinking, cultural ecofeminism and the FST principles. Part B offers an exploration of the FST principles in four case studies, and for readers who might prefer an empirical focus, Part B is an illustration of their value in practice.

Ecofeminism and critical systems thinking have had little contact or interaction with each other, yet they share significant areas of similarity. Ecofeminism was coined in 1974 from the French feminist Francoise d'Eaubonne's work, "Le féminisme ou la mort" (Putnam Tong, 1998). According to Ynestra King, nature is the central category of analysis. An analysis of the interrelated dominations of nature—psyche and sexuality, human oppression, and nonhuman nature—and the historic position of women in relation to those forms of domination, is the starting point of ecofeminist theory (Ynestra King, quoted in Uhls, n.d.). Ecofeminism can be broadly aligned into two schools of thinking. 'Nature ecofeminists' perceive that there is an essential link between woman and nature that is primarily biological and psychological. 'Cultural ecofeminists', by contrast, seek to deemphasize the nature-woman connection, which they see as imposed by a socially constructed patriarchal order and degrading. Attempts to save the planet are undermined until an ethic that is free from androcentrism is adopted (Putnam Tong, 1998).

The divergence between cultural and nature ecofeminism is significant. Prominent nature ecofeminists include Mary Daly (1973, 1978, 1984), Susan Griffin (1981, 1995, 1999) and the spiritual ecofeminist, Starhawk (1982, 1988, 2003). Central to nature ecofeminism is the idea that women are better placed than men to identify with nonhuman beings, ecological processes and the larger whole, because of the following claims: (a) That there is a special link between women and nonhuman nature because of their reproductive/nurturing capabilities; and (b), women, like other nonhuman beings, are oppressed in patriarchal societies (Putnam Tong, 1998). The eco-philosophical orientation of nature ecofeminism is almost indistinguishable from that of transpersonal ecology and its emphasis on expanding the boundaries of self (Lockett, 2004).¹ The position suggests an essentialized nature of woman, founded in a realist ontology that objectifies women into an inescapable nurturing and caring social *and environmental* function. Women can be closer to nature because of their positions as mothers, homemakers and carers. It assumes women have a particular relationship with nature and by virtue of their biology and their proximity to nature, are qualified to speak more eloquently on nature's behalf (Buckingham, 2004). If this can be viewed as empowering, it honors women's unique way of knowing. Might then women save us and the environment, from men's domination of nature? It is a heavy layer of responsibility for women to carry.

Do women have a particular relationship with nature by virtue of their biology, and does this proximity to nature qualify them to speak more eloquently on nature's behalf? Or, is it more insightful, and locationally relevant, to subscribe to the view that due to women's experience of gendered discrimination and sexual mistreatment, which is derived from the *same prevailing social and economic structures* that have produced wide-scale environmental damage, women are often well placed to 'share' this experience? Women may well be placed to argue on nature's behalf, but, it is not an exclusive role for women to have to play (Buckingham, 2004) and it is on the basis of this critique of nature ecofeminism, that I align my work with the cultural school of ecofeminism.

In fact it is a dangerous position to reduce women's potential and abilities to the realm of her 'caring nature' (Biehl, 1991). Nature ecofeminism becomes reactionary rather than revolutionary, when women are limited by biologically determined qualities. We need to be wary of paradigms that could be construed as advocating the sacrifice of individuals' needs to a 'greater whole'—whether that be the family, society, or Gaia (Lahar, 1996). As Carolyn Merchant has said, any analysis that makes women's essence and qualities 'special', ties them to a biological destiny that thwarts the possibility of liberation (Putnam Tong, 1998). We also need to ask, as many feminists have, given centuries of debasing and negative cultural baggage, how likely is a process of 'reclaiming' the meaning of the nature-woman link likely to be achieved? (Putnam Tong, 1998).

Cultural ecofeminism,² on the other hand, deemphasizes the 'essential' nature-woman connection. Generally speaking it relies on a set of socially constructed dualisms that position 'man' to go on exploiting women and nature, where women remain subordinated to men and nature is subordinated to culture. 'Women', 'nature', 'men' and 'culture' have certain meanings, but these meanings are mutable (and have questionable necessity in some contexts), and oppressions are intertwined. The late Val Plumwood, a tenacious and passionate philosopher, and influential in this work, argued for an environmental culture and ethic that involves a systematic resolution of the nature/culture and reason/nature dualisms that split mind from body and reason from emotion, across their many domains of cultural influence (Plumwood, 2002). Critical systems thinking provides an approach to transcending dualisms and can make an important contribution to feminist practice.

The critical systems thinking movement is now in its third manifestation evolving from systems thinking traditions which includes systems dynamics, cybernetics, complexity theory, autopoiesis and problem structuring methods. Contemporary critical systems thinking can be characterized by its commitment to three central themes.³ Critical systems thinkers attempt to conduct research that is, (1) emancipatory or liberatory, (2) achieves mutual understandings, and (3) addresses issues of power and coercion in research practice (Bausch, 2003; Burton, 2003; Midgley, 2000, 1996a). Critical

systems thinkers apply methods of boundary analysis to obtain as comprehensive an understanding of phenomena as possible. They take a holistic perspective and look for emergent properties resulting from the interactions between and among the whole system. This is particularly true for the onset of undesirable and/or unexpected outcomes. Problem-solving methods are frequently applied to ‘messy’ problems; complex, multi-dimensional, intractable, and dynamic problems that can only be partially addressed and partially resolved. Critical systems thinkers promote participatory methods with titles such as systemic intervention (Midgley, 2000), community operational research (Jackson, 2004) soft systems methodology (Checkland and Scholes, 1999) and (participatory) action research (Flood, 2010). Throughout this volume I draw heavily on critical systems thinking through the particular work of Gerald Midgley (2007, 2004, 2001, 2000). His work *Systemic Intervention: Philosophy, Methodology and Practice* (2000) is an example of an emancipatory and vital text to the canon of systems thinking.

Midgley advises practitioners to be conscious of the wider political consequences of their systemic interventions. The vital importance and purpose of critique is to reveal hidden and unrevealed assumptions. He stated that “Very close to theory is ideology. Methods may make ideological assumptions; that is, assumptions with an identifiable political consequence” (p. 233). Yet, herein lies an omission in his own discussion of ‘social exclusion’. In his 2000 text, Midgley referred to a wide variety of examples of excluded groups, or classes of people from the ‘mainstream’, but made no reference to the exclusion of women. Despite critical systems thinking’s emphasis on interventions to produce benefits to communities, environments and social justice outcomes, it risks being viewed as limited if it cannot expose instances of hidden patriarchal attitudes and hegemonic ideologies at work that continue to cause harm to individuals, groups people based on gender, and to our natural environment.

A feminist review of critical systems thinking is, therefore, consistent and timely. The original study in which I base this book adapted a method of constant comparative analysis to critical systems thinking and cultural ecofeminism. My analysis produced a framework for feminist-systems thinking (or FST for short) as a set of five principles that provide common sense guidelines for applied research and social action in the community development, project design, social policy and project management fields among others. Adopting a feminist systems perspective may help practitioners look for places where unintended consequences of an intervention might unfold. The principles are:

- Be gender sensitive
- Value the voices from the margins
- Center nature
- Select appropriate method/ologies
- Bring about social change

Despite their presentation here as a list, the principles follow no particular order. Neither might all principles be relevant to, or present in, a project. Nonetheless, in the applied settings in which I used them, I found all projects were enhanced in some way by analyzing events past, present and future, through these five simple lenses. Chapters 3 and 4 describe the journey of their development and theoretical implications for practice.

The FST framework is not, in itself, a method for applied practice. However, it is a powerful lens for self-reflection and reflective inquiry. Particularly when used with participatory research methods. The epistemological background of both participatory action research and the FST frameworks are consistent. Participatory action research provided me the opportunity to work on the ‘inside’ of situations to simultaneously analyze and critique complex and messy problems. The quality of participatory research methods is illustrated when we turn to Part B of this book.

INTRODUCING THE CASE STUDIES

Reflecting on the FST principles in practice gave me the opportunity to develop a richer understanding of the value and meaning of each principle. The purpose of the applied research section of this book, Part B, is to evaluate the FST principles to better understand how and if they can improve community development projects, and produce better outcomes for marginalized people and the environment. Each study is situated within a different community development field and was selected according to an assessment of its suitability to the project and with permission or invitation from the project coordinators.

Each case study had a distinctive methodology, and carefully selected methods and tools, to evaluate an aspect of the FST principles. *Carrot on a Stick* (Chapter 5) evaluates the principles from a retrospective perspective. The planning and implementation phase is examined in the second case study, *The Yarrabah Kinship Gardens*, (Chapter 6). Monitor changes caused by a community development project is the focus of *The Real Food Network* case study (Chapter 7) and at a meta-regional scale of planning stage in the ongoing study *Greening the Economy* (Chapter 8). Every study is located in North Queensland, Australia, and deals with a different sector of the regional community. Each study is introduced in turn, below.

Using participatory action research each case study provides insights in systems thinking methodology, including systemic intervention. Action research pursues action (or change) and research (or understanding) at the same time (Dick, 1999). It is broadly concerned with the power relations between researcher/s and the ‘researched’ and the rights of the individual (Kindon et al., 2007, Rahman, 2008). For this reason, in several of the case studies, attention to my role as a researcher/participant, where appropriate, is discussed.

Participatory action research is inherently political. It is concerned with intervention and change at an individual and community level. Participants of each case study have or have had opportunities to contribute collaboratively to an inquiry, within the limit of the methods employed. Case studies 2 (Chapter 6) and 4 (Chapter 8), in particular, follow a basic action research formula. This involves using a cyclic process that alternates between action and critical reflection. In the later cycles a continuous refinement of methods, data and interpretation is informed by the understanding developed in the earlier cycles (Dick, 2002). In other words: Plan; Act; Observe and Reflect. Being cyclical it allows the group to constantly recreate and monitor actions. By acting, reflecting on actions, and incorporating that new knowledge, methods are refined, while data is collected and interpreted at each cycle (Kindon et al., 2007). A self-leading group can work towards changing situations, practices and values (Kindon et al., 2007). It is a method of systemic intervention and community operational research practice espoused by Gerald Midgley and other critical systems thinkers Mingers (2003), Gregory (1996), Flood and Romm (1996) and Romm (1996) as well as feminists Brydon-Miller, Greenwood, and Maguire (2003) and Brydon-Miller, Maguire, and McIntyre (2004).

Turning to the case studies, the 18-month *Carrot on a Stick* program was inspired by community development worker, Sarah Gosling. It was a preventative health program targeting at risk families. I was an employee working as a nutrition and cooking facilitator on the program from February 2009 to January 2010. I selected this project to retrospectively analyze a community health intervention through the lens of my FST principles. I analyzed project evaluation reports, funding applications, and conducted telephone surveys with past participants to draw conclusions on how the principles were (or were not) present in the program. I also drew upon my own personal experience and observations as a participant.

The second case study analyzed the principles during the implementation phase of an action research based systemic intervention. The *Yarrabah Kinship Gardens* project was also an opportunity to examine the relevance of the FST principles to an Australian Indigenous community development project. Yarrabah is an Aboriginal community in North Queensland. The project was to plan, build and project manage community gardens and waste mitigation strategies in one holistic approach to community health, employment, harmony and education. I was invited by the project coordinator and (then) Mayor of Yarrabah to participate. Participatory practices enabled me to explore the relevance and prominence of the principles inherent within the project in its first year of planning.

The *Real Food Network* has the potential to promote important change in the way we produce, supply, purchase and use, locally grown food. It is a social enterprise established by Chris Gloor in 2009 and, like the garden at Yarrabah, is ongoing at the time of writing. An alternative, local, food distribution system was developed to build community capacity within a

school community of Cairns. The case study found the principles present in the social change that was inspired by the enterprise. This project used the Most Significant Change technique, a participatory monitoring and evaluation method, to gather the thoughts and feelings of the ‘households’ purchasing their fruit and vegies through the scheme.

Finally, embedding the principles explicitly into practice was the focus of the fourth case study. Under the auspices of a sustainable region initiative by local business leaders, I was invited to join a working group to model our regional economic sectors with a view to identifying intervention points for research and investment towards developing transition pathways and a post-carbon ‘green’ economy.

DEFINITIONS OF IMPORTANCE

Before we close this introductory chapter, it is useful to reflect on the meanings of some key terms. When we talk about *community development* we can think about it in terms of an *intervention* with the intention of enabling people living in the community to take greater control over the conditions that affect their lives. Its purpose is to help groups and networks of people take joint action for the public good. Individuals have a stronger voice and influence decision-making. Projects can knit society together at the grass roots, deepen democracy and empower local people to take action on matters that concern them.

By ‘systemic intervention’ we mean to create a purposeful change that is valued by the people affected by that change. It is systemic in that it considers and treats phenomena as systems that interact in multiple and complex ways. Systemic interventionists are encouraged to be mindful of the possibility of unpredictable outcomes and adopt reflective practices to review and modify plans that minimize harms and maximize positive effects. The people working in systemic intervention may or may not use this language to describe themselves, but they are often practitioners, managers, researchers, teachers or facilitators of wanted change. Their disciplinary training may be in business, social work, education or health or any other profession that brings people together to negotiate social change. There is no limit to the backgrounds and educational levels of people who are, in practice, systemic interventionists, or the scale and dollar value of the project or whether it is in private or government hands. Systemic intervention values consultation and participation and I propose can be strengthened with the application of the FST principles to be further mindful the wide range of stakeholders affected by their work.

The definition of community development varies according to the needs and values of particular communities or ethnically divergent groups (Burchill et al., 2006). However we can see that community development is enacted through various domains, or ‘manifestations of development’

that encompass the broad material, social and spiritual dimensions of the human experience including, freedom and autonomy, infrastructure growth, economic opportunity, living with the natural environment, gender relations, culture and so on (Tsey, 2011). Another way to categorize community development domains is through the UN's Human Development framework which includes access to economic opportunity, education, gender equality and empowerment, ecological and economic sustainability and human security against chronic threats such as hunger (UNDP, 2011). These case studies belong to several, overlapping domains. Health education, food security, employment and training opportunity, ecological sustainability, culture, and community cohesion are all represented.

As a systems thinker I suggest that community development is easily understood from a holistic and integrated perspective that changes with new knowledge and accumulated experience and practice (Tsey, 2011). Community development is also now believed to be most effective when working at the level of local groups and organizations (Community Development Foundation, 2011). Following closely on this concept is the notion of 'sustainable'. The World Commission on Environment and Development's (WCED) *Our Common Future* (1989) defined sustainable development as "the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs"⁴ (Plumwood, 2003).

The next important set of definitions concern meanings around the term 'nature'. Central to positivism is the effort to gain an objective understanding of phenomena. In so doing, a clear separation is often made between 'nature' and humans (often 'man'). Humans are viewed as agents of change in nature. Under this assumption, impacts are assessed, problems are articulated, and systems are managed in terms of a rarefaction between the biophysical and socio-economic. The term 'environment' in systems thinking refers to "that which is outside the boundary of a system . . . and which is able to impact on the dynamics/operation of the system" (Luckett 2004, p. 511). Humankind is a part of the environment. Humans are a part of nature, therefore, I use the terms 'environment' and 'nature' synonymously. Nature is said to encompass both the human and the nonhuman worlds to avoid the juxtaposition of 'human vs. nature,' which misleadingly suggests that humans are not part of nature. In fact, there are a number of examples which indicate that many systems will begin to degrade (become unsustainable) if the human component is uncoupled from the natural (Fairhead and Leach, 1996; Russell and Ison, 1993).

Before we conclude this introductory discussion, a brief overview of the book is provided. Part A contains the theoretical grounding of the feminist-systems thinking framework. A brief history of feminism, its schools of thought and influential thinkers are provided as background to cultural ecofeminism. A brief history of the development of systems thinking is also provided, to explain the development of critical systems thinking and its

key authors. This chapter sets the reader up to understand the purpose of Chapters 3 and 4.

Chapter 3 is the findings of a comparative analysis of both cultural ecofeminism and critical systems thinking. Both of these theories have been systematically compared and the results described in this chapter. Four core categories emerged from this process; systems thinking, positivism, ethics and morality, and praxis. For each category and sub-category, the commonalities and differences between cultural ecofeminism and systems thinking are demonstrated with the use of key author's identified as influential in the development of either body of knowledge. The chapter leads the reader into a discussion of the emergent FST principles.

Chapter 4 broadens the literature base to provide an in-depth exploration of the meanings and implications of each of the FST principles derived from the comparison in Chapter 3. This chapter draws on interdisciplinary literature to develop a deep understanding of the principles' meaning and implications for practice across a range of fields including: social work, health, education, business management, project management, community development and research.

Part B commences with Chapter 5, the first of four case studies, *The Carrot on a Stick Early Health Intervention Program*. The *Carrot on a Stick* was used to analyse the value of the FST principles as a retrospective evaluation tool in the community development domain of public health. A systemic intervention methodological framework was applied with participant interviews and observational analysis to explore the value of the health program to the community. The FST principles feature strongly and were found to be an effective framework to for evaluation.

The second case-study is based at a site owned by community leader Mr. Percy Neal. The *Yarrabah Kinship Garden* community garden project provided a fertile example of community development in an Australian Indigenous community setting. The *Yarrabah Kinship Gardens* provide the community at Yarrabah fresh food, a living seed bank and community education resource. It was established in 2009/10 and the author's involvement with the garden in its foundation years was the lens for exploring the implications of the value of the FST principles community development, and Indigenous health policy and planning.

The Real Food Network (Chapter 7) is a social enterprise to supply locally grown produce to householders. This case study provides the opportunity to explore the power of a volunteer-driven community enterprise to drive social change. The Most Significant Change evaluation technique was used to evaluate the scheme as a participatory research method within a systemic intervention framework. The principles provided a valuable framework to interpret the changes being observed. The strength of the principles throughout the project also indicated a sound community development project.

Chapter 8 provides a contrasting case study to Chapters 5–7. This case study looks at the value of the FST principles in the context of systemic intervention practice at a broad scale. The case study worked with a project designed to undertake a meta-analysis of a region's economy. The strength of each principle was analysed against the objectives of the project to achieve an economic and social change.

Our concluding chapter answers two key questions: How can feminism inform systemic intervention and critical systems thinking? And what is the value of systems thinking to ecofeminism? In addressing each of these questions the major findings of the book are discussed. Concepts such as process philosophy, systemic intervention methodology, transcending the subject-object dualism and the FST principles themselves, contribute to the development of critical systems thinking and a gender and environmentally sensitive practice.

The voices calling for us to place our trust in a new breed of science, one that allows for intuitive ways of thinking, and unconventional modes of data, continue to grow louder (Brydon-Miller et al., 2004; Flood, 1995; Midgley, 2000; Plumwood, 2002; Ravetz, 2006; Reason, 1988). This book is a continuation of that effort that will guide practitioners towards a more inclusive practice.

Taking from environmental lawyer Polly Higgins (2010), I see examples of wide-scale 'ecocide' across the planet, depleting our natural capital, polluting our waterways, contaminating our environment, food and water supplies, to such an extent that "conflict and war over the remaining few spoils is inevitable. It is a certain and rapid escalation into anarchy, death and destruction of epic proportions" (pp. xi–xiii). She describes our predicament as an unstoppable train of destruction:

Applying the brakes gently is not going to work; it is a juggernaut that has acquired such powerful momentum that it is careering out of control. To stop it takes bravery, from those on the outside pulling up the railway track, and those on the inside pulling the emergency cord. If both are done skillfully and quickly, very few will be hurt and the train will come safely to a sudden halt. (Higgins, 2010)

I believe we can bring the train to a halt. A significant assistance in this will be a mature discussion about ecofeminism and its relevance to community development, project management and policy settings for the world we wish to live in, today.

2 Ecofeminism and Systems Theory

This chapter introduces us to epistemology, otherwise known as theory or ‘bodies of knowledge’. In particular, we will review the contribution of feminism in the twentieth century and the various schools of thoughts that this broad canon of immense scholarly achievement contains. Similarly, the development of systems thinking has its own fascinating pathway, that brings us to a point in time where we can consider the next ‘wave’ of critical systems thinking—of which I hope this book makes a useful contribution.

FEMINISM AND THE PATHWAY TO CULTURAL ECOFEMINISM

Feminism refers to a political, cultural, and economic movement aimed at establishing greater gender equality. According to the Beijing Platform of Action (1995)¹ gender is described as the characteristics of women and men that are socially determined, as opposed to ‘sex’ which is biologically determined. The term gender refers to the economic, social, political and cultural attributes and opportunities associated with being male or female. In most societies, men and women differ in the activities they undertake. In access and control of resources, and in participation in decision-making, women as a group, have less access than men to resources, opportunities and decision making (Judd, Armstrong, and Kulkarni 2009).

In Western countries, Feminism’s influence extends well beyond legal and political reforms to challenging traditional perspectives throughout cultures and societies on issues including sex, gender, reproduction, sexuality, violence, class, race, the workforce, education, psychoanalysis, religion, globalization, economy, peace and militarism, environment and animal welfare. Feminism is commonly divided into three waves. The first wave focused on female enfranchisement, emerging in the nineteenth and early twentieth centuries. The women’s suffrage movement was mooted as early as 1865, and led, in Britain by Emmeline Pankhurst, Elizabeth Cady Stanton in the United States, Jessie Street and Vida Goldstein in Australia, and Kate Sheppard in New Zealand, which was the first country to grant women the right to vote in 1893 (Crawford 2001).

Environment and Development 1987. *Our common future*, Oxford, Oxford University Press.

NOTES TO CHAPTER 2

1. 4th World Conference on Women hosted in Beijing for the United Nations.
2. Which can in fact be traced back to the work of Kurt Lewin in the 1940s.
3. Habermas's theory of cognitive interests, founded in modernity, the concept of technical, practical, and emancipatory interests (Maru and Woodford 2000, p. 65).
4. Not to be confused with other uses of the term 'process philosophy' by Bergson (1911), Capek (1971), Gare (1996), Leclerc (1972), Mathews (1991), Pols (1967).
5. Although, of course, as we have seen, he is not the first to use the term 'boundary' building on the work of thinkers including Churchman (1979a, 1979b, 1971) and Ulrich (1988).

NOTES TO CHAPTER 3

1. Not to be confused with other uses of the term 'process philosophy' by Bergson (1911), Capek (1971), Gare (1996), Leclerc (1972), Mathews (1991), Pols (1967).
2. Earlier notions of positivism may be traced back as far as Galileo, who stated that "whatever cannot be measured and quantified is not scientific" (Capra 1989, p. 133).

NOTES TO CHAPTER 4

1. This contrasts with the notion of environmental 'externality', the product of economic and social human activity that produces often unintended and unforeseen consequences to the local environment.

NOTES TO CHAPTER 5

1. Year 1 is the entry level into Australian primary school education. Children are aged, or will turn, six in their first year of schooling.

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Index

A

action research. *See* participatory

B

boundary, 17, 20, 23, 24, 32, 49, 52, 53
analysis, 9, 8, 23–24, 32–34, 37, 39,
79, 91, 92, 96
critique, 20, 32–34, 54, 123–124,
127
judgments, 24, 32–34, 37, 124
first order, 24, 32–34, 38
second order, 24, 32–34, 38

C

Carrot on a Stick, 10, 13, 61–80, 81,
113, 121, 122, 125, 126, 128
Causal Loop Modeling, 116, 118, 125
Close the Gap policy, 81, 82, 91–92,
96, 123, 127
coercion, 8, 20. *See* power
community
development, 8, 10, 11–12, 14, 28,
63, 80, 81, 87, 95, 114, 117
workers, 4, 128
operational research, 10, 25, 55–56
constructionism, constructionist, con-
structivism, 6, 7, 9, 17, 19, 20,
23, 33–34, 46
content philosophy, 34, 53–54, 124

D

democracy, 11, 50
discontinuity thesis, 34
dualism, 7, 14, 17, 18, 34, 35, 37–38,
48, 51, 52, 123

E

ecocide, 14, 125
economy, 11, 14, 15, 33, 47, 89, 90, 95,
99, 100, 109–110, 114, 115–121
emancipation, 4, 20, 21, 28, 34, 167

environment, environmental. *See*
nature

epistemology, 5, 15, 17, 121

essentialism, 6, 7, 52, 55

ethics, 6, 7, 13, 19, 25, 32, 37–38, 51,
54, 71, 79, 128

exclusion, 8, 19, 25, 57, 58, 79

F

feminism, feminist/s: 3, 5, 6, 7, 8,
15–18, 22, 32, 34, 35, 36, 37,
41, 42, 47, 50, 53, 54, 57, 87,
122, 125, 126, 128
Black, 16–18, 21, 128
cultural eco-, 5, 7, 8, 12, 13, 18, 28,
31, 34, 35, 38, 39, 40, 43, 51,
53, 124
eco-, 6, 7, 14, 17, 18, 28, 32, 39, 40,
41, 52, 123
lesbian, 16–17
liberal, 16
marxist, 16
nature eco-, 6–7, 29, 52
post-structural, 16–17
psychoanalysis, 16–17
radical, 16, 19
feminist-systems thinking (FST) prin-
ciples, 5, 8, 9, 11, 13, 36, 43–58,
61, 63, 65–80, 81, 87–96,
97, 105–114, 115, 117–121,
122–129
functionalist, 18, 22

G

gender, 4, 5, 6, 8, 12, 14, 17, 18, 32,
34, 38, 43–47, 57, 67–69, 78,
87, 95, 111, 118, 120, 121, 122,
123, 127
Greening the Economy, 9, 10, 14,
114–121, 115–121, 122, 123,
124, 125, 126, 127

H

hard systems, 18, 32

holism

holistic, 8, 10, 12, 17, 31, 52, 71, 79, 88, 92, 96

I

idealism, 33

ideology, 8, 16, 22, 47, 122, 125

inclusive, 14, 18, 19, 70, 96, 120, 126

indistinguishability, 52–53

instrumentalism, 34, 50

instrumental thesis, 35

intersectionality, 18

K

knowledge generating system, 22, 24, 32–33, 39, 58

L

Leverage Point Analysis, 116

M

mechanism, mechanistic, 19, 34

messy problems, 9, 57

methodology

method, 8, 53–54, 90–92, 109–111, 113, 127

mixing methods, 116

Most Significant Change method, 11, 13, 100, 109, 112

modernity, 3, 35, 71

morality, 13, 19, 37, 41, 57

N

natural resource management, 56

nature, 6, 7, 8, 12, 18, 19, 28, 31, 37, 39–40, 41, 43, 49–50, 51–53, 55–57, 70, 71, 72, 85, 88, 106, 107–109, 112, 123, 128

O

objective, objectivity, 5, 12, 19, 34, 38, 47

patriarchal, patriarchy, 6, 8, 17, 21, 37, 47, 87

participatory

action research, 3, 5, 9, 10, 11, 20, 26, 45, 55, 90, 115, 116, 123, 124–125, 127

methods, 9, 19, 55

monitoring and evaluation method, 11

pluralism, 20–22, 24, 26, 41, 43, 53, 73–75, 78–79, 96

critical, 22

critical systems practice, 22

discordant, 22, 54

diversity management, 22

pragmatic, 22

practitioner, 8, 14, 21, 25, 26, 38, 39, 45, 52, 54, 64, 78, 79, 88, 95, 106, 122, 126, 128

praxis, 13, 25, 28, 38, 57, 125

process philosophy, 14, 22, 32–34, 51, 53, 123–125

project managers, 4, 11, 47, 109, 112, 123, 125, 126

politics, political, 5, 8, 10, 15, 17, 18, 19, 20, 25, 38, 39–40, 47, 49–51, 56, 67, 71, 72, 109, 110, 112, 116, 118, 121, 122, 124–125, 127

positivism, positivist, 12, 13, 18, 26, 34–35, 38, 43, 48, 90, 123

post-, 53

post-modern(ism), 18, 22, 28

post-structuralism, 17

power, 4, 8, 9, 20, 22, 24, 33, 37, 41, 45, 47, 49, 68, 72, 106, 113, 125

R

rationalism, rationalist, rationality, rational, 3, 25, 34, 35, 38, 39, 47–48, 50–53, 71, 111, 123

Real Food Network, 9, 10, 13, 96–114, 117, 118, 121, 122, 128

realist, realism, 6, 20, 125

reductionist, reductionism, 3, 19, 32, 41, 47

reflective practice, 17, 24, 57, 79, 122, 126, 128

S

social

enterprise, 10–11, 88, 99–100, 106, 107, 109, 111, 118

workers, 4, 40, 70, 78, 125, 128

Soft System Methodology (SSM), 23

soft systems, 8, 19–20, 56, 112

standpoint, 17, 37–38, 41, 57, 73

subject-object. *See* dualism

subjectivity, 3, 16, 17, 19, 48, 51, 56

- sustainable, sustainability, 3, 11, 12, 25, 41, 51, 55–57, 75–76, 78, 85, 89–90, 95, 100, 111–112, 113, 115, 118, 119, 127
 - System of Systems Methodologies (SOSM), 21
 - systems thinking, thinkers: 4, 5, 7–8, 14, 15, 17, 18–27, 31, 54, 126
 - autopoiesis, 8
 - critical, 5, 6, 7–8, 13, 14, 15, 20, 21, 24, 28, 32, 34, 35, 41, 43, 53, 57, 123, 124, 128
 - critical systems heuristics, 20
 - complexity theory, 9
 - cybernetics, 8, 19, 22, 23
 - feminist, FST (*see* feminist-systems thinking)
 - general, 5, 20
 - problem structuring methods, 8
 - systems dynamics, 8
 - systemic
 - intervention, 8, 10, 11, 14, 21, 23, 24, 32, 36, 39, 41, 42, 44, 45, 47, 54, 56, 75, 80, 81, 91, 92, 96, 106, 112, 116, 117, 126, 127
 - thinking, 4, 19, 20, 26
- T**
- teachers, 4, 11, 14, 70, 128
- V**
- value-free science, 5, 25, 27, 47, 60
- Y**
- Yarrabah Kinship Garden, 9, 10, 13, 80–96, 113, 123, 124, 126–127, 128