Ecological Knowledge in Community Theater

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Abstract: In his article "Ecological Knowledge in Community Theater" Paul Brown presents a practitioner's perspective on plays which celebrate and enhance community resilience while addressing complex environmental problems. Community plays can highlight environmental injustices and assist communities to find a voice. The article explores these functions by examining how nature moves center-stage in community plays, and the role of community arts, alongside scientific research, in developing and communicating shared understanding of environmental problems and their solutions. In his study Brown compares knowledge-making processes for science and community theater and explores the values expressed in eco-theater and the processes of producing and recording valuable ecological knowledge through community-based creative arts.

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Paul Brown

Ecological Knowledge in Community Theater

In the study at hand I explore relations between environment and society through examples of the arts, especially community theater, and consider the following themes: the arts, science and the idea of nature; science and environment as themes in artworks, especially plays; relations between arts practice and scientific method; and the making of new knowledge via community arts. Some of the ideas originate in observations about the value of creative arts for environmental policy and management in Australia and in this regard I extend some of my previous work. I argue that there is a relationship between public participation in environmental decision-making and some forms of creative arts and that practices common in community theater and documentary theater invite consideration of the arts as capacity building and knowledge production related to environmental management.

   Scholars engaging in ecocriticism have deployed a wide range of approaches in analyzing literature from an ecological perspective and feminist, Marxist, psychoanalytic, literary studies, film studies, philosophical, biological, historicist and post-structuralist approaches, among others, have been deployed in order to explore the meanings and implications of (most commonly) literary texts (see Estok; Marland). In the Australian context, it could be argued that the field has been largely concerned with authors' first hand experience of place and landscape or with commentary on literary works which convey this personalized experience. For example, Libby Robin suggests that Australian traditions of ecocriticism have had a stronger focus on personalized local experience, and a stronger presence via popular literature than in some other countries' experience (292-93). I propose to frame this inquiry as policy studies and consider utilitarian dimensions of the arts including their role in tackling environmental crisis and their tactical use in environmental policy and decision-making. Further, because community theater announces itself as a participatory and process-driven form of making art, much of what I bring forward is a critical analysis not of written text, but of the characteristics of community engagement and the inclusive processes of devising collaborative work. With these caveats, I note the underlying aims of my study, which are twofold. First, I acknowledge and call for celebration of the rising interest in environmental themes within the wider arts sector (inclusive of but wider than literature). For example, in 2013 EcoArts Australis
<http://www.ecoartsaustralis.org.au/events-and-projects/past-events/conference/> held its first conference on the following topics: the place of the arts in working towards environmental sustainability; the arts in natural resources management to foster community resilience and communicate the message; the arts in environmental education; the arts in communicating about the environment; creating empathy for the environment through the arts; integrating the arts into environmental sustainability; the arts in fostering the eco-city; the arts in environmental activism (see Curtis and Aguilar 3-8).

   My second aim, which places my study within a policy framework, is to show how the initiatives listed above relate directly to the deficit of workable approaches to environmental protection, and the search for innovative techniques of grappling with environmental problems, widely regarded as *wicked* problems in light of their intractability, their complexity, and the scientific uncertainty that attends them. In the face of climate change, waste challenges, nuclear threats and pollution of water, land and air, it is clear that knowing what to do about environmental crisis remains the most important human challenge. I argue that the creative arts have a role to play in the realm of policy and decision-making. The focus on knowledge-making, which the reader will encounter below, arises from the modern day preoccupation within policy circles on the question of what passes for credible and useful knowledge. It is a question made increasingly relevant as science is challenged, or ignored, or even pilloried, for its delivery of highly "inconvenient truth." However, before proceeding, I note some historical developments: after World War II, "two cultures" understanding dominated the relationship between the arts (humanities and creative arts) and the sciences (see Snow). There are many reasons for the separation: one is the modernist institutionalization of science and technology, which had made distinct the different practical approaches of the sciences and the arts. Another is the post-enlightenment determination, now waning as mentioned above, to privilege scientific knowledge protected by the fortress that is scientific method and the claim that science delivers universal truth (see Oldroyd 175).

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Late twentieth-century developments counteract the tendency to keep the arts and the sciences separate. One driver of this is a retrieval of nature as central to exploration of human history and human values and this is helping to lift the "blindspot" in the arts and social sciences towards matters ecological (see Hannigan 8). Indeed performance studies scholar Gay McAuley has enunciated a "placial turn" in the humanities to describe the renewed centrality of a concern for "place" across many disciplines (15-24). In a special issue of the journal *About Performance* entitled *Local Acts: Site Based Performance Practice*, McAuley details the relationship between the performing arts, science, and environment as they play out in contested sites (7-12). More generally, we can identify developments in art with science content, driven by environmental crisis, while in environmental education, in private and public sector decision-making, and in the work of NGOs, it is increasingly common to see the deployment of arts and humanities disciplines alongside scientific research. One purpose of this is to create hybrid knowledge and trans-disciplinary understandings around environmental themes (see Brown, "Knowledge"). Some analysts critique the limitation of scientific method and the futility of attempts to find environmental solutions based on science. For example, Bronislaw Szerszynski emphasizes the hopelessness of science at the most fundamental level, its language. He argues the need for new language in order to answer the environmentalist question of "What then must we do?" The creative arts are implicated in the integrated approach to problem solving including work at the level of creating new language for environmental debate. In practice, we have seen an increase in arts-science collaborations. Recent activity includes artists using "high tech" science to better their craft, developments in funding and policy through arts-science Interface programs, and arts and science networks fostering innovative collaborations across many art forms and fields of science.

What does all this have to do with environmental theater and ecocriticism? The examples which follow in this article are all arts and science interactions concerned with environmental crisis. They are all plays with which I have had some personal involvement as writer and in one case as producer. From this practitioner stand point, I argue that the examples show that environmental crisis is instrumental in driving the arts and the sciences ever closer and, moreover, that there are significant methodological overlaps between the two arenas. Recognizing this will be useful as society searches for new understanding of the human-nature relationship and as we pursue the ecological knowledge and the ecological language we need to solve environmental problems. In an increasing number of community-based creative practices including the making of community plays, the bleakness of environmental crisis drives the desire to expose intractable legacies and injustice while celebrating expressions of hope and positive actions. I summarized with Xanthe Crittenden developments in Australian eco-theater finding that a large number of theater companies, many working in traditions of community theater, have tackled environmental issues including the topics of waste, toxic pollution, nuclear contamination, climate change, water pollution, soil degradation, and linkages between indigenous and environmental issues. At the same time, environmental protest groups have made liberal use of theater as a tool of public communication. Styles have ranged from experiential event-style outdoor performances to agit-prop, from verbatim and other documentary approaches, to music theater and vaudeville. My first example is as follows:

One of the most influential Australian community theatre projects of the last thirty years remains the *Seagrass* Project run over three years (1988-1990) by the Hastings community, located on Westernport Bay some 70 km south-east of Melbourne. Concerned about the march of heavy industry, tourism and urban development, with their attendant problems of pollution, activists used community theatre to raise local awareness and galvanize action amongst residents and their political leadership. Annual workshops involved students, scientists, artists, conservationists, business people, politicians and professional community theatre workers. Practical solutions and political decisions flowed from the debates about how to present the issues theatrically. (Brown and Crittenden 104)

What remains interesting about this example is the linkage between community development, performance, and decision-making. I explore these dimensions below using three examples: community plays related to water management, energy options, and the experience of nuclear legacies. They indicate both the values expressed in community plays and the processes of producing, recording and deploying valuable ecological knowledge through creative arts. The first example is the 2004 play *Room 207 Nikola Tesla* directed by Patrick Nolan. This play was first produced in 2003 by a team of independent theater workers and scientists, with seasons in Sydney and Canberra. In the history of

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science and technology, Nikola Tesla is credited as one of the key inventors of alternating current and is regarded as the antagonist of Thomas Edison who as the nineteenth century closed championed direct current technologies. The so-called "current wars" in the USA played out in spectacular fashion, with Edison's grisly execution of an elephant in Times Square (meant to demonstrate the disastrous consequences of a shift to alternating current) as the low point. Tesla was also a showman. His New York demonstrations of his famous Tesla Coil and other inventions were tantamount to magic shows and his attempts to construct large scale wireless transmission systems and to harness the earth's natural supply of electricity brought him both fame and ridicule.

Room 207 Nikola Tesla recreates several of Tesla's famous experiments for the stage in using magic, music, acting, film, performance art, and re-voicing of Tesla's dream-like public statements. It also represents episodes in Tesla's psychological development including his obsession with cleanliness and preference for living only in hotel rooms where the digits in the room number added to nine, thus the play's title. Although the play focuses on Tesla's inventions and his stormy personal life, it more broadly explores today's energy choices in the context of revelations about invention and discovery, technical systems, and war. Built from oral history and historical research, the play makes new knowledge through the discovery of amateur and professional inventors, brought to the stage through verbatim speeches. For example, the play features the contemporary ideas of a young Australian inventor, Nicole Sharpe, who had won an international competition with her design of household switching systems that would conserve massive amounts of energy for the purpose of reducing reliance on fossil fuels. Nicole is portrayed as the contemporary (and appropriately named) inheritor of Tesla's passion and capability for the invention of new energy systems. The play makes art by performing science, just as it sets about explaining science by performing art. The project shows that scientists and creative artists together can provide fresh metaphors and new language to explore narratives, characters and themes. We can also say that *Room 207 Nikola Tesla* enhances the public understanding of science through portrayal on stage of experiments and by exploring through story the cultural embeddedness and social history of particular technologies. Importantly, *Room 207 Nikola Tesla* explains how society's energy choices are far from fixed and are amenable to dramatic change at the level of whole systems. This aspect of the play was noted in the public response to its performances. For example, one reviewer noted, "What beautiful, riveting and terrifying magic Tesla's technology makes … A meditation on Tesla's ideas and a reminder that the technology we all take for granted has a complex, contested and fascinating history" (Dunne 1*).* The play depicts the life of one man but also the history of our taken-for-granted electrical systems. It presents an entire century, as well as the story of electrical power and energy use, in fact a tale and a commentary on the whole modernist way of life and on today's attempts to reform energy systems to make them sustainable.

My second example is the 2006 play *Half a Life* directed by Wesley Enoch. The play explores the impacts on both environment and people of Cold War British nuclear testing at Maralinga in the desert region of South Australia. Performed at Leeds in the United Kingdom and at Ettalong near Sydney, the play was devised though a community development process that matched creative artists and researchers with nuclear veterans and their families. The initial purpose was to create taped oral history interviews on the experience and aftermath of atomic bomb tests. With its focus on long-range impacts of nuclear radiation, the play uses verbatim techniques to record the stages of a scientific experiment playing out in the changed lives of veterans and their families. British and Australian scientists had conducted bomb testing at Maralinga between 1956 and 1967 including nine major explosions and hundreds of minor trials. As one response, the 2002 Adelaide Festival of Arts opened up many possibilities for linkages between science and the arts: *Half a Life* was a collaboration arising from that festival, one of ten projects concerning Maralinga first planned as part of the Festival (these included visual arts and theater projects involving both Aboriginal and non-Aboriginal people affected by the tests). The historical timeline of *Half a Life* covers not just the tests, but also the fifty-year aftermath letting the story live beyond the life span of veterans. It advances public awareness about the circumstances of the 8,000 Australian and 22,000 British servicemen and their families who in several ways remain unrecognized. *Half a Life* concerns the impacts of the tests left on the servicemen, their families and the Australian landscape (see Brown, "British" 39-40). The September 2006 performance season at the Ettalong War Memorial Club on the New South Wales Central Coast, was a workshop presentation that coincided with campaigning by nuclear veterans for recognition in the form of auto-

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matically available health benefits for servicemen and their families who have a history of service at a nuclear test site. After three weeks of script development, the play was presented "poor theater" style and across a week of performances, it played to the local community of war veterans, members of the theater community, and the general public. Importantly, press coverage and attention from politicians made the performances influential in the campaign for health benefits, and in effect the story and the understanding of nuclear veterans was communicated to decision makers via the play.

One interesting dimension of *Half a Life* is its implication for thinking about the future of nuclear materials in the biosphere and the challenges faced by all of society as humans grapple with their genetic modification caused by radiation exposure. Scientific evidence for this is expanding (see, e.g., Rowland, Podd, Wahab, Nickless, Parmentier, M'Kacher), but as an exploration of psychological impacts and shifting values, *Half a Life* serves also to promote hybrid knowledge (science, lay knowledge, Indigenous knowledge) about legacies which will endure for tens of thousands of years, that is, the order of magnitude for radioactive half lives. On such a timescale, current regimes for managing nuclear materials, indeed whole civilizations, will have transformed.

Plays such as *Half a Life* echo other examples of the production of hybrid knowledge about nuclear legacies. In the US-American experience, these include Indigenous bio-science, collaboration between nuclear veterans and nuclear scientists in co-evolving storyteller roles, and a range of arts activities such as museum exhibits, visual arts, and performance. For example, as described by anthropologist Joseph Masco, there is a program of government sponsored "official science fiction," or what could be termed "regulatory fiction" by which scientists and fiction writers model and assess prospects for long-range futures colonized by nuclear legacies (197-99). This work responds to "an unparalleled material and conceptual problem requiring policy makers to expand their concepts of time and risk exponentially, and imagine the social and environmental impacts of nuclear technologies into a distant future" (Masco 198). As scientists concern themselves with dismantling weapons and managing rather than producing nuclear materials, they have worked with creative artists to explore possible practical problems and implications of radioactive waste storage, with a view to formulating a viable and very long range safety plan.

My third example is the 1988 play *Murray River Story* directed by Louise Permazel and Neil Greenaway. *Murray River Story* was presented as an event-style performance on the banks of the Murray River at Albury in 1988, the year of the Australian Bicentennial. Like the previous two examples, the play was devised after a long period of research with a community, with an iterative writing and rehearsal process. The project involved more than two hundred participants from many walks of life: "Apart from professional theater workers, there were scientists, anglers, farmers, conservation group members, tourism operators, journalists, bird observers, industrialists, students, drug rehabilitation inmates, bureaucrats and local politicians who all became involved. They were not only participants in the research phase, but also contributors to the performance, playing the parts of explorers, irrigators, flood refugees, 'recreationists,' gamblers, farmers, politicians, and 'ratbag desnaggers,' or providing river craft, construction materials, props, PA equipment, farm animals and labour" (Mills and Brown 43). As a script, *Murray River Story* conveys the effects of post World War II development along the river including the blocks of land set aside for soldier settlement, the extensive irrigation projects that dammed and channeled the river, the arrival of tourist industry, and the ongoing problems of salinity and erosion. It is also a love story and a tale of eco-terrorism, just as much as it conveys the history of the river from both Indigenous and European perspectives. The play is documentary theater about the ecology of inland waterways, and it records socially constructed knowledge about human-nature interactions on the Murray River. It introduces new (ecological) knowledge, which indicates where solutions to environmental problems might be found.

Murray River Story brought high profile political debates close to home and drew its audience into decision-making processes that were underway at Federal government level. At the time of the Bicentennial, the Australian Government wanted to foster better co-ordination of river management, and a new coordinating body, the Murray Darling Basin Commission had recently been established. As Brown and Crittenden note: "For the participants in *Murray River Story*, these political developments involving state and federal governments at first seemed out of reach. But the play provided a way to process the river management controversy, and for participants to critique the new Commission. For scientist and project participant Terry Hillman, the play also addressed the dual problems of how to cir-

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culate information within the community, then how to get 'the needs and desires out of the community into management areas'" (Brown and Crittenden 108). Participants such as scientist Terry Hillman quoted above were able to contribute to and also use the project to positively impact on their own research and the communication of that research within the Murray River communities. However, the significance of the play goes beyond its effectiveness as a communication tool. As a wide range of participants assembled and negotiated their diverse views through the processes of making a play, the project in some ways mimicked other decision-making processes that seek public engagement in environmental problem solving:

Community theatre becomes a representative exercise, delivering many of the objectives of other participatory processes in use for environmental decision-making. Such processes, which include committees, public submission and lobbying processes, inquiries, community review panels and consensus conferences, are often about causing government to make decisions. We cannot suggest that *Murray River Story* directly influenced government decisions about the river. However it did lend strength to organizations such as the local Environment Centre, the local Anglers Association, and the Murray Valley League (which represented farmers) and to scientists working at the Albury Freshwater Laboratory who were project participants and also involved in submission writing, lobbying and research about the river's ecosystem. (Brown and Crittenden 109)

Building from the three examples I present, we can explore the knowledge-making functions of community theater further, and consider how those processes parallel or in some ways equate with scientific knowledge production. An intermediate step in this synthesis of ideas is to explore the similarities between knowledge building in the creative arts and the making of scientific knowledge. Although methods in the two arenas are sometimes thought to be vastly different, the possibility of overlap or equivalence arises at least because in both areas of endeavor, knowledge about the world is built from observation and experimentation.

   Models of how science produces knowledge are relatively common in the field of history and philosophy of science. To deploy just one example from that field, David Oldroyd's 1986 book *The Arch of Knowledge*, provides a comprehensive text on the methodology of science. Oldroyd argues that understanding scientific method requires engagement (metaphorically) with the shape of the scientific discovery process. In a synthesis of ideas ranging from Plato's to those of contemporary historians and philosophers of science, Oldroyd maps an arch in which one leg is an upward movement from the information received by the senses, leading to general concepts and principles. This is the process of induction. He then plots a downward movement from these general concepts to predictions about the world, which can be tested experimentally. This is deduction (see Oldroyd 13).

   Is this what the creative arts do too? "To some extent" is the answer proposed here, at least in relation to community theater. In the stages of making and presenting a community play, we can find the following: observation (for example the experience of phenomena as revealed through storytelling and oral history), theory-making and induction (scenario development and script writing that evolves through the cycle of workshops, writing, and rehearsal, to create an agreed expression of community understanding), and deduction and problem solving (experimentation with all aspects of performance of the play, and then the performance as a statement of knowledge and solutions for consideration by all participants including audiences and application in the world beyond the theater). However, Oldroyd's synthesis is more complex than the basic "arch" introduced above. For example, in considering the ideas of historian of science Thomas S. Kuhn, Oldroyd also summarizes the way "paradigms" constrain, though also inspire scientists to engage in phases of "normal" science, which become essentially systematic "puzzle-solving" exercises that follow the high level establishment of whole world views underpinned by scientific disciplines and theories (see Oldroyd 321-26). Such models of how scientific knowledge proceeds remain contentious. For example, considering the cut and thrust of complex decision-making, a number of authors have argued that "regulatory science" is now the dominant process of knowledge construction – processes by which whole programs of scientific endeavor are determined through their relationship with government and industry decision-making, in circumstances where certainty is ellusive, even though knowledge is urgently required (see Funtowicz and Ravetz).

   It seems evident (see below) that in community theater, artists, like scientists, may systematize their observations and organize their knowledge-building processes using approaches which are "just as intentional, just as institutionalized, just as governed by set protocols as is the production of scien-

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tific knowledge … Typical procedures include steering groups, partnerships between organizations, workshops, training sessions, rehearsals, exhibitions, performances, with feedback and cross-checking mechanisms such as trial readings, discussions groups, web-based interaction, surveys, and media documentation" (Brown, "British" 45). In these ways, artists work upwards to general principles (induction), which are expressed as creative works. In fact it may be that induction come more easily for artists, who are less self-conscious about the "upward leaps" towards the apex of the arch. In presenting art works, artists then invite the public to test the creative ideas in their own life world, and this parallels the testing and making of everyday decisions based on scientific theories (deduction). Like science, the arts can be said to be testing out general statements of principle for the purpose of finding solutions.

Further research is needed to make a more detailed comparison between creative arts processes and contemporary science. In particular, there is considerable debate about the processes by which both scientists and artists step upwards (ascending the leg of an arch) from observations to theory, requiring acts of imagination in both arenas. It is also important to convey some of the ways in which the creative arts differ from the scientific enterprise. For example, in attempts to distinguish between science and pseudo-science, such as the well-known work by philosopher Karl Popper, the unique characteristics of scientific endeavor have been delineated and defended. One such characteristic is "falsification," the requirement to test a scientific theory by deliberate, systematic, and rigorous attempts to prove it false (see Oldroyd 300). In processes of community theater, it is not apparent, at least in the examples considered here, that participants and audiences make such attempts to falsify propositions. Another of the essential claims said to distinguish the scientific enterprise is that science produces "universal" knowledge, with theories and propositions that are true everywhere, independent of the context of time and place. While in some ways the construction of knowledge in community theater can follow the contours of universal knowledge-making, it is more confidently argued that creative endeavors are building "contextualized" knowledge that originates in localized understandings of place and people.

My principal proposition is that the arts have a role in establishing sites for (rational) knowledge production and that when knowledge is made it can assist in policy and decision making, especially in the resolution of so-called wicked problems arising from environmental and social crisis. Each of the three examples above shows how processes of making and presenting plays can contribute new knowledge. In *Half a Life*, the oral testimony of nuclear veterans is offered as lay knowledge about health impacts among atomic survivors, in circumstances where official knowledge (produced and held by governments) has been heavily manipulated or kept secret in adversarial legal processes around compensation cases. What the veterans and their families know about their own health impacts stands in contrast with the scientific knowledge selected by Australian and United Kingdom governments as they rigorously fend off those compensation claims. *Half a Life* therefore becomes a call for recognition and for informal justice through bringing to the stage the repressed voices of nuclear veterans. In this regard, it is no different from a great many verbatim and documentary plays. Typically such work is made by "people who care about injustice" and who use the knowledge created in the process of making theater to address the deficit of honesty in public life and the reduced capacity for truth-making in institutions (see Kent 152).

The knowledge production in *Room 207 Nikola Tesla* is a somewhat different exercise. Although the play also draws on contemporary oral history testimony and in particular on the lay knowledge possessed by schoolgirl inventor Sharpe, it retrieves knowledge about energy systems that is a century old for the purpose of shaking the tree. It provides audiences with understanding of energy choices that they may take for granted. In this case, the purpose is to inform their preferences as citizens who will help to determine the future of energy systems. An intermediate step is to demonstrate that technological systems are not beyond their control and that the history of the technology-society relationship demonstrates extensive social negotiation and conscious decision-making that lies within their grasp. Just as the twentieth century saw the displacement of many direct current systems with alternating current technologies, we can argue for the broad scale shift from fossil fuel technologies to renewable energy-saving systems, such as those advocated by Sharpe. The play brought scientists and performers together to construct this message and to communicate the knowledge of profound technological change. Some might call the show "trans-disciplinary," since it created new, hybrid, and

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shared knowledge through the relationship between cast, crew, and audience. In the case of *Room 207 Nikola Tesla*, this new knowledge is relevant to decisions about the kind of future we all might desire.

For *Murray River Story*, knowledge-building proceeded from the diversity of contributors who, despite their differences, held the common will to create a statement about ecological crisis. The theater project created a space for contesting attitudes and values, leading to the consensus that is represented by the play script and its performances:

The Murray River Performing Group initiated the project in response to community unrest about the degradation of the Murray River, first establishing a steering committee of local residents. The first meeting of that group advocated an event-style performance on the river itself, with content built from the testimony of people living and working along the Murray. By the time rehearsals began, a great deal of oral history material had been collected, within which emphasis was given to recording what people had seen and heard along the river. Actors workshopped potential scenes for the play under guidance from the director and a group of facilitators, with only raw research material as a starting point. The writer travelled a feedback loop between the workshops and a word processor then back to the workshops with scripted scenes that both reflected what the actors had devised and fed in new ideas from the research. This is how participants in the project developed their collective wisdom about the river and its problems. (Brown and Crittenden 106).

To regard theater as knowledge-making is by no means an accepted proposition. More accurately, it is a proposition often overlooked even by those who hold that there is value of the arts in addressing environmental problems. For example, David Curtis—arguably the keenest observer of eco-arts in Australia—omits explicit reference to knowledge production in his assessment of the purpose of Australian Eco-Arts. He notes the following functions: synthesizing complex (wicked) issues in accessible form; holding up negative aspects (of wicked problems) for appraisal; providing a voice for dissent; and achieving a mass audience to assist public campaigns (Curtis 491).

These educational and communication functions of the arts are perhaps most readily accepted for an old-fashioned reason: the privileging of scientific knowledge as society's way of knowing, as mentioned earlier. At the same time, the fine grain of creative processes, where knowledge-building takes place, remains largely invisible, certainly to audiences, but also sometimes to the artists engaged in those processes. In many play-building projects that concern environmental themes, the available scientific evidence is taken as pre-existing truth, to be communicated via theater, rather than as an element in social negotiation towards new knowledge. A parallel situation has been noted by sociologist Gavan McDonell in his analysis of trust in processes of decision-making. (On "trust" in education, see, e.g., Seyfried <http://dx.doi.org/10.7771/1481-4374.2515>). While scientific knowledge and information are visible and privileged, the subtle inter-personal processes of building and deploying trust are less obvious, though in McDonell's view, are more important to outcomes of social negotiation. There is another reason for introducing McDonell's ideas about trust: he argues that forms of provisional trust are extremely common (although taken for granted) in everyday life and that their existence provides an explanation for how adversaries can constructively engage in conflict and debate thereby providing the necessary starting point for knowledge-making. McDonell calls one of these forms of provisional trust "suspended doubt." This arises when people in conflict are prepared to converse and temporarily set aside their greatest differences in order to progress toward some common goal. This opens up a space for negotiation and if sufficient time is made available for conflict and dissent to play out and partially resolve, then new knowledge can be constructed.

In processes of community theater it is possible to identify the same suspension of doubt that McDonell describes. Community theater projects involve collaborative and deliberative processes, and these rely on the willingness of diverse participants to set aside their differences and to suspend their doubts about each other's world views and prior knowledge bases, for the purpose of creating an artwork. In the three examples above, the process of building knowledge under conditions of suspended doubt is perhaps most obvious in *Murray River Story,* as this play involved participants with widely divergent views (see Brown and Crittenden). The functioning of trust in theater and its relationship to knowledge production is easiest to discern in community theater rather than in other (mainstream) forms. Indeed, prominent British theater analyst Baz Kershaw has argued that mainstream theater is fundamentally incapable of contributing a net positive benefit to ecological problem solving, since elitist art forms serve mainly the interests of dominant social and technological systems: "Paradoxically,

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the ecology of Twentieth-Century theatre in the West … has reproduced the environmental pathologies that an ecologically aware theatre might most wish to avoid" (316). However, Kershaw is not writing about theater produced in community-based contexts or in the field of Community Arts and Cultural Development as it is known in Australia. In that field, the inclusive processes of devising collaborative work are conducive to genuinely alternative values and therefore to the production of new knowledge that is valuable ecologically (on community arts see, e.g., De bisschop, Rutten, Soetaert <http://dx.doi.org/10.7771/1481-4374.1750>).

In conclusion, first, it is obvious that the arts are not the arts unless they inspire audiences, please the senses, move the spirit and motivate, enrapture or even enrage the beholder. However, here I propose that the arts (especially arts created in collaborative community contexts) also possess knowledge-making functions which are related to the way we make meaning out of the world and to the need for problem solving in a world made complex and uncertain by modern day environmental risks. Second, drawing on previous work on community theater, it can be argued that "The arts announce themselves as a way of making meaning out of life, reflecting wants and needs, solving problems, and provoking critical debate about important social issues … the arts seem to be territory where a robust and shared understanding can grow, where ideas can syncretise in a 'safe' space, where the complexity of everyday thinking is explored, and where knowledge about life is announced and action is prescribed (Brown, "Maralinga" 220). Third, the examples in this article indicate a role for the creative arts in experimentation that is directly concerned with "knowing what to do" about environmental crisis. As environmental concern increases, the arts provide a space in which to explore the human-nature relationship and to produce new ecological knowledge. Fourth, I argue that the arena of community arts is related to participatory decision-making aiming to develop knowledge communities built on trust (or at least suspended doubt). Potentially this has bearing in policy arenas such as health, ecologically sustainable development, public housing and place, rural revitalization, community strengthening, active citizenship, social inclusion, and cultural diversity (see Mills and Brown). Fifth, community artists are expert in animating the local as a rebellious source of values and understanding in an otherwise globalized, seemingly homogenous world. These local streams of thought and action are rich in contextual knowledge. Overall, I argue that plays which are researched, written, and produced through processes of community arts and cultural development can celebrate and enhance community resilience while making and recording ecological knowledge needed to resolve complex problems. Community plays can also highlight environmental injustices and assist communities to find a voice. By utilizing the arts as an effective way to bring ecological change across all sectors of society, the impact of destructive practices can be better understood. As perceptions change, individuals and communities can change their view of the world in which they live, discover solutions, and adopt more sustainable practices.

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