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Surveys

Towards ecological sustainability: observations on the role of the arts

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Abstract *This paper describes how the arts shape environmental behaviour of individuals and society and is a synthesis arising from a program of previous publication. The literature suggests that the arts may have a role in shaping environmental behaviour but it is not clear how or in what circumstances this might occur. Hence we set out to describe ways in which the arts shape environmental behaviour at the individual level and, through the accumulated actions of individuals, at the societal level. Through this examination we aim to explain the role of the arts in moving society towards ecological sustainability. Our research drew on interviews with 96 key informants working in the arts and in the natural resource management sectors, combined with a mix of empirical, experimental and post hoc studies of eight community-based art and environment events. On the basis of this research, a model was developed to describe how the arts can shape environmental behaviour. Three pathways are proposed: communicating information in an engaging form; creating empathy towards the natural environment; and embedding the arts in ecologically sustainable development.*

KEYWORDS: Community-Based Natural Resource Management, Environmental Sociology, Art And Culture In Environmental Values, Society-Environment Interactions, Environmental Attitudes And Behaviour, Culture, Agricultural Extension, Australia, Art And Environment, Sociology Of The Arts, Environmental Art, Ecoart

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1. INTRODUCTION

Expanding human settlement, declining biodiversity and water supplies and climate change are resulting in increasing environmental deterioration throughout the world (Worldwatch Institute, 2012). Australia's record is far from exemplary, with one of the highest levels of per capita greenhouse gas emissions of any developed country, one of the largest ecological footprints, and among the highest rates of biodiversity decline and extinction (State of the Environment 2011 Committee, 2011). While Australians live in a country of outstanding natural beauty, environmental abundance and economic prosperity, present-day wealth is being bought at the expense of future environmental quality (Trewin, 2002).

Australian federal, state and local governments have acted to reverse environmental degradation through environmental protection legislation, improved environmental assessment and reporting, encouragement of public participation in environmental decision making, extension, community facilitation, financial incentives, education programs, and using non-government organizations as agents for change (Conacher & Conacher, 2000; Hajkowicz, 2009; HC Coombs Policy Forum, 2011). The community (often the driving force for change) responded during the 1980s and 1990s with the formation of community organizations such as Landcare, tree, corridor and bird groups (Campbell, 1994), protest and lobbying campaigns (Hutton, 1987; Papadakis, 1993) and new social movements (Muller-Rommel & Meyer, 2001) – activities that continue until the present day. Scientific research and pioneering champions have also been important catalysts of community and government response (Curtis *et al.*, 1995). Although the range of programs is impressive, spending on the environment remains a low priority nationally. Australia's environmental protection expenditure (including expenditure for pollution abatement and control, biodiversity and land-

scape activities and for water supply delivery to households and business), reaches only about 1.3% of GDP (OECD, 2007: 164). Despite this effort, the natural environment continues to worsen (State of the Environment 2011 Committee, 2011), leading Goldie *et al.* (2005) to conclude that Australians' use of the environment is unsustainable.

Environmental impact is the result of the accumulated behaviour of individuals (the amount consumed per person), the energy and material resources used in producing the items consumed, and the number of people consuming (Ehrlich & Holdren, 1971). We have framed this paper within the perspective of environmental behaviour, as a significant factor in driving societal environmental impact. According to the environmental sociology and social psychology literature, there are many factors that affect the environmental behaviour of individuals, and the ways these factors interact are complex. Models of consumer behaviour fall into two categories (Kollmus & Agyeman, 2002; Clark *et al.*, 2003; Jackson, 2005): 'internalist' and 'externalist'. Internalist perspectives carry the implicit assumption that people act as autonomous agents. They include a person's values, beliefs and attitudes, an awareness of the consequences of one's actions, and personal characteristics (such as gender, personal experiences, habits, class, family, peer group, tastes and preferences, self concept, genetic makeup and personality). Externalist perspectives consider people as being constrained or influenced by external forces beyond their control such as physical structures, institutional factors (*e.g.* incentives and regulations), situational constraints, the influence of elites and social norms.

There have been various attempts to integrate the theories of environmental behaviour. For example, in Triandis' Theory of Interpersonal Behaviour, behaviour in any given situation is a function of what a person intends, their habitual responses and situational constraints, social, normative and affective factors, as well as rational deliberations (Jackson, 2005). In Triandis' model, behaviours are neither fully deliberative nor fully automatic, neither fully autonomous nor fully social. Behaviours are influenced by moral beliefs, but the impact of these is moderated by emotional drives and cognitive limitations.

The environmental sociology and social psychology literature is largely silent on the role of the arts in affecting environmental behaviour. Nonetheless, literature on the effects of the arts on society dates back to Plato and Aristotle, and it has long been recognized that the arts can influence values, beliefs, attitudes, knowledge and the development of a civil society (Belfiore & Bennett, 2006) – the same factors that influence pro-environmental behaviour in citizens (Kollmus & Agyeman, 2002; Jackson, 2005). Arts practice aimed at bringing environmental issues to the public's attention is significant (*e.g.* Kent, 2010), and art sociologists are increasingly interested in the link between the arts and sustainability (Kagan & Kirchberg, 2008).

Notwithstanding this interest, it remains unclear just



how the arts could shape environmental behaviour, or in what circumstances this might occur. There is a need for further development of the themes that are common to the literatures of environmental sociology and the sociology of the arts. Furthermore, whilst it is commonly accepted that the arts influence society, hard evidence is difficult to obtain (Matarasso, 1997; Kay, 2000; Williams, 2000; Jermyn, 2001; Guetzkow, 2002; Mills & Brown, 2004; CMCSWG, 2005). This could be partly because many artists understate the effect of their work or find it difficult to articulate its influence (Curtis, 2012).

The paper summarizes and comments upon the findings of a decade-long investigation into the relationship between arts and environment, mostly in the Australian context. Its objectives are to: (1) review the literature of environmental sociology and sociology of art that addresses the factors that influence environmental behaviour and the roles of the arts in society; (2) integrate the results of our own investigations of the arts and environmental behaviour with that literature; and (3) synthesize our findings into a conceptual model that makes explicit the role of the arts in shaping environmental behaviour. This paper follows a series of other published papers that have studied particular aspects of how the arts shape environmental behaviour. It provides a synthesis of that work and provides an underlying model to conceptualize the arts and environmental behaviour.

2. FACTORS THAT INFLUENCE ENVIRONMENTAL BEHAVIOUR AND THE ROLES OF THE ARTS IN SOCIETY

2.1 VALUES, BELIEFS AND ATTITUDES

Values and beliefs are considered important in determining environmental behaviour, both in the social psychology literature (Jackson, 2005) and by environmental philosophers (e.g. Devall & Sessions, 1985; Leopold, 1987; Wilson, 1999). Altruistic, pro-social and biospheric value orientations are foundational to influencing behaviour in Stern's Value-Belief-Norm Model and Triandis' Theory of Interpersonal Behaviour, while few pro-environmental behaviours flow from self-interested value orientations (Jackson, 2005). One major strand in the social effects of the arts literature is moral improvement and, by implication, the formation of values (Belfiore & Bennett, 2006). Fien (2003) suggested that appreciating the aesthetic and intrinsic value of nature is important in people's willingness to conserve it. This appreciation can be encouraged by the arts (Eastburn & Milligan, 1998; Green, 2002). The community arts are particularly influential in developing pro-social behaviours and altruism (Hawkins, 1993).

Attitudes form the basis of environmental behavioural models such as the Theories of Reasoned Action and Planned Behaviour and Triandis' Theory of Interpersonal Behaviour (Jackson, 2005). One method of affecting attitudes is to create emotional indignation about an issue. The behavioural literature shows that if people act pro-environmentally, their

attitudes can change (Jackson, 2005). Restoration rituals and large community multi-arts events provide an avenue for pro-environmental action in non-threatening, socially reinforcing contexts that can normalize these behaviours and, ultimately, people's attitudes (Deflem, 1991; Meekison & Higgs, 1998; Szerzynski, 2002).

2.2 AWARENESS OF CONSEQUENCES

Awareness of consequences (or increasing knowledge) is an important factor in Schwartz's Norm Activation Theory and Stern's Value-Belief-Norm Model, which both explain why people adopt pro-environmental behaviour (Jackson, 2005). The idea that the arts have an educative function has a long pedigree (Belfiore & Bennett, 2006), and this educative function can include improving knowledge of the environmental consequences of one's actions. Interpretive sociologists suggest that ideas may ultimately influence how people behave and that symbols with shared meanings provide the basis of human communication (Weber, 1946; Alexander, 2003). The arts are a potent means of conveying ideas and hence influencing attitudes, and the use of symbols is central to the arts' role in communication and creating an awareness of consequences.

2.3 SELF-CONCEPT

According to interpretive social theory, people construct their self-concept through interactions with others (Alexander, 2003). Socially constructed meanings are adapted and transformed on a continual basis in the context of particular situations and self-identity is important in determining environmental behaviour according to the model of 'the Symbolic Project of the Self' (Jackson, 2005). One major strand in the literature concerning the social effects of art is the way people use it to construct self-identity (Bourdieu, 1984; Brubaker, 1985; Belfiore & Bennett, 2006). The pictures that people put on the wall, the music they listen to and the performances they watch all help construct self-identity. Where pro-environmental behaviour can be celebrated in large events such as festivals, the formation of pro-environmental self-identity is enhanced. Examples of this are performances and rituals held in conjunction with ecological restoration projects in North America (Meekison & Higgs, 1998).

The act of self-expression is important to people and is the main reason many people create art. For many artists, particularly community artists, it is the creative process that is important and not the finished product, for often the final creation is ephemeral (Hawkins, 1993). The process of being involved in creating art, and the research and reflection that are part of the creative process help one develop or consolidate ideas and knowledge about a topic (which could be considered as knowledge-making and solution-building functions of art). This process is not dissimilar to the process of identifying, defining and solving a problem that is part of many landscape restoration activities – the creative urge or sensibility is common to landcare, environmental restoration and the arts (Curtis, 2011b).

2.4 UNFREEZING HABITS

One of the barriers to adopting pro-environmental behaviour is people's existing habits (Jackson, 2005). Considerable social psychology literature is devoted to finding methods of 'unfreezing' certain habits, for example through resorting to persuasion (Seethaler, 2004). One way visual and performing arts may be useful in breaking habits is through the establishment of rituals that enable people to consolidate novel behaviours such as ecological restoration rituals (Meekison & Higgs, 1998). Another is through utilising the persuasive ability of the arts, something that is well recognized since the time of Aristotle (Alexander, 2003; Belfiore & Bennett, 2006). Some people use the arts as a means of resisting hegemonic messages from the dominant culture. This is evident in the ways that subcultures create meaning using the arts and fashion (Alexander, 2003). The arts are also used as tools of protest movements or as a means of articulating dissent (Doyle, 2001; Robertson, 2001; Branagan, 2003; EBC, 2005; Belfiore & Bennett, 2006; Kent, 2010). The visual and performing arts were an important element of the protest movement in the 1960s and 1970s, and provided a means of affirming beliefs and reaching a generation that was generally unresponsive to 'adult' forms of mass communication (Clark, 1997).

SOCIAL NORMS

MANY ENVIRONMENTAL ISSUES REQUIRE BROAD COMMUNITY INVOLVEMENT FOR SUBSTANTIAL GAINS TO BE MADE (GRISKEVICIUS *ET AL.*, 2008). A PRIMARY CONCERN OF AGENCIES INVOLVED IN NATURAL RESOURCE MANAGEMENT (NRM) IS TO BUILD HUMAN 'CAPACITY' (*I.E.* SKILLS AND KNOWLEDGE) IN MANAGING LANDSCAPES MORE SUSTAINABLY. OVER THE LAST THREE DECADES, COMMUNITY CAPACITY BUILDING, AND THROUGH IT CHANGING SOCIAL NORMS, HAS BEEN A MAJOR THRUST OF SUCH AGENCIES (MACADAM *ET AL.*, 2008). THERE IS EXTENSIVE LITERATURE ON THE ROLE OF THE COMMUNITY ARTS IN BUILDING COMMUNITY AND FOSTERING COOPERATION (HAWKINS, 1993; MATARASSO, 1997; KAY, 2000; WILLIAMS, 2000; JERMYN, 2001; SOMERS, 2002; GUETZKOW, 2002; ROGERS, 2003; CMCSWG, 2005) AND MANY SITUATIONS WHERE CITIZENS AND GROUPS HAVE PROMOTED NATURE CONSERVATION AND ENVIRONMENTAL PROTECTION THROUGH COMMUNITY ARTS PROJECTS (MILLS & BROWN, 2004). THE CELEBRATORY ASPECTS OF THE VISUAL AND PERFORMING ARTS HAVE THE EFFECT OF AFFIRMING PRO-ENVIRONMENTAL BEHAVIOUR BY SIGNALLING SOCIAL APPROVAL. THE ARTS ALSO INFLUENCE SOCIAL NORMS THROUGH PROVIDING ALTERNATIVE FORMS OF CONSUMERISM THAT ARE LOW IN EMBODIED ENERGY AND HIGH IN EMBODIED LABOUR (CORRIGAN, 1997; FORAN *ET AL.*, 2005).

2.6 PHYSICAL STRUCTURES

The arts influence physical structures when community and public art are incorporated into urban planning as a means of

changing physical structures in a city to make active transport modes more attractive (Newman, 2000; Guppy, 1997).

3. RESEARCH INTO HOW THE ARTS SHAPE ENVIRONMENTAL BEHAVIOUR

The previous studies on which the current review is based, summarized in Table 1, involved interviews with 96 key informants working in the visual, performing and community arts, and in community-based NRM as well as with people who showed exemplary behaviour towards the environment ('environmental exemplars'). Informant interviews took place in Australia (New South Wales, Victoria), USA, Canada, UK, Norway and Italy (Reid *et al.*, 2005; Curtis, 2007). It also included an examination of eight community-based art and environment events (case studies) spanning a range of rural and urban environmental themes and a range of artistic expressions including the visual arts, sculpture, music, performance and writing. The events were selected to display a range of involvement, by farmers, scientists, artists, performers, extension officers, community groups, schools and tertiary institutions. The case studies were undertaken using a combination of focus group interviews with 75 people, 142 key informant interviews, questionnaires completed by 709 people, field observations and participant observations. The purposeful methodological diversity added cross-disciplinary force to the study and enabled triangulation¹ between the different types of data to afford greater confidence in the conclusions. Details of analytic methods for the case studies and interviews are provided in Curtis (2006, 2007, 2010).

Table 2 summarizes the results from the study. Results from individual components of the study have now been published in the peer-reviewed literature. Therefore, in this paper, rather than repeat the detailed results, we refer to published sources. In summary, we found evidence to support the view that the arts:

- affected pro-environmental beliefs, values and attitudes (case studies 1, 2 and 4);
- could raise an awareness of the consequences of certain actions (that is, increase knowledge) (case studies 1, 2, 4, 7 and 9);
- could help form a pro-environmental self-concept (case studies 2, 4 and 11);
- help unfreeze ingrained habits (case studies 4, 7 and 10);
- help form pro-environmental social norms (case studies 2, 4, 6, 7 and 8);
- help build community involvement in pro-environmental activities (case studies 2, 3, 4, 6 and 8); and
- help reduce some situational constraints and physical barriers to adopting pro-environmental behaviour (case studies 1, 2, 4 and 10).

¹ By 'triangulation' we mean that two (or more) methods were used in the study in order to check the results. The idea is common in the social sciences and enables the researcher to be more confident with a result if different methods lead to the same result (Neumann, 1997).

Table 1: Summary of the eight case studies examined. (Participant observations described both as a method and as a type of case study).

Case Study number	Name of case study	Type	Themes	Where	Participant observations	Field observation	Historical documents and photographs	Focus group interviews (no. interviewees)	Semi-structured interview (no.)	Survey or questionnaire (no.)
1	Semi-structured interviews	Researchers (7); Visual artists (23); Performing artists (11); Community artists (8); NRM extensionists (25); Landcarers (22)		Victoria and NSW (Australia), Canada, UK, USA, Norway		✓			96	
2	Nova-anglica: the web of our endeavours, March 1998	Visual arts, performances and associated activities	Rural land degradation, particularly dieback, and celebration of environmental repair	Armidale, NSW	✓		✓	9		
3	Gunnedah Two Rivers Festival, 2002-04	Festival, including art exhibitions, outdoor performances and processions	Rivers	Gunnedah, NSW		✓	✓	42	4	51
4	"Plague and the Moonflower", 26-27 October 2002 and December 2003	Musical performance of oratorio by Richard Harvey and Ralph Steadman, with images by Ralph Steadman and associated art exhibition	Human destruction of the global environment and the importance of nature	Armidale NSW, Woodford Folk Festival, Qld	✓		✓	24	35	170
5	Southern Riverina Environment Expo, December 2002	Exhibition of posters with accompanying story telling and performances	Biodiversity	Deniliquin, NSW		✓			4	
6	Bungawalbin Wetlands Festival, September 2003	Field day and associated events	Wetland conservation	Lismore, NSW		✓	✓			9
7	Play Building on Greenhouse Effect in Schools, November 2002	Performance by school children	Climate change	Newcastle, Armidale, Wollongong NSW	✓				3	240
8	Art in Extension – Greening Australia, 1990-2000	Use of the arts in extension over 10 year period	Native vegetation and land management	Northern NSW	✓		✓			
9	Ecological Society of Australia (ESA) Conference, December 2003	Use of the arts in a scientific conference	Ecology	Armidale, NSW	✓		✓			239
10	Field observations of exemplary urban areas	Use of arts to change urban space	Urban planning	Portland (Oregon), Oslo (Norway), Boulder (Colorado)	✓	✓	✓			
11	Participant observations	Case studies 2,4,7,8,9,10	Case studies 2,4,7,8,9,10	Case studies 2,4,7,8,9,10	✓					
	Total							75	142	709

Table 2: Summary of results from case study analyses and key informant interviews.

Behavioural factor	Case study name and number	Key findings	Reference to detailed results
Internalist factors			
Values, Beliefs, Attitudes	Nova-anglica: web of our endeavours (2)	Affirmed pro-environmental belief systems among the audience and participant	Curtis (2006)
	Plague and the Moonflower (4)	Helped shape values in young people through exposing them to issues they had not thought about before. 74% of survey respondents said it made them reflect on humanity’s relationship with the natural environment. 60% of survey respondents said it affirmed their beliefs about people’s relationship with the natural environment and made them feel strongly towards the natural environment	Curtis (2007) Curtis (2010)
	Interviews with NRM extension officers and environmental exemplars (1)	Certain art affirmed pro-environmental values, beliefs and attitudes The arts can affect attitudes towards the environment in NRM extension Some artists bring out the beauty and processes of the natural environment and can therefore create empathy toward it	Curtis (2009, 2011a)
	Interviews with socially critical artists (1)	Artists can synthesize issues, highlight contradictions, project a dissenting voice, challenge prevailing ideas and reach mass audiences	Curtis (2012)
	Interviews with environmental education practitioners (1)	The arts can affect attitudes towards the environment in environmental education	Curtis (2011a) Curtis, et al. (in press)
Awareness of consequences	ESA Conference (9)	Over half the conference delegates said elements of the arts program provided a conducive atmosphere for receiving information, encouraged them to reflect on alternative ways to communicate science, and persuaded them that the arts have a role in helping people understand complex scientific concepts. A sizeable minority of delegates (24%) said they would consider incorporating the arts in their extension or outreach efforts	Curtis et al. (2012)
	Plague and the Moonflower (4) Nova-anglica: web of our endeavours (2)	Caused people to reflect on their relationship with the natural environment, which by implication showed that art can encourage people to dwell on the consequences of their actions.	Curtis (2003, 2006, 2007, 2010)
	Interviews with artists, extensionists and environmental exemplars (1)	Artists can create an awareness of consequences by synthesizing issues, communicating in interesting ways, highlighting contradictions, projecting a dissenting voice, challenging prevailing ideas and reaching mass audiences	Curtis (2011a, 2012)
	Play-building case study (7) Interviews with environmental theatre practitioners (1)	Use of drama to explain environmental problems such as water conservation and the greenhouse effect can raise awareness, improve knowledge, lead to an improved intention to change behaviour and an increased adoption of pro-environmental behaviour	Curtis et al. (in press)
Self-concept	Interviews with NRM extensionists and environmental exemplars (1)	The arts assist in formation of self-identity	Curtis (2009, 2011a)
	Plague and the Moonflower (4) Nova-anglica (2)	Being involved in a performance or in creating art helps consolidate one’s beliefs or reinforces them, and can influence aspects of environmental behaviour	Curtis (2003, 2006, 2007, 2010)
	Participant observation (11)	The act of being involved in environmental performance in one’s youth can be seminal and can affect lifetime attitudes towards the environment	Curtis & Curtis (2006)
	Plague and the Moonflower (4) Nova-anglica (2)	Community arts projects can help develop pro-social behaviours and altruism	Curtis (2003, 2006, 2010, 2011b)
Unfreezing habits	Examination of the cities Portland (Oregon) and Oslo (Norway), Boulder (Colorado) (10)	Integrating public art with urban design can encourage the use of public transport, walking and cycling over travelling by car	Curtis, et al. (2005)
	Plague and the Moonflower (4)	The suspension of normality at celebrationist events allow people to consider changing patterns of consumption, as occurred with people saying they would reduce their consumption of plastic shopping bags after being involved in Plague	Curtis (2007, 2010, 2011b)
Externalist factors			

Physical structures	Examination of the cities Portland, Oslo and Boulder (10)	See 'Unfreezing habits'	Curtis, et al. (2005)
	Interviews with environmental exemplars (1)	Where farmers incorporate principles of landscape design in farm planning	Curtis (2008)
Situational constraints	Plague and the Moonflower (4) Nova-anglica (2)	Showed importance of long-term public sector investment in regional centres. Because the artistic, creative, organizational and leadership skills existed in Armidale, the community could come together and stage such events, which then influenced environmental attitudes and intentions to adopt pro-environmental behaviour	Curtis (2004)
Group effect – social norms	Plague and the Moonflower (4)	People were influenced by what they assumed other people were thinking. As one audience member said, because the theme of the work was pro-environment, you assumed the other audience members were pro-environmental, and that strengthened your sense of wanting to be 'green'	Curtis (2007)
	Nova-anglica (2)	Over 2000 farmers and community members worked together and participated in the event and over 5000 came to it, from a community of 21,000 people	Curtis (2006)
	Play Building on Greenhouse Effect in Schools (7)	School students working together to devise a theatre piece on greenhouse fostered a group effect	Curtis & Curtis (2006) Curtis et al. (in press)
	Nova-anglica (2)	Event affirmed ecological restoration and environmental repair activities	Curtis (2006, 2011b)
	Bungawalbin Wetlands Festival (6) Greening Australia case study (8)	Performances at field days, extension activities and landcare activities that included an arts component and using visual arts to articulate landscape scenarios affirmed pro-environmental behaviour	Curtis (2006, 2011b) Curtis & Curtis (2006)
Generating community involvement	Plague and the Moonflower (4) Nova-anglica (2) Gunnedah Twin Rivers Festival (3)	Networking and community-building aspects were evident in several case studies with 80-90% of survey respondents in each saying the event made them feel and appreciation and pride in community	Curtis (2006, 2007, 2010, 2011b)

3.1 LIMITATIONS OF THE STUDY

The combination and triangulation of participant observation, key informant interviews, case study analyses, focus group interviews, participant and audience surveys, experiments undertaken as art events and the literature provided qualitative and quantitative evidence that the arts shape attitudes and influence behaviour or, at least, the intention to act. Research into the ecological chorale *Plague and the Moonflower* combined these types of data and showed that the event had a marked effect on attitudes and the intention to act (Curtis, 2003, 2006, 2007, 2010). Furthermore, most artists, people working in natural resources management and environmental exemplars were able to describe art that had a profound effect on them (Curtis, 2009, 2011a). Balancing the rich impressions gained from interviews with quantitative data from experiments and surveys enabled the communication of this work to policy makers (Reeve *et al.*, 2005).

In a 5-year study, it was unrealistic to expect to measure long-term changes in environmental behaviour as a result of arts interventions. To compensate for this, survey respondents were asked if they intended to change, as this has been shown to be a strong predictor of actual change (Boldero, 1995; Jackson, 2005). Furthermore, we examined a case study that occurred five years before the study began (*Nova-anglica*),

which confirmed the results of the contemporary case studies (Curtis, 2006). Nevertheless, intention to change (what people say they will do) *is* sometimes different from what they actually do (Gralton *et al.*, 2004). A limitation of the study, therefore, was that longer term behavioural changes could not be confirmed. This would be a fruitful area of further research.

Whilst it may be difficult to measure specific changes that occur due to a particular art work or project, the fact that the arts are integral to propaganda (Clark, 1997), advertising and, historically, in affirming religions or enhancing the power of patrons (de Botton & Armstrong, 2013), points to their considerable efficacy in influencing people's beliefs and behaviour. This power is further suggested by the suppression of oppositional art by authoritarian governments.

4. A MODEL TO DESCRIBE HOW THE ARTS CAN SHAPE ENVIRONMENTAL BEHAVIOUR

After an iterative sequence of data gathering and literature review, three major themes (or 'pathways') emerged from the research that forms the basis for this paper through which the arts could assist in promoting environmental sustainability (Figure 1). The first pathway, communicating information, may be used in the education or extension context, or in communicating information to the general public (e.g. Nadkarni, 2008). The visual and the performing arts are able to synthesize

complex ideas and present them to a lay audience in an engaging form (see case studies 1, 2, 4 and 7). Well-designed images can articulate a vision for an ecologically sustainable landscape that encapsulates best-practice land management. Some art forms or works of art are good at prompting new ways of looking at problems. We would consider this pathway as encompassing the ability of the arts to help improve knowledge, and indeed the arts can have a knowledge-making and solution-building function, as was found in some interviews with community artists (case study 1, and to some extent in case study 7). The second pathway is to create empathy towards the natural environment. Many artists are inspired by the natural environment, and their artworks or performances evoke a strong sense of connection through their aesthetic language (e.g. Goldsworthy, 1996). Some works of art achieve this through evocative representations of the environment while others achieve it by being in the natural environment itself. Large art–environment events can have a celebratory role that motivates and involves communities. Such events can strongly move the emotions in a positive way, and stimulate people to reflect on their relationship with the environment (e.g. case studies 2 and 4). The third pathway is where the arts are embedded in ecologically sustainable development through community and economic development, community capacity building or changed patterns of consumption. In the rural context, this might be achieved through integrating art with farm forestry, rural regeneration and land rehabilitation initiatives, or where farmers incorporate principles of landscape design into farm planning. In urban areas, public and community art have been incorporated into urban planning designs that reduce greenhouse gas emissions by providing public transport and facilities for walking and bicycling. Of considerable significance are the low levels of greenhouse gas emissions and general environmental impact of the arts sector within the overall economy (Foran *et al.*, 2005).

visual artist Rolf Groven² (Norway) could be considered to operate through the first pathway since it aims to communicate particular human impacts on the environment, while other Groven works are not didactic and fit into the second pathway. Pathway 3 is more abstract than the other two, aspects of which are embedded in it. For example, certain sculptures such as those in the public Pearl Street pedestrian mall in Boulder, Colorado, USA, aim to create empathy for the natural environment (Pathway 2). However, because they enrich the pedestrian and cycling environment, they also typify Pathway 3. To some extent, the knowledge-making and solution-building functions of some types of art are of relevance in Pathway 3 also (as exemplified in interviews with some ecological artists – case study 1).

A model of the ways that the arts shape environmental behaviour was developed from iterative cycles of conceptual elaboration, data collection and syntheses of results (Figure 2). The model shows the main factors that influence behaviour. As acknowledged above, many different behavioural models have been developed that attempt to identify the main factors that are important, and the major interactions between factors (see Kollmus & Agyeman, 2002; Jackson, 2005). Rather than entering the debate about the relative importance of these factors we have purposely depicted the factors that influence behaviour in a non-hierarchical manner and avoided feedback loops (e.g. adopting a particular behaviour can affect a person's attitudes).

We suggest that the work of individual artists shapes the behaviour of citizens by operating through one or more of the pathways and then influencing internalist factors such as a person's values, beliefs, attitudes, knowledge, self-identity and habits, as well as some externalist factors such as physical structures and social norms. The degree to which a person responds to the arts depends on personal characteristics (e.g. gender, class, tastes, *etc.*), situation, institutional factors, as well as art type. The aggregation of individual behaviours leads to macro-level impacts on the environment. Knowledge of these impacts may in turn influence individual artists and their practice.

5. HOW THE ARTS CAN CONTRIBUTE TO CREATING A CONSERVER CULTURE

A multi-instrument approach is required to achieve long-term normative change in society (Darnton *et al.*, 2006). Our work pointed to many points of intervention to encourage pro-environmental behaviour using the arts (Figure 2). Jackson (2005) argued that there are four ways of changing people: (1) laws and regulations; (2) information; (3) community development; and (4) morals and ethics. In western society, it is the first two that are usually used as they are based on the dominant paradigm of rational choice theory (Jackson, 2005). The arts clearly have a role in the second of these (information provision). The third and fourth means of influencing people tend to be ignored by policy makers, despite evidence of their

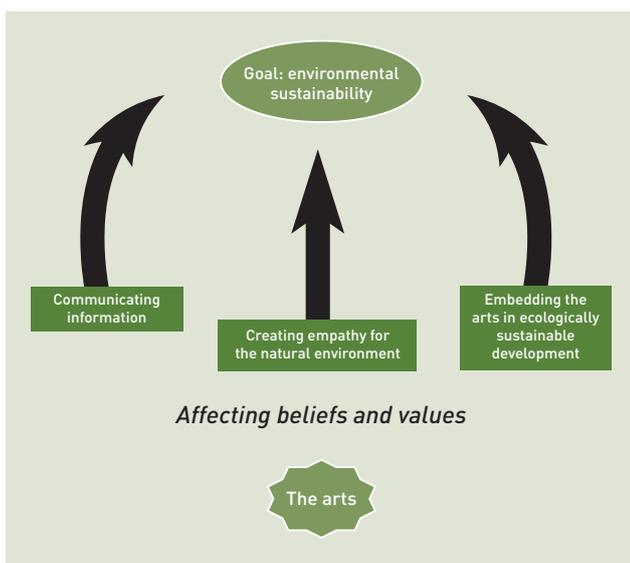


Figure 1: Three pathways through which the arts can be used to help achieve ecological sustainability. [Source: Curtis (2007)]

The three pathways are not mutually exclusive and any single art event, artwork or artist might operate simultaneously in one, two or all three pathways. For example, some work by

² <http://www.groven.no/rolf/>

importance (Jackson, 2005).

Our work validates the value of community art in building communities (e.g. Matarasso, 1997; Kay, 2000; Williams, 2000; Jermyn, 2001; Guetzkow, 2002; CMCSWG, 2005) and the role of the creative industries in economic development (Matarasso, 1997; Kay, 2000; Borghino, 2000; Williams, 2000; Jermyn, 2001; Guetzkow, 2002; Florida, 2002). More specifically it validates the role of the community arts in promoting environmentally positive behaviours (Mills & Brown, 2004; Curtis, 2011b). Unfortunately, community art appears to have a lower status than the so-called elite arts, and struggles for funding and recognition (Williams, 2000), possibly because of its political and potentially subversive potency.

words of one adult female audience member after attending a 2003 performance of *Plague and the Moonflower* (case study 4), “[Plague and the Moonflower] inspired me to appreciate [the] beauty of nature and the environment more [and to] appreciate clean air and absence of ‘Plague’ in my environment.”

The association between artists and conservationists has a long history (Bonyhady, 2000), and many artists use their work to communicate important insights into human relationships with the natural environment (Pollak & MacNabb, 2000). Poets and artists have been influential in shaping attitudes about the Australian landscape (Papadakis, 1993) in the same way that Wordsworth and other poets have shaped attitudes of the English towards their landscape. The arts (particularly ecological art) can help provide a more unifying ‘ecological aes-

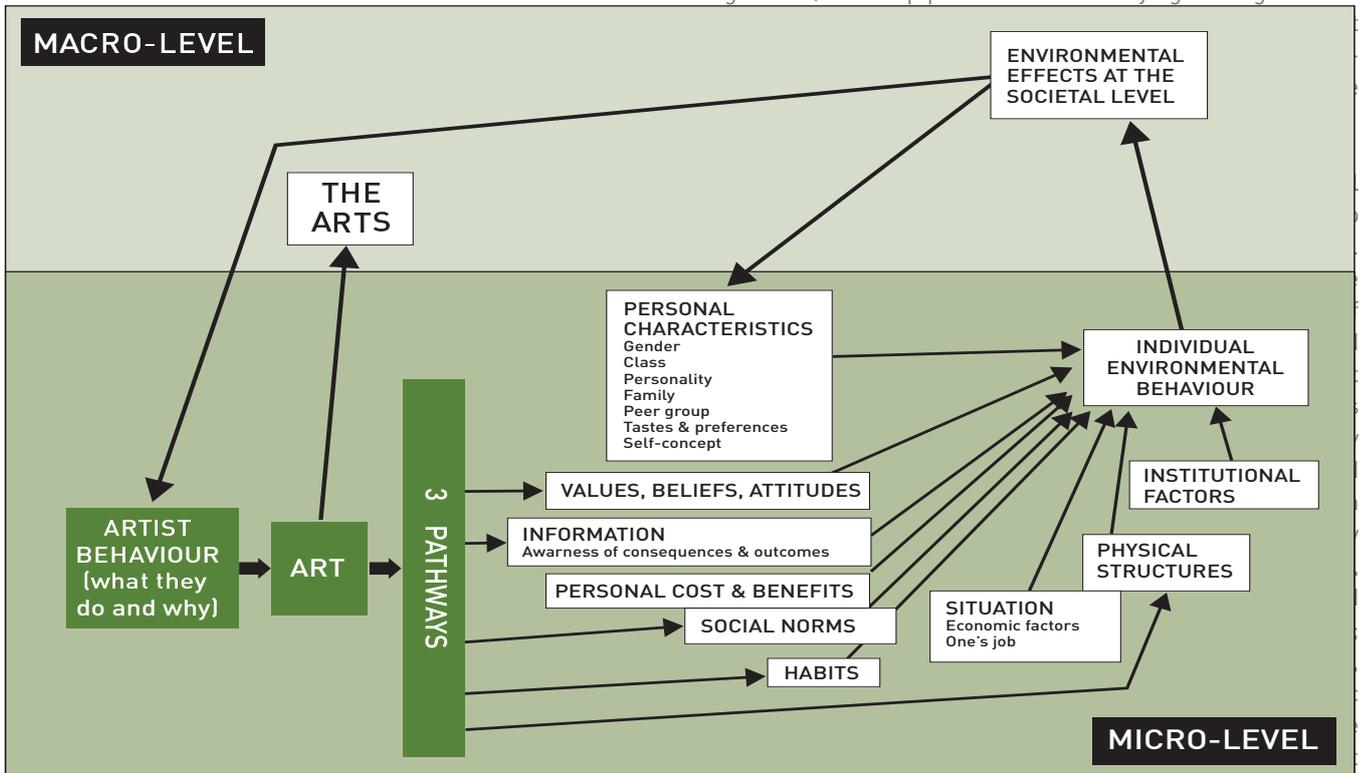


Figure 2: Model of how environmental behaviour can be shaped by the arts. See Figure 1 and the text for fuller explanation of the three pathways. [Source: Curtis (2007)]

Regarding the fourth way of changing people (morals and ethics), De Young (1993) suggested that more use should be made of ‘internally derived’ interventions to change environmental behaviour such as personal insight, self-monitored feedback, commitment and intrinsic satisfaction, all of which involve information or motivation gained by direct experience. He suggested that changing the behaviour of a diverse population may at times require enlisting participant creativity and enhancing individual discovery. Moral improvement through the arts is well recognized (Belfiore & Bennett, 2006). For example, the greenhouse effect is increasingly seen as a moral issue (‘what kind of world are we bequeathing our children?’) and certain types of art encourage people to consider these aspects, such as some of the art of Rolf Groven or Michael Leunig (Curtis, 2012). In the

say their work is often dismissed by critics as not ‘real’ art (e.g. Kerka, 2002; Tara Ryan³, interview, 2002 – Curtis, 2007; Curtis *et al.*, in press). Regardless, as we have found, many artists find ways to create art that has beneficial outcomes regarding environmental behaviour through one or other of the pathways described. The data from *Plague and the Moonflower* showed that participation in art-based events can have a snowballing effect, where participation leads to learning, performance leads to expanding the message, which leads to more participation (Curtis, 2007).

There are many ways that governments and others seek to influence people’s environmental behaviour, including mass-media promotion, coercive strategies like regulations and penalties, rewards, educational programs, demonstrations and direct requests (Dwyer *et al.*, 1993; Jackson, 2005). Whilst most may have a short-term effect, this does not

³ Tara Ryan, founder and former Artistic Director of Evergreen Theatre: <http://www.evergreentheatre.com>.

always endure for longer periods of time. In environmental behavioural studies, in environmental policy and in the sustainability literature, the arts are not generally considered by theorists or practitioners in strategies for improving environmental behaviour (e.g. Goldie *et al.*, 2005) although Dwyer *et al.* (1993) recognized that behavioural scientists should give greater emphasis to lifelong behaviours that help maintain environmental quality. Our work has shown that through shaping pro-environmental behaviours, the arts have a considerable, but largely unrecognized and under-utilized, role in doing this and in making it part of the culture. People can gain pleasure from consumer and non-consumerist behaviour (De Young, 1996). Far from being a sacrifice, living lightly on the planet can increase one's quality of life and sense of well-being. The arts can help make this behaviour more attractive in many ways.

Arising from our work were recommendations to foster the arts as a means of improving environmental sustainability (Reeve *et al.*, 2005). These included: improved funding for environmental art projects from both natural resources and arts funding programs, linking climate change actions with arts initiatives; linking regional development initiatives with the arts, and better incorporating the arts into natural resource management outreach.

6. CONCLUSION

The environmental challenges confronting the world are immense (Worldwatch Institute, 2012), and problems such as climate change, biodiversity loss, land degradation and energy policy require complex social, economic and technical solutions. While gains can be made in behaviours like recycling, the encouragement of mass consumption can counter these efforts (Ungar, 1998). Policy makers in environmental sustainability are familiar with the social psychology literature on the factors that lead to people adopting pro-environmental behaviour (Jackson, 2005). What is less known is the long philosophical tradition examining the effects of the arts on society, which includes impacts on attitudes, beliefs and habits (Alexander, 2003; Belfiore & Bennett, 2006).

Many artists use their work to communicate important insights into human relationships with the environment (Pollak & MacNabb, 2000; Lister, 2003; Collins, 2004; Mills & Brown, 2004). Some artists and arts companies are exemplars and use their high visibility to influence attitudes (e.g. Sydney Theatre Company's engagement with renewable energy⁴). There is increasing international interest in the relationship between the arts and sustainability that complements legislative and policy development (Kagan & Kirchberg, 2008, Curtis & Aguilar, 2013). This was reflected in the 'TippingPoint'⁵ events in Sydney, Melbourne and Brisbane that brought together climate change scientists and artists to negotiate ways of working together. Mirroring this realization is increasing

⁴ <http://www.environment.gov.au/topics/water/water-cities-and-towns/green-precincts-fund/sydney-theatre-company>

⁵ <http://tippingpointaustralia.com/>

interest in using the arts in environmental education (e.g. Adcock & Ballantyne, 2007).

Our previous studies on which this review is based examined the role of the arts in shaping environmental behaviour. We developed a conceptual framework to describe how the arts affect environmental behaviour. Our conceptual framework assumes that environmental impacts are the aggregate of actions of individuals (Jackson, 2005) and that, consistent with the social psychology literature, individual behaviour is influenced in part through attitudes, beliefs, knowledge, habits (Jackson, 2005) and empathy for nature (Kals *et al.*, 1999). Each of these factors is influenced by personal characteristics such as gender, class, employment, personality, family, peer group and self-concept. Art is a response to and embodiment of environmental conditions, contexts and crises. We conclude that it operates through one of three pathways to influence the factors that affect behaviour (Curtis, 2006, 2009, 2011a), as well as actual behaviour (Reeve, 2009). These pathways are (1) aiding communication and knowledge building, (2) creating empathy for the natural environment, and (3) by being integrated with ecologically sustainable development.

Governments, the environmental movement and concerned communities should recognize and engage the arts as one vehicle for the transition to an ecologically sustainable society and in articulating change in ethical frameworks and belief systems. It is likely that the arts sector will be an important structural component of ecologically sustainable societies in the future.

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