



**VALUING
NATURE
PROGRAMME**

VNP22



Photo by Rob Fraser/somewhere-nowhere.com

Valuing Arts & Arts Research

Valuing Nature Paper | October 2019

Valuing Arts & Arts Research

Valuing Nature Paper | October 2019

1. Introduction

Arts have a significant impact on the way we understand the world. It is widely accepted that arts are able to inspire people and direct attention to things that really matter; they help not only to understand how the material world affects us, but also to acknowledge the importance of these influences on our wellbeing. Moreover, through the process of creative engagement, individual reflections can become shared cultural experiences and vice versa. Where the social and natural sciences produce verifiable evidence based on data, the arts and artists can create singular perspectives that have wide resonance. While any great work of art increases our understanding of the world, not all arts processes lend themselves to research collaborations, particularly with other disciplines.

Recent decades have witnessed the emergence of an arts research paradigm¹ that ‘uses the arts, in the broadest sense, to explore, understand and represent human action and experience’². There is, in particular, an increasing number of creative practitioners responding to issues related to environmental change³. These works frequently attempt to influence behaviours, advance knowledge and possibly inform policies, planning and decision-making. Despite activity from practitioners and researchers exploring ways to incorporate creative perspectives in the study of current landscape and environmental issues, there is still limited recognition of the wider contribution that arts research can make⁴.

¹ Leavy (2015); Rolling Jr. (2013); Barone (2012)

² Savin-Baden & Wimpenny (2014)

³ Drabble (2019); Gabrys & Yusoff (2012); Yusoff (2010)

⁴ Little (2017)

There is a widespread lack of awareness about what creative practice can bring to research and how artists and researchers from other disciplines can collaborate and work effectively alongside each other. It is also sometimes the case that creative work is valued less than other types research outputs (e.g. scientific)⁵ and the role of artistic intervention is limited to that of a medium for exciting interest or communicating knowledge. In practice, the situation is more complex and the various types of research (including arts and science) often overlap⁶ offering great potential for artist researchers and scientists to collaborate and create new forms of co-produced knowledge and engagement⁷.

⁵ Smith & Dean (2009)

⁶ Klein (2010)

⁷ Gkartzios & Crawshaw (2019)

Why Arts?

Arts offer a distinct way of understanding the world and ourselves

- Arts can provoke; they can unsettle norms and challenge prevailing wisdoms
- Arts can be political; they can illuminate problems and expose values and choices
- Arts can educate, inspire and persuade
- Arts can open up new perspectives through imagination
- Arts can help us to live with uncomfortable truths
- Arts can help us to adapt to new realities

⁸ There is a plethora of terms used to describe the field of arts research. We acknowledge that these terms are not all the same and can reflect various perspectives. For the purpose of this note we adopt the term arts research to refer to research that incorporates theories and practices from the arts in methodologies for data collection, analysis, interpretation and/or dissemination.

⁹ Ideas presented here have been informed by exchanges between academic and artist researchers and practitioners interested in the contribution of the arts in landscape, environmental, and valuing nature research agendas. Insights draw on relevant literature but also discussions that took place during the AALERT (Arts and Artists in Landscape and Environmental Research Today) workshop held at the National Gallery, London in February 2018. <https://valuing-nature.net/news/workshop-arts-and-artist-landscape-and-environmental-research-today-aalert>. These discussions involved over 60 academic and professionals, from the arts, social and natural sciences, philosophy as well representatives from policy and practice.

The AALERT workshop was funded jointly by the Valuing Nature (<http://valuing-nature.net/>) and the Landscape Research Group (<https://landscaperesearch.org/>).

This note aims to clarify the role of artists and arts research⁸ in landscape and environmental research today. We start from the position that navigating multiple types of value in the study of natural environments can challenge assumptions, change attitudes and ultimately improve our decisions, in often unexpected ways. Artists and arts research can offer new perspectives and contribute to transformative ways of exploring, challenging and understanding existing meanings and values, as well as creating new ones through the co-production of new knowledge and experiences. This document aims to endorse existing practices and trigger new thinking in doing research related to landscapes and environments, and their associated ecologies and management, by revealing the ways in which artists can operate as researchers, either independently or as part of multi-, inter-, and trans-disciplinary teams. It also addresses issues of the relationships between artist and non-artist researchers and offers positive suggestions about what arts research can bring to inter- and trans-disciplinary research contexts⁹.

2. Why arts in (environmental) research?

We live in a period of unprecedented environmental change that demands us to completely re-think and evolve our systems of governance and economics, the ways we work in the 21st century, and where we place our energies¹⁰. Informed decisions require knowledge and consideration of complex socio-ecological systems. Ideas about environmental sustainability and resilience emphasise the importance of integrating knowledge from different perspectives, and the participation of diverse stakeholders including civil society in addressing complex questions and problems¹¹. It is essential to reflect and engage with diverse economic, social and cultural values in order to develop new and more appropriate ways of managing ecosystems, human well-being, and the economy. The juxtaposition of different approaches and methods can enable the co-production of knowledge and the emergence of critical perspectives to interrogate nature's values. In so doing, we can develop a critical account of why people, places and nature matter. In this context, artistic and creative practices can offer outputs and methods for complementing scientific and environmental understandings, re-envisioning environmental relationships, and improving health and wellbeing, whilst enabling community engagement and potentially benefiting social cohesion.

To understand the importance of arts and the role of artists in addressing these questions about environmental management, it is necessary to consider how people understand the world and what is considered acceptable knowledge. For instance, the objectivity that underpins the scientific method is considered paramount. It is widely promulgated in policy and decision-making and underpins prominent interpretations of 'evidence-based' research. Following this logic, the only valuable contribution of a discipline is to provide robust evidence, based on aggregated data, that can directly inform decisions. Intuitive and embodied knowledge, as well as singular perspectives, meanings, values and emotions that artistic work can elicit, challenge, or create, can end up seeming irrelevant.

However, the notion of scientific objectivity has been the subject of much debate over the last 50 years¹² with critical perspectives arguing for understanding the strengths and limitations of science and allowing other forms of knowledge¹³ to complement our understanding and inform our decisions. Arts research, and its specific methods and practices, can reframe issues¹⁴, reveal values and enable an ethical and aesthetic discourse that wouldn't otherwise exist¹⁵. It opens up questions and brings in new views, producing knowledge that goes beyond systematised data that often dominate scientific practice, or verbalised insights that often dominate social science methodologies. It is therefore important to acknowledge that not all kinds of research are necessarily seeking to provide definitive and final answers to questions. Arts research shows us our interpretations and judgements are always provisional.

¹⁰ Kagan (2013)

¹¹ Barry et al. (2008)

¹² Leavy (2015)

¹³ Gibbons et al. (1994); Nowotny & Gibbons (2001)

¹⁴ Rust et al. (2007)

¹⁵ Bahkshi et al. (2008); Barone (2012)

Defining research

“...a process of investigation leading to new insights, effectively shared.”

(REF 2021, Annex C, p 90)

“...any creative systematic activity undertaken in order to increase the stock of knowledge, including knowledge of man (sic), culture and society, and the use of this knowledge to devise new applications.”

(OECD Glossary of Statistical Terms, 2008)

“Paul Klee famously said: ‘Art does not reproduce the visible but makes visible.’ He seems to have meant that art does (or should) not reproduce what we see, but, rather, that it manufactures what we see. ... When he talks of the visible, he seems to be using it in its two senses of what is commonly seen and whatever can be seen.”¹⁶

¹⁶ Elderfield, (2013)

Definitions of research embrace the contributions of arts research in terms of investigation into human, culture, society and the natural environment leading to insights that can be shared. Through research, artists can creatively and systematically contribute directly to innovation and the production of new knowledge¹⁷. However, the term ‘research’ is used in different senses by artists. Many artists describe research as part of the development of their work. This research is not normally subject to scrutiny or expected to meet scientific criteria of rigour. There is, nevertheless, an increasing number of artists who engage in formal research and open up to being scrutinised in relation to an existing body of knowledge, with the purpose of furthering that knowledge.

¹⁷ Frayling (1993: 1)

Artists are recognised as having skills and competencies in imaginative engagement with metaphor and concept, and therefore are able to productively frame or reframe questions and issues. They often work from conception through to delivery and thus ‘process’ becomes at least as significant as ‘product’. They are also recognised as having the capacity to imaginatively engage audiences encountering their work¹⁸. These abilities place them in a privileged position to influence the world by eliciting and creating meanings and values. This creative perspective (as theory, practice and output) reflects ways of being in the world and can access dimensions of human experience that are not sufficiently captured by other disciplines. It is from this standpoint that arts research can contribute in shaping decisions, directly or indirectly.

¹⁸ Douglas & Fremantle (2017; 2016)

Exemplars of creative outputs influencing decision-making



The Grand Canyon of the Yellowstone” by Thomas Moran.
Photo © Art Collection Alamy

Depictions of landscapes by artists in the American West, in particular those making the sublime apparent, such as with Thomas Moran’s painting of the Grand Canyon of the Yellowstone (above), played a pivotal role in persuading Congressmen to vote for the establishment of the first American national park in 1872. In particular, prints of Moran’s sketches and watercolours of the Yellowstone area were prominently displayed in Congress by the bill’s advocates. Three months after the Yellowstone Act received the presidential signature, Congress bought and displayed his famous painting *The Grand Canyon of the Yellowstone* in a lobby in the Senate wing of the Capitol¹⁹.

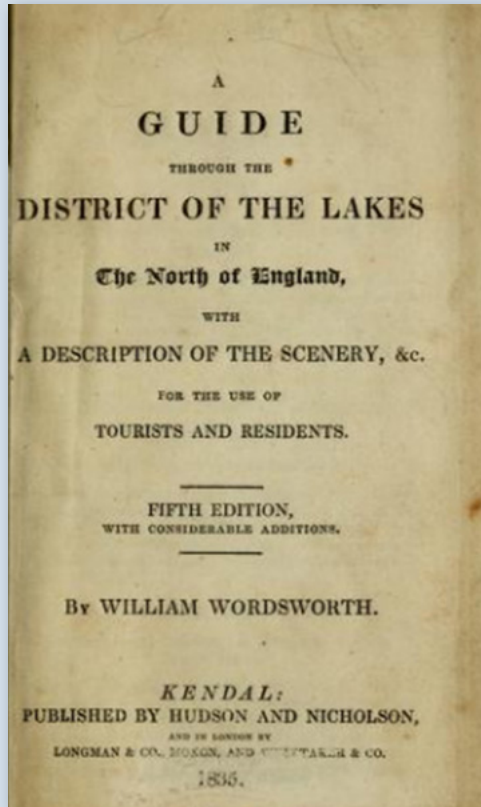
¹⁹ Main (2019)

Although we can point to differences between the arts, social and natural science and humanities research, there are also commonalities²⁰. All are led by questions, are creative and bring things to our attention not previously or otherwise noticed. The challenge is to find ways to allow research (i.e. ‘re-searching’ as in ‘coming back again and again’) from science, social science and humanities (quantitative and/or qualitative) and the arts (conceptual, metaphorical and focused on the singular) to interact in ways that acknowledge and promote the co-production of knowledge. This can only happen if there is an appreciation of what these different approaches can offer. Navigating diverse epistemologies and approaches requires an outlook of openness that bridges the problematic separation of epistemic communities²¹. If the artists’ interrogating perspective is to be harnessed to complement other research and decision-making models, it is essential that its contribution is equally acknowledged alongside disciplines such as economics, ecology, and other natural and social sciences.

²⁰ Barone & Eisner (2012)

²¹ Crossick & Kaszynska (2016);
Snow (1993 [1959])

Exemplars of creative outputs influencing decision-making



In the UK, the creative outputs of the ‘Lake Poets’ were instrumental in promoting public interest in visiting and protecting the Lake District. For many visitors, Ullswater is synonymous with Wordsworth’s ‘*Daffodils*’ poem, while his references in ‘*Guide through the District of the Lakes*’ (1820) to the Lake District as ‘a sort of national property’ can be seen as the inspiration for both the formation of the National Trust and the campaign to establish a Lake District National Park²².

Daffodils

by William Wordsworth

I wandered lonely as a cloud
That floats on high o’er vales and hills,
When all at once I saw a crowd,
A host, of golden daffodils;
Beside the lake, beneath the trees,
Fluttering and dancing in the breeze.²³

²² Bate (1991: 47-48)

²³ Wordsworth (1807: 49-50)

3. History of art-science collaboration

Collaborations between arts, sciences and technology to address pressing environmental issues stretch back to the 1960s and 1970s²⁴. Initiatives flowed from the artistic, social, political and theoretical responses to pressing environmental and political issues of that time²⁵ resulting in many influential creative projects.

²⁴ For a collection of works see Kepes (1956;1972)

²⁵ Gabrys & Yusoff (2012: 8)

Selected exemplary works of environmental/ecological art



Richard Long *'Line Made By Walking'* (1967)

The UK environmental art tradition includes walking as an artistic method, pioneered by Richard Long who recorded his physical interventions within the landscape and anticipated performative art practice.

<https://www.theguardian.com/artanddesign/2012/jun/15/richard-long-swinging-60s-interview>

Photo © Richard Long

Alan Sonfist *Time Landscape* (1965–78 — present).

The first environmental land art sculpture for New York City. Sonfist reclaimed a piece of land in downtown Manhattan and brought it back to its primary state using plants that were native during pre-colonial times.

<https://hyperallergic.com/337906/time-landscape-alan-sonfist/>

Photo © Willy Gobetz



Hans Haacke *Rhine Water Purification System* (1972)

Haacke brought dirty water from a sewage works (which was flowing straight into the Rhine), into the gallery and applied a process that returned clean water to the river.

<http://sfaq.us/2016/06/hans-haacke-in-conversation-with-terri-cohn/>

Photo © Hans Haacke

Agnes Denes, *Wheatfield: a confrontation* (1982)

Denes juxtaposed growing and harvesting a crop of wheat with the urban development and land values of New York City.

<http://www.agnesdenesstudio.com/works7.html>

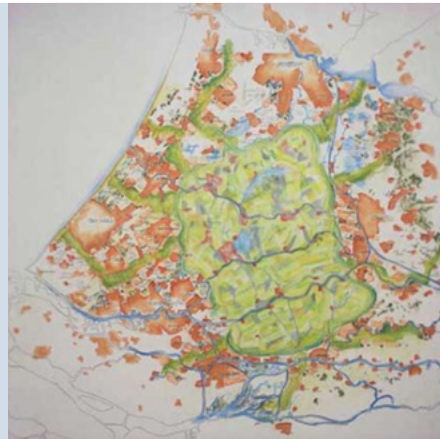
Photo © Agnes Denes



Helen Mayer Harrison and Newton Harrison *'A Vision for the Green Heart of Holland'* (1995). At the request of the Cultural Council of South Holland, the Harrisons proposed a new vision for an area that was facing expansion of urban areas, and internal development while it was slowly being reclaimed by the sea.

<http://theharrisonstudio.net/a-vision-for-the-green-heart-of-holland>

Photos © Harrison Studio



Pauline Oliveros *'Deep Listening'* (1988 onwards). Oliveros developed techniques for focusing on the auditory environment and revealing sound that was usually ignored.

<https://thevinylfactory.com/features/pauline-oliveros-legacy-deep-listening/>

Photo © Aimee Friberg

Patricia Johanson *"The Draw at Sugar House"*, Salt Lake City, Utah, (2003). Johanson created a unique design that combines engineering, sculpture, landscaping, flood control, wildlife habitat, and outdoor classroom.

<http://patricijohanson.com/projects/salt-lake-city.html>

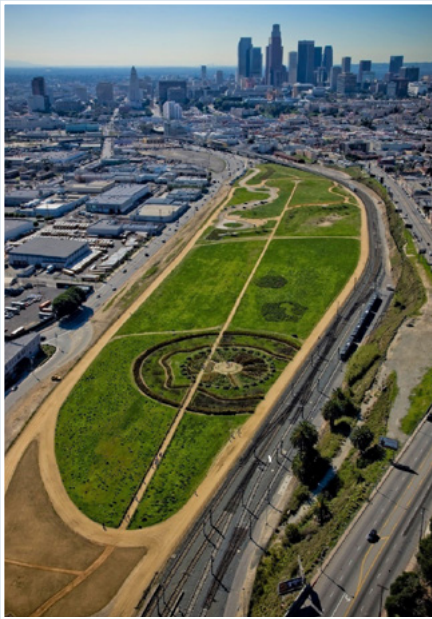
Detail: *Sego Lily*.

Photo © Adam Isaac Hiscock

[https://commons.wikimedia.org/wiki/](https://commons.wikimedia.org/wiki/File:Sego_Lily_at_the_Draw,_Sugarhouse,_Utah.jpg)

[File:Sego_Lily_at_the_Draw,_Sugarhouse,_Utah.jpg](https://commons.wikimedia.org/wiki/File:Sego_Lily_at_the_Draw,_Sugarhouse,_Utah.jpg)





Lauren Bon, *Not A Cornfield* (2005).

An industrial brownfield in Yaanga, Los Angeles, was transformed and revived into a thirty-two-acre cornfield for one agricultural cycle. The land eventually became the Los Angeles State Historic Park.

<https://www.metabolicstudio.org/2>

Photo © Lauren Bon

²⁶ Gabrys & Yusoff (2012: 7)

²⁷ Nurmis (2016); Menga & Davies (2019)

²⁸ See <https://www.studiooosegaard.net/> and <https://www.creativecarbonscotland.com/resources/>

²⁹ Galafassi et al. (2018); Edwards et al. (2017)

³⁰ Dearing (2005: 3)

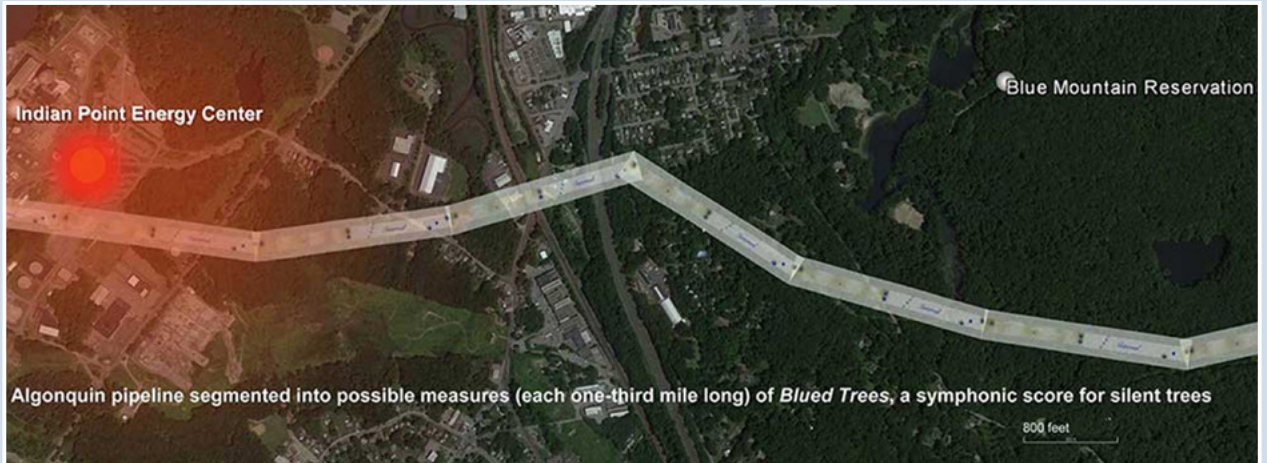
³¹ Crossick & Kaszynska (2016)

³² <https://ahrc.ukri.org/funding/apply-for-funding/archived-opportunities/spf-landscape-decisions-towards-a-new-framework-for-using-land-assets-research-networking-and-follow-on-funding-highlight-notice/>

³³ <https://nerc.ukri.org/research/funded/programmes/landscape/>

These projects were able to ‘*find new perspectives, new spaces for innovation, and even new disciplinary syntheses*’²⁶. More recently, from the late 2000s onwards, we witness increased artistic activity, around climate change and other environmental issues,²⁷ representing a wide variety of expressive forms, particularly the narrative, visual and performing arts²⁸. These initiatives are moving clearly beyond raising awareness and decisively entering the terrain of interdisciplinarity and knowledge co-creation²⁹.

During the last twenty years a series of research programmes have been funded in the UK via higher education institutions and non-academic organisations that support projects which combine scientific methods with creative practices. They demonstrate the contribution of arts research to society and the economy³⁰ and are explicitly embedded in diverse, critical, creative and engaged processes of investigation and reflection³¹. Recently, the AHRC-led Research Networking and Follow-on funding opportunities³² have been launched aiming to develop the contribution of arts and humanities research to the wider UK Research & Innovation (UKRI) cross-disciplinary programme on “*Landscape Decisions: Towards a new framework for using land assets*”, led by the Natural Environment Research Council (NERC)³³. Despite this receptive climate, and the fact that arts and humanities components are now a common, if not required, element in many UKRI multi-, inter- or trans-disciplinary research proposals, it is often challenging in practice to achieve effective and deep integrations between research arts, science and other disciplines.



Aviva Rahmani (2015) *Blued Trees Symphony*.

Installation of music notes painted on trees in woodlands along a proposed natural gas pipeline expansion. The tree-notes were copyrighted to protect the habitat from destruction.

http://ghostnets.com/projects/blued_trees_symphony/blued_trees_symphony.html

Photos © Aviva Rahmani

Examples of funding for projects incorporating arts research in the UK

³⁴ AHRC (2017: 1)

³⁵ <http://www.landscape.ac.uk/>
The Landscape and Environment Programme organized an 'Art & Environment' conference at Tate Britain, 25-26 June 2010.
<http://www.landscape.ac.uk/documents/eventpapers/artenvironmentbooklet.pdf>

³⁶ <https://epsrc.ukri.org/research/ourportfolio/themes/livingwithenvironmentalchange/>

³⁷ <https://connected-communities.org/>

³⁸ <https://ahrc.ukri.org/research/fundedthemesandprogrammes/themes/careforthefuture/>

³⁹ https://wellcome.ac.uk/sites/default/files/wtx057228_0.pdf

⁴⁰ <https://theharrisonstudio.net/>

⁴¹ UK National Ecosystem Assessment Follow-On (UKNEAFO) (2014) Work Package 5: Shared, Plural and Cultural Values of Ecosystems, Annex 1 was a Report on Arts and Humanities Perspectives on Cultural Ecosystem Services and Annex 2 was a Report on 'Additional Cultural Values Work' that both reflect widely on arts and humanities (though mostly humanities) contributions to environmental research?
<http://uknea.unep-wcmc.org/LinkClick.aspx?fileticket=xlwOlmZ2oLk%3d&tabid=82>

⁴² <https://valuing-nature.net/about>

⁴³ <https://valuing-nature.net/tipping-points-research-projects>

⁴⁴ <https://valuing-nature.net/health-wellbeing-research-projects>

⁴⁵ <http://imaginingnaturalscotland.org.uk/>

⁴⁶ <https://www.greatplacescheme.org.uk/>

- **Arts and Humanities Research Council (AHRC)** since 2005 has made 146 awards, totalling £29.2 m, to a range of research on the natural environment³⁴. Examples include the Landscape and Environment Programme³⁵; the Living with Environmental Change Programme³⁶; and the Connected Communities Programme³⁷ and Care for the Future theme³⁸.
- **Sciart Programme, Wellcome Trust (1996 – 2006)**³⁹ supported 118 projects with nearly £3 million of funding. The programme fostered interdisciplinary and collaborative creative practice in the arts and science and created a critical mass of artists looking at biomedical science and built capacity in this field. It had a significant influence on the public's engagement with science. Between 1999 and 2002 Sciart was expanded to involve a consortium of funders including the Arts Council, the British Council, the Calouste Gulbenkian Foundation, the National Endowment for Science, Technology and the Arts (NESTA) and the Wellcome Trust.
- **Research funded by DEFRA and other governmental organisations** these include funding for arts led projects (e.g. Greenhouse Britain⁴⁰ by Helen and Newton Harrison (2006 – 2009) addressing global warming from an artist's perspective or work packages (e.g. UKNEAFO Work Package 5⁴¹ – within larger research related to the natural environment.
- **Valuing Nature Programme (2014 – 2019)** funded by the Research Councils UK and Defra invested £6.5m to research aimed to '*better understand and represent the complexities of the natural environment in valuation analyses and decision making*'⁴². The Programme funds research towards two research goals: Tipping Points⁴³ and Human Health & Wellbeing⁴⁴.
- **Imagining Natural Scotland (2013 – 14) programme**⁴⁵ initiated by Creative Scotland, Scottish Natural Heritage and the University of St Andrews and associated with the Year of Natural Scotland. The programme supported collaborations between artists/artists researchers and academics in a range of humanities, and social and natural sciences exploring the interplay between the natural world and its representations.
- **Great Place Scheme**⁴⁶ supported by the National Lottery Fund, the Heritage Lottery Fund, the Arts Council England and Historic England is designed to pilot new approaches that enable cultural and community groups to work more closely together and place heritage at the heart of communities. The scheme has funded 16 projects in England (e.g. Northern Heartlands), pilots in Scotland and Northern Ireland and it is now open for applications in Wales.

Some UK collaborative projects incorporating arts research



Sounding Coastal Change (2016–2019), AHRC. The project embraced an artistic-empirical and conversational experience of place reframing the idea of climate change by common messages such as ‘*there is more water in the sea*’.

<https://vimeo.com/228661113/8be37fb1d3>

<http://www.soundingcoastalchange.org/>

Photo © soundingcoastalchange.org



WetlandLIFE: managing mosquitoes and the socio-ecological value of wetlands for wellbeing (2016–2019), Valuing Nature. Working alongside local communities, economists, entomologists, human geographers, historians and environmental social scientists, the artists helped shape the narrative around wetlands and mosquitoes.

<http://www.wetlandlife.org/>

Photo © Tim Acott



Northern Heartlands – A Great Place Scheme. (2017–2020), National Lottery Fund. The project Hefted to Hill: Digging Deep into the Knowledge and Values of Hill Farmers in Co. Durham included an immersive exhibition, social media campaigns, conference presentations, and valued hill farmers’ expertise, not least in the design and delivery of agri-environment schemes.

<https://northernheartlands.org/hefted-to-hill/>

Photo © Louise Taylor



CoastWeb, (2016–2020) Valuing Nature, NERC. The project values the contribution that coastal habitats, including saltmarshes, make to human health and wellbeing. The interdisciplinary scope includes art, social and environmental psychology, environmental economics, governance, policy and a suite of natural sciences.

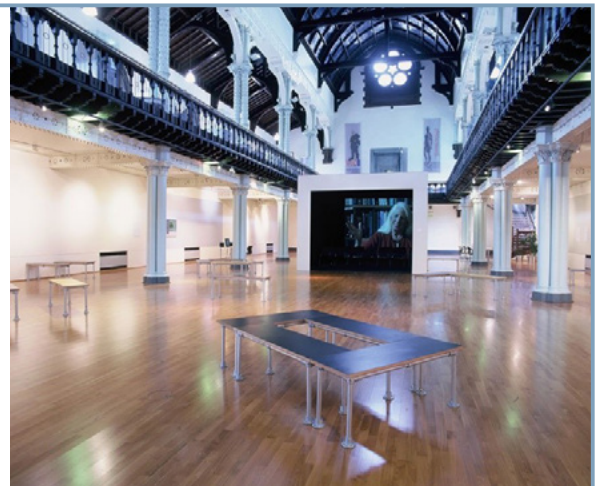
<https://www.simonread.info/within-the-living-memory-of-the-dead-b/>

Photo © Simon Read

Tomorrow Belongs to Me (2006), by Jacqueline Donachie and Darren Monckton, Sciart – Wellcome Trust. The project brought together art, science, people with lived experiences and members of the public in creating a documentary film, exhibition and books that looked at anticipation, the phenomenon of certain genetic conditions worsening as they are passed on from generation to generation.

<http://jacquelinendonachie.co.uk/project/tomorrowbelongstome>

Photo (view from installation) © Jacqueline Donachie



Hydrocitizenship (2014–2017), AHRC.

A 3-year project which investigated and made creative contributions to the ways in which citizens and communities live with each other and their environment in relation to water in a range of UK neighbourhoods. It included an experimental exhibition exploring non-human/water/human relationships through sensory and associative avenues reproduced on t-shirts and tea towels.

<https://www.hydrocitizenship.com/>

Photo © undercurrents p.11

https://www.watercitybristol.org/uploads/2/6/4/2/26426437/undercurrents_low_res__1_.pdf



Dreaming Scotland. Imagining Natural Scotland (2013–2014), Creative Scotland, Scottish Natural Heritage and University of St. Andrews. The project shared new perspectives of natural Scotland by contrasting the impressions and expectations of new arrivals with those of established residents.

<http://imaginingnaturalscotland.org.uk/the-projects/dreaming-scotland/>

Photo © Karen Gordon

Greenhouse Britain: Losing Ground, Gaining Wisdom (2006–2009) Defra, Climate Challenge Fund. The artists created an alternative narrative about how people might withdraw as waters rise, what new forms of settlement might look like, and what content or properties a new landscape might have in response to the global warming phenomenon.

<https://rgu-repository.worktribe.com/output/249255/greenhouse-britain-losing-ground-gaining-wisdom-2006-09-case-study>

Photo © Helen Mayer Harrison and Newton Harrison



Landscape and Environment (2005–2010), AHRC. The programme funded 50 projects, based in 40 institutions, with Principal Investigators drawn from 13 different disciplines. It aimed to develop arts and humanities understandings of landscape and environment in distinctive, innovative and engaging ways through research projects of the highest quality and international significance.

<http://www.landscape.ac.uk/index.aspx>



Popular Musicscapes. Focusing on Liverpool, this project examined the relationship between popular music and the urban environment (built and sonic).

Photo © Still from film *L8: A Time Piece*, editor Kofi Owusu



Landscape as Conceptual Art: retrieving values John Latham's conceptualisation of 'Five Sisters' (1976) as monumental process sculptures. The project set out to reaffirm the landscape as a site of art, and as a place of 'natural' wonder.

Photo © Craig Richardson

4. Arts research and Environmental research

The relationship between creative practice and research is not straightforward. The definitions and meanings of research and knowledge, as well the links between them, are complex⁴⁷. There is also a prevalent scepticism surrounding the idea that art can be research or create knowledge⁴⁸.

⁴⁷ Nutley et al. (2007)

⁴⁸ Cazeaux (2017); Klein (2010)

⁴⁹ Rolling Jr. (2013: 10)

“There is no one single definition or conception of what art is, nor of what its effect upon the world is supposed to be. Consequently, neither is there one single artistic method for research.”⁴⁹

This quote conveys the difficulty in trying to generalise and pin down the role of art in research. Arts research and artists can raise research questions and use a range of artistic and other methods to develop understandings and conclusions that manifest in the form of art (process or product; image, object or performance) as well as in other forms (data sets, papers, policy and practice notes). Artists can engage in research in different ways and their role can depend on the situation they are responding to. Experience shows that the ability of artists to participate, interact, and contribute to collaborative research can be determined by: a) the structure of disciplinary collaboration; b) the disciplinary dynamics within the team and; c) the employment status of the artists.

On the structure of disciplinary collaborations

Whether in a multi-, inter-, or trans-disciplinary research situation, the utility of the arts research approach stems, in part, from its independence: the ability to operate outside, across and within disciplinary boundaries, interpenetrating different traditions and creating new practice through its distinctive modes of enquiry. While multi-, inter-, and trans-disciplinary are common relational terms as far as environmental research is concerned, in an arts context it is worth reflecting on the meanings and dynamics of *un-disciplinarity* and *a-disciplinarity*. The term *un-disciplinarity* relates to interrelations between different disciplines and groups, while *a-disciplinarity* is more relevant to the unique positioning of the artist. Both concepts have gained traction in recent years within environmental arts and humanities communities and can be useful, especially the latter, in understanding the varied roles of artists in research collaborations.

Defining disciplinary collaborations

Multi-disciplinarity: Two or more disciplines work together and contribute to a broader understanding of, and suggest solutions to, common themes or problems, but without altering their disciplinary approaches or developing a common conceptual framework.

Inter-disciplinarity: Two or more disciplines interact across conventional disciplinary boundaries, for combining, synthesising and integrating concepts and methods in order to get broader understanding of, and find solutions to common themes or problems. Often hybrid approaches and new disciplines emerge from this (e.g. political ecology, ecological economics, bioinformatics, medical entomology).

Trans-disciplinarity: Researchers from two or more disciplines and actors from outside academia interact across the conventional disciplinary boundaries incorporating different types of knowledge to create a holistic approach in addressing common themes or problems.

Un-disciplinarity: Collaborations between scholars, artists, practitioners, and activists that go beyond narrow disciplinary practices to achieve broader understanding and find solutions to complex ecological challenges our societies are facing today⁵⁰.

A-disciplinarity: A research position that transcends disciplinary boundaries by addressing knowledge from an aesthetics perspective.

⁵⁰ See: <https://www.kth.se/en/abe/inst/philhist/historia/ehl/ehl-events/previous/undisciplined-enviro/undisciplined-environments-1.678696> and <https://richardcoyne.com/2018/06/09/undisciplinarity/>

The notion of *un-disciplinarity* has been developed within the context of political ecology and environmental arts and humanities, which highlight how knowledge is created and reproduced within disciplines is inadequate to address the ecological challenges our societies are facing today. The ecological crisis is in part a consequence of parcelling up nature into disciplines by which it can be controlled and dominated, therefore solutions to current environmental problems need undisciplined thinking.

Coined by the philosopher Jacques Rancière, the term *a-disciplinarity* has been developed in the recent work of John Roberts⁵¹, Professor of Art & Aesthetics at the University of Wolverhampton, for whom *a-disciplinarity* is an aptitude in the gift of artists.

⁵¹ Roberts (2015)

⁵² Roberts (2015: 109)

“One of the critical functions still left to artists is their ability to borrow from and invest in various knowledge bases without placing themselves at the instrumental service of such disciplines and practices; and this – as a matter of art’s self-definition – is something that should not be underestimated or undervalued”.⁵²

He argues that the efficacy of art is about being firmly in the world, but not of the world. *A-disciplinarity* loosens arguments, themes and motifs from their normative frameworks in ways that allow us to see intent, perception and meaning differently. This aptitude for negotiating different disciplines can, if given credence, help reframe the research horizon in a way that serves the multi-, inter-, or trans-disciplinary workings of the team. More to the point, the principle of *a-disciplinarity* qualifies artists to play a decisive role within these teams, ideally placed to mediate between the instrumental and conceptual borders of the separate disciplines involved. Their *a-disciplinarity* positions them particularly well to contribute in ‘*un-disciplinary*’ teams where researchers, practitioners, and activists come together to experiment with new practices of research, and knowledge production and reproduction.

On disciplinary dynamics within teams

With respect to the place and space of artists within any kind of disciplinary collaboration, discoveries and understandings can be generated through the artist’s applied practice and methods. These artist-research elements can be written up as contributions to the wider findings. The involvement of the artist in the team feeds back into their own creativity, either in producing an artistic output as part of the project or more generally within their own practice thereafter. Within an artist’s practice, researching for art is commonplace and is the basis for their aptitude to also generate research *through* art⁵³. Therefore, there is always a reciprocal relationship between artistic practice and the outcomes of the research project. However, depending on the balance of disciplinary dynamics within a research team, there are in general three typical contexts where artists can be found in which influence the contribution and manifestation of artistic practice.

These can be:

Science-led: Interdisciplinary research projects where the concepts and language, as well as the operative terms of the overall project, are defined at the nexus of social and natural science. Although the intention here may be to integrate arts and humanities approaches, efforts can be hampered by a lack of understanding about what the arts can deliver and there is a risk that the role of arts is restricted either to making difficult data accessible or to supply illustrations, rather than to articulate further dimensions to an enquiry.

⁵³ Frayling (1993) following Read (1958), categorised the relationship of artists to research under three headings: Research into art; Research through art; and Research for art.

Collaborative: Researchers from arts, science, social science, humanities and economics, non-academic researchers, practitioners and communities collaborate in inter- or trans-disciplinary (possibly un-disciplinary) research projects. In collaboration there is a genuine partnership between arts and other disciplines from the outset. Potentially, inputs from diverse practitioners are brought together to produce new practices and that emphasise the co-creation of new knowledge.

Arts-led: Research projects where the artist has the leading role responsible for the design, budget and running of the project. This work tends to be led from metaphorical and conceptual approaches. It uses a range of art forms often involving a variety of stakeholders, communities and other actors. The impact of this work is usually that new perspectives emerge revealing otherwise apparently unimportant aspects, and/or multi-sensory experiences help to share and open up specialised knowledge to wider audiences.

On employment relationships

The contribution, engagement and outputs arts research and artists can produce are also affected by the different ways that artists might be involved in research projects in terms of their employment status. There are four basic positions that describe artists' appointments within collaborative research projects:

Commissioned artists, artists researchers and designers are those called to deliver specific outputs based on a brief. This will often happen during a project and be focused on illustration and engagement. Outputs will form part of the brief and selection will be based on previous work.

Artist in residence artists or artist researchers have the opportunity to 'shadow' a project, engaging with aspects where there is mutual interest. The brief is essentially open, and the outputs and outcomes are agreed within and through the process (rather than from the outset). Selection will be on previous relevant experience, interest and 'chemistry' with the team.

Co-designing a research project involves artists contributing to the research design from the outset, or called to join later in a position that has been outlined in the research design process where the artist is able to co-design and lead specific work areas, allowing enough flexibility for the artist to define specific research objectives and outcomes. The artist and artist researcher may or may not be employed by a research institution before the start of the project or can be employed as a Co-I or Research Fellow.

Leading research projects whereby artists design and lead the development of work associated with a research project. They are responsible for the outputs aligned with the overall programme, the allocation of roles and responsibilities and the management of the workstream. Here the artist researcher is either employed by an institution on a long-term contract or has the means to secure funding otherwise.

In science-led inter-disciplinary projects, reaching out to artists can be challenging. It requires the project leader to have good experience of what artists can potentially offer to research projects (or have access to people that can advise on this). There are curators, producers and organisations who specialise in this work.

A plethora of other factors may define the work and positionality of the artists, and thus the role an artist can play, within a research project, for example:

- The personal character, training, experience, abilities and interests of the artist can define their relationship with other collaborators within the project and affect the design and outcomes of the project.
- The track-record of an individual artist may have an impact on the terms and conditions in which the artist will be incorporated in the project, the design and the outcomes of the project.
- The diversity of contexts that define possible projects, and topics within a specific project (university research in science labs, in the field, arts spaces or community halls). Context can pose constraints and dynamics which change the nature of the collaboration or can inspire equality in conversations fostering a true sense of engagement.
- The range of issues artists can engage and have an advanced aptitude to help with, such as advocacy, activism, community engagement and communicating findings.
- The size of budget, the economic situation of the artist and the ambitions of the artists/partners.
- The variety of artistic methods and media that might be used.
- The financial precarity of many freelance artists. This independence provides scope for artists to develop their practice and the place of their research within it. It requires good understanding of the realities of freelance artistic practice to write contracts that enable artists to fully contribute.

5. The diverse impacts of arts research

Arts research is directly relevant to culture and society. It facilitates the invention and generation of ideas, and the creation of performances and artefacts that lead to new or substantially improved insights⁵⁴. In other words, it generates a wide range of knowledge and therefore must have a wide range of impacts. However, the impact of arts research is ambiguous, mainly because the value of art contributions cannot be judged by criteria that normally would apply in scientific research or popular consensus alone.

⁵⁴ REF 2021 (2019: 90)

Artistic contributions are often seen to fit within the realms of experiential and theoretical ‘knowing’ as opposed to ‘empirical knowledge’ resulting from technical, objective judgements and systematic research⁵⁵. However, this separation ignores the fact that, in practice, any process of knowledge production, “*involves not just technical objective judgements but also subjective and contextualised assessments*”⁵⁶. Therefore, legitimising only specific, direct and easily measured impact neglects the most fundamental type of research impact: that of influencing knowledge and understanding and changing attitudes and ways of thinking.

⁵⁵ For different types of knowing (empirical, theoretical, experiential) see Brechin & Siddell (2000); Pawson et al. (2003)

⁵⁶ Nutley et al. (2007)

In the context of inter- and trans-disciplinary research projects, the impact of creative interventions can reinforce scientific findings either by illustrating and communicating them, or most importantly by co-producing and shaping their nature from the start of the project. The work of the artists can complement scientific findings by ensuring outputs are critical, creative and engaging, and providing additional legitimacy, attractiveness, relevance and depth.

⁵⁷ Ideas on the diverse impacts of arts research originated from discussions during the AALERT workshop and combined here with concepts from Galafassi et al. (2018).

Arts research can⁵⁷:

- **Bring things to vision.** Arts research is a process of manifesting issues that may otherwise be overlooked or not recognised and helping them become apparent. This happens by capturing and bringing together data and/or ideas and values, visualising what can happen and allowing openness to recognise the significance of it.
- **Spark imagination and trigger serendipity.** Arts research has the potential to create spaces for active experimentation and imagination and foster creative thinking. Serendipity is an integral part of emergent and resilient responses.

⁵⁸ The impact of Sciart programme funded by the Wellcome Trust (1996 to 2006) to facilitated arts science collaborations it is believed to have a significant influence on the public's engagement with science.

- **Communicate messages between diverse groups.** Arts research helps to translate scientific perspectives to local and policy audiences. Artists working with people and communities are able by means of their creativity to make use of a whole range of understandings, approaches and mediums to articulate and express what people value about their place.
- **Reveal the value of disciplines to people.**⁵⁸ Artists can facilitate conversations with people outside the research environment and enhance understanding of what each discipline has to offer, revealing expertise that would not be automatically communicated otherwise, and facilitating the language and ways to demonstrate the imaginative outcomes a discipline can yield.
- **Provide a source of motivation.** Artistic work can be original, playful, unsettling and unpredictable and this can provoke thoughts and feelings and inspire further action on issues.
- **Reframe the issue at stake.** Arts research can step back and ask a different question, present problems in a different language, challenge scales of reference (spatial, temporal) and effectively shift perceptions of what issues and situations can mean.
- **Suggest alternative solutions and promote new ideas.** Artists can feel less inhibited by rules and guidance, either because they are not versed in these and can rise above them, or because they can choose either to deploy or ignore them opening up space for innovation and experimentation and often activism.
- **Change perceptions and inform decisions** that impact on landscapes and the environment more generally. This can happen directly or indirectly during all phases of the research, from designing and executing the research project to disseminating research findings and outputs. Sometimes the impact of art research in changing perceptions may be unique in the sense that particular outcomes may have never been brought up otherwise.
- **Open up possibilities for political engagement.** Hybrid experiences that bring together art, science and the reality of environmental issues can be fertile ground for collective action creating opportunities and safe spaces for public scrutiny and the negotiation and sharing of difficult emotions, dilemmas and values.

- **Reveal the value of place for people** by unfolding local knowledge and elements of the environmental history of a place. The creative role of the arts is to manifest common visions and values of the past, present, and future and allow them to be shared, contributing to an extent to the creation of cultural identities.
- **Reveal the intrinsic value and agency of nature;** Arts research can help people understand that nature has its own rhythms and powers by facilitating experiential encounters, working with folklore and myth and allowing symbolic ways to assess human and non-human values. It can offer a bridging of languages which are aspirational and leave space for new thinking in valuing nature.

As part of transdisciplinary learning processes of knowledge integration arts research can:

- **Promote informed discussion and debate.** Arts research can open up new avenues or stimulate new questions and methodologies of research; it is often provocative and challenges prevailing assumptions and existing ways of thinking and doing things. Artists, if willing to enter other disciplinary worlds, can play an important role as interlocutors and disruptors, breaking through processes, bringing in alternative perspectives, and creating positive channels of communication.
- **Bridge differences between disciplines, groups and people** who participate in research projects. This bridging role is not always intentional, but arises from the presence of the artist in conversations and the provocations of the artist's work. In bridging differences, artists also learn, reflexively, about other disciplines and how their approaches and methods differ from artistic ones.
- **Suggest alternative ways of knowing and doing.** Arts research encourages learning through observing how things happen, how people feel about, react to, and deal with issues. It makes the case for stories, images and, in general, intangible elements that may have equal value for people alongside economic value. Arts research challenges the idea that scientific method that provides rational knowledge, can be the only solution and that its application should be the only way forward.
- **Embracing social-ecological complexity.** Art embraces uncertainty and tends to trace the ways in which society and nature are intertwined. This approach facilitates alternative modes to explore, demonstrate and promote relations to nature beyond 'command-and-control'.

In addition to the benefits that arise during the process of artistic research and from artists' collaborations with other researchers during projects, the artwork itself has the potential to benefit society and culture by affecting awareness, promoting changes in behaviour, or by endorsing certain performances, practices and understandings. Its impact can be felt over long time periods while the art work is being experienced.

The impact of arts research is not always clear-cut, with some art being deliberately provocative. This can result in reactions that although negative are nonetheless impactful. In addition, artists would naturally communicate their outcomes and impacts through informal channels (e.g. gallery exhibitions, installations), which do not adopt an orthodox, formal approach via which mainstream (scientific) research outcomes would usually be disseminated. Some argue that presenting artistic outcomes through formal channels to influence decision-making can be a constraining and undesirable way for arts to influence the outside world.

6. Promoting arts in environmental research

The contribution of creative practices in environmental research can provide added value in a variety of ways and during different phases of the research process. Yet, how this can be achieved in practice is not always clear. This section provides suggestions⁵⁹ for practical design and execution of research to animate the contribution of the arts to multi-, inter- and trans-disciplinary research that seeks to straddle and integrate knowledge, evidence and understanding across diverse disciplinary boundaries.

Broadening the concept of environmental research

- The theoretical and conceptual design of the research should acknowledge that reality is multifaceted. While objective, verifiable forms of knowledge are suitable for many research questions, knowledge and meanings gained through immersive situations '*where one contemplates and experiences themes or feeling complexes*'⁶⁰ can be equally important and can result in more insightful paths to understand nature. For instance, arts research can initiate questions, work with conventional approaches to reframe the key questions in ways that open up new possibilities or provide an alternative perspective or 'side light' in parallel with the main enquiry⁶¹.

⁵⁹ Ideas presented here have been originated and debated during the AALERT workshop.

⁶⁰ Boutet (2013: 30)

⁶¹ This has been demonstrated in context of climate change research. See for example Greenhouse Britain and Sounding Coastal Change projects.

Designing collaborative research projects

Co-development is crucial in collaborative research proposals and the process should ensure that projects:

- are characterised by **a sense of mutual trust and respect** starting from a standpoint that knowledge (and value) can be co-created and led by both artistic and scientific rationales. Artists, scientists and practitioners should be equal collaborators contributing genuinely in the formulation of the research.
- **utilise the wide range of expertise available** (including arts research) to allow creative responses to multifaceted problems. Selecting the right expertise (including the right artist) for the right project is of fundamental importance. In the same way that scientists are not one uniform group with the same expertise, different artists have different skills. A research project may require more than one artist with different skills and expertise. In projects where artists lead the whole framework, the research process may require bringing in other expertise to undertake certain tasks on behalf of the artist or artists to learn new certain skills.
- **allow space for confidence-building exercises** in order to find common ground between the different disciplines and stakeholders and allow time and resources for peer support in order to balance dynamics within them, so that individual artists or scientists feel less marginalised within the predominant research culture.
- **engage everyone in creative dialogue** and incorporate mechanism that allow collaborators to be exposed to other disciplines' methodological intricacies. Artists should be able to experience the reality scientists or social scientists are involved in, witness the successes, failures and pressures of these processes and vice versa.

The underlying research framework should **allow the artistic approach to be materialised**. This requires:

- **a holistic approach to research** where scientific and practical, evidence-based methods will allow original, challenging and provocative methods to reveal different levels of meaning and question 'truth claims' that may be raised from any other discipline.
- **a sense of experimentation** included in the research design, where the objective is to unfold rather than to solve issues. Accept that it's not always possible to specify exactly what the outputs and outcomes will be from the start. Allow space for things to happen including failures and **accept negative impacts** as valid research outcomes.

It is important to create the circumstances where **more artists can lead** inter- and trans- disciplinary projects and gain access to substantial funding sources. Therefore:

- **funding mechanisms should be restructured** in such a way that they support project co-development between artists and scientists. This might involve creating projects with multiple co-PI's as opposed to the single PI and multiple co-investigators. This would help make interdisciplinary work a reality, ensuring parity of responsibilities and esteem between participating scientists and artists, to send out a clear message regarding the value of the input and impact of the different actors in the project.
- project design should allow for **monitoring long-term impact of the arts**. Consider timeframes in relation to funding availability, but also legacy benefits of undertaking research based on creative practice.

Finally, it is important to **create hubs**; neutral spaces where artist and scientists can come together to interact and engage in critical dialogue⁶², access resources and data banks from previous research, and exchange knowledge. **Long-lasting networks** of communication and engagement can advocate and also promote the role of artistic practice in research and decision-making.

Demonstrating the value of artistic research to arts organisations

Arts organisations have a key role in supporting artists researchers working in landscape and environment research, as well as in the presentation of research processes and outputs to the public.

The value of artist researchers to arts organisations is still being negotiated, in part because it tends to go beyond the delivery of programme content and sometimes directly engages arts organisations' purposes and ways of operating.

Budgeting for arts production is an art in its own right, and the costs of performances and exhibitions need to be understood at the outset of research projects. Production costs of work, venue costs, marketing and publicity as well as curator or producer support, all need factoring in.

Timescales can be challenging – research is slow, so at the development stage of research the process can be distant from arts organisations interests and concerns. Equally, arts organisations programming cycles are different between visual and performing arts and are distinct from research. Researchers need to think about impact and engagement at an early enough stage to engage with arts organisations.

⁶² See also
Sleigh & Craske (2017: 327)

7. Closing thoughts

Valuing nature better requires the creation of new discourses that disrupt prevailing wisdoms and re-think the ways different disciplines work together.

Arts research is a legitimate process that can itself, or in collaboration, meet universal criteria of research quality along the lines of originality, significance and rigour. Its importance should be more widely acknowledged for valuing nature and decision making in landscape management.

The concept of environmental research should be broadened in order to underpin different approaches to knowledge, both in theory and practice. Researchers and funders should be aware how new opportunities for co-produced forms of knowledge can emerge from art collaborations with other disciplines.

There is a need to acknowledge equally the impact of arts research through contributions to community and identity building, benefits to education and intellectual advances, creativity, innovation and exploration, as well its impact on intrinsic realms such as evoking emotional responses and experiential knowing.

It is essential to find ways to bring artists, scientists and other researchers together in projects on equal terms that would result in better co-developed projects, potentially led and managed more successfully by a combination of expertise.

Security of funding and appropriate investment that will allow artists – including freelance artists – to undertake research remains crucial. Although levels of funding are relative to the nature and requirements of research, they do not always reflect the broader societal impacts that arts research is capable of having. They tend to reflect views about the hierarchy of ways of knowing, with scientific inquiry and materialism at the top and the arts lower down. Arts research encourages collaborative work with scholars from other disciplines that challenge and rethink this hierarchy.

References

- AHRC (2017). *A Unique Contribution: Arts and Humanities Research and the Environment*. AHRC, Swindon. Available at <https://ahrc.ukri.org/research/readwatchlisten/features/a-unique-contribution-arts-and-humanities-research-and-the-environment/>
- Bakhshi, H., Schneider, P. and Walker, C. (2008). *Arts and Humanities Research and Innovation*. London UK: NESTA.
- Barone, T. and Eisner, E. W. (2012). *Arts Based Research*. California, SAGE Publications Ltd.
- Barrett, E. and Bolt, B. (2007). *Practice as Research: Approaches to Creative Arts Inquiry*. London: I.B. Tauris and Co.
- Barry, A., Born, G. and Weszkalnys, G. (2008). Logics of interdisciplinarity. *Economy and Society*, Vol 37, 1, pp. 20–49.
- Bate, J. (1991). *Romantic Ecology: Wordsworth and the Environmental Tradition*. Routledge, London and New York.
- Belfiore, E. and Bennett O. (2008). *The Social Impact of the Arts: An Intellectual History*. Hampshire, UK: Palgrave Macmillan.
- Bennett, O. (2001). *Cultural pessimism: Narratives of decline in the postmodern world*. Edinburgh: Edinburgh Univ. Press.
- Bolt, B. (2016). Artistic research: a performative paradigm? *PARSE Journal*, Vol 3, pp. 129–142.
- Brechin, A. and Sidell, M. (2000). Ways of Knowing. In, Gomm, R., and Davies, C. (eds.), *Using evidence in health and social care*. Open University, Sage, London, pp 3–25.
- Buchanan R. and Margolin, V. (1995). *Discovering Design: Explorations in Design Studies*. Chicago: University of Chicago Press.
- Boutet, D. (2016). Metaphors of the mind: art forms as modes of thinking and ways of being. In, E. Barrett and B. Bolt (eds.) *Carnal knowledge: towards a 'new materialism' through the arts*. I. B. Tauris, London and New York, pp. 29–40.
- Cazeaux, C. (2017). *Art, Research, Philosophy*. Oxon UK: Routledge.
- Coessens, K., Douglas, A. and Crispin, D. (2009). *The Artistic Turn: a manifesto*. Leuven: Leuven University Press.
- Crossick, G. and Kaszynska, P. (2016). *Understanding the value of arts & culture*. The AHRC Cultural Value Project. AHRC <https://ahrc.ukri.org/newsevents/publications/>

- Dearing, R. (2005). A research council ... at last. *Podium*, Vol 1, 4/05, pp. 2–3.
- Douglas, A. and Fremantle, C. (2017). What poetry does best: the Harrisons' poetics of being and acting in the world. In, H. M. Harrison and N. Harrison, *The Time of the Force Majeure: After 45 Years Counterforce is on the Horizon?* New York: Prestel. <http://hdl.handle.net/10059/2128>
- Douglas, A. and Fremantle, C. (2016). Inconsistency and contradiction: lessons in improvisation in the work of Helen Mayer Harrison and Newton Harrison. In, J. Brady (ed.) *Elemental: an arts and ecology reader*. Manchester: Gaia Project Press. <http://hdl.handle.net/10059/1697>
- Drabble, B. (ed.) (2019). *Along Ecological Lines – Contemporary Art and Climate Crisis*. Gaia Project Press.
- Edwards, D., Collins, T. and Goto Collins, R. (2016). An arts-led dialogue to elicit shared, plural and cultural values of ecosystems. *Ecosystem Services*, Vol 21, pp. 319–328.
- Elderfield, J. (2013). *Old Art Terms # 5: Making Visible*. <https://www.artsy.net/article/johnelderfield-old-art-terms-number-5-making-visible>
- Elkins, J. (2014). *Artist's with PhD: On the New Doctoral Degree in Studio Art*. Washington D.C., USA: New Academia Publishing.
- Frayling, C (1993/4). Research in art and design. *Royal College of Art Research Papers*, Vol 1, No 1.
- Fremantle, C. (2014). Working Together. In, R. Ferry and E. Monoian (eds.) *New Energies: Land Art Generator Initiative, Copenhagen*. New York: Prestel. <https://openair.rgu.ac.uk/handle/10059/1603>
- Gabrys, J. & Yusoff, K. (2012). Arts, Sciences and Climate Change: Practices and Politics at the Threshold. *Science as Culture*, Vol. 21, 1, pp. 1–24. DOI: 10.1080/09505431.2010.550139.
- Galafassi, D., Kagan, S., Milkoreit, M., Heras, M., Bilodeau, C., Bourke, S. J., Merrie, A., Guerrero, L., Pétursdóttir, G., and Tábara, J. D. (2018). 'Raising the temperature': the arts in a warming planet. *Current Opinion in Environmental Sustainability*, Vol 31, pp. 71–79. Available at <https://www.sciencedirect.com/science/article/pii/S1877343517300714?via%3Dihub>
- Gkartzios, M. and Crawshaw, J. (2019). Researching Rural Housing: With an Artist in residence. *Sociologia Ruralis*. Available at <https://onlinelibrary.wiley.com/doi/full/10.1111/soru.12224>
- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., and Trow, M. (1994). *The new production of knowledge*. Sage, London.

Gray, C. and Mallins, J. (2004). *Visualizing Research: A guide to the research process in art and design*. Ashgate Publishing Ltd, Hants UK.

Harrison, H. M. and Harrison N. (2013). *On Mixing, Mapping, and Territory*. Lecture given on February 6, at the Digital Arts Research Centre, UCSC. Video available on <http://theharrisonstudio.net/>

Harrison, H. M. and Harrison, N. (2007). Public Culture and Sustainable Practices: Peninsula Europe from an eco-diversity perspective, posing questions to Complexity Scientists. *Structure and Dynamics: eJournal of Anthropological and Related Sciences*, Vol 2, 3. Available at <https://escholarship.org/uc/item/9hj3s753>

Hazelkorn, E., Ryan, M., Gibson, A. and Ward, E. (2013). *Recognising the Value of the Arts and Humanities in a Time of Austerity: Report*. HERA.

Hutzel, K. (2010). Review: The Social Impact of the Arts: An Intellectual History, by Eleonora Belfiore and Oliver Bennett. Hampshire, UK: Palgrave Macmillan, 2008, 248 pages. *The Journal of Arts Management, Law, and Society*, Vol 40, pp. 324–327.

Kagan, S. (2013). *Art and Sustainability: Connecting Patterns for a Culture of Complexity*. 2nd Edition. Bielefeld: Transcript Verlag.

Kepes, G. (1956). *The New Landscape in Art and Science*. Chicago, IL: Paul Theobald and Co.

Kepes, G. (ed.) (1972). *Arts of the Environment*. Aidan Ellis, Oxon, UK.

Klein, J. (2010). What is artistic research? *Gegenworte 23*, Berlin-Brandenburg Academy of Sciences and Humanities, pp. 25–28. Available at <https://www.jar-online.net/what-artistic-research>

Leavy, P. (2015). *Method meets art: Art-based research practice*. New York, The Guilford Press.

Little, G. (2017). Connecting Environmental Humanities: Developing Interdisciplinary Collaborative Method. *Humanities*, Vol. 6, 4, p. 91.

Macleod, K. and Holdridge, L. (2006). *Thinking Through Art: reflections on art as research*. Oxon UK: Routledge.

Menga, F. and Davies, D. (2019). Apocalypse yesterday: posthumanism and comics in the Anthropocene. Accepted Manuscript of an article published by SAGE in *Environment and Planning E: Nature and Space* [Article DOI 10.1177/2514848619883468].

Main, D. (2019). How art saved Yellowstone—and the landscape still inspires. *National Geographic*, June 26. On line, available at <https://www.nationalgeographic.com/animals/2019/06/art-yellowstone-plein-air-painting-thomas-moran/>

Nelson, R. (2013). *Practice as Research in the Arts*. London: Palgrave Macmillan.

Nowotny, H., Scott, P., & Gibbons, M. (2001). *Re-thinking science: Knowledge and the public in an age of uncertainty*. Cambridge: Polity.

- Nurmis, J. (2016). Visual climate change art 2005–2015: discourse and practice. *WIREs Climate Change*, Vol 7, pp. 501–516. doi: 10.1002/wcc.400.
- Nutley, S. M., Walter, I., and Davies, H. T. O. (2007). *Using Evidence: how research can inform public services*. Policy Press, Bristol.
- Pawson, R., Boaz, A., Grayson, L., Long, A. and Barnes, C. (2003). *Types and quality of social care knowledge. Stage two: towards the quality assessment of social care knowledge*. ESRC UK Centre for Evidence Based Policy and Practice: Working Paper 18. Available online: <https://www.kcl.ac.uk/sspp/departments/politiceconomy/research/cep/pubs/papers/assets/wp18.pdf>
- Read, H. (1958). *Education Through Art*. Faber & Faber LTD, London.
- REF 2021 (2019). *Research Excellence Framework*. Guidance on submissions. Available at <https://www.ref.ac.uk/publications/guidance-on-submissions-201901/>
- Roberts, J. (2015). *Revolutionary Time and the Avant-Garde*. London UK: Verso.
- Rolling Jr., J. H. (2013). *Arts-Based Research*. New York, Peter Lang.
- Rose, G. (2001). *Visual Methodologies*. London UK: Sage Publications.
- Rust, C., Mottram, J. and Till, J. (2007). *Review of practice-led research in art, design & architecture*. UK: Arts and Humanities Research Council. Available at <http://shura.shu.ac.uk/7596/>
- Savin-Baden, M. and Wimpenny, K. (2014). *A Practical Guide to Arts-related Research*. Sense Publishers, Rotterdam.
- Schon, D. (1987). *Educating the Reflective Practitioner*. California, USA: Jossey-Bass Inc.
- Sleigh, C. and Craske, S. (2017). Art and science in the UK: a brief history and critical reflection. *Interdisciplinary Science Reviews*, Vol 42, 4, pp. 313–330. DOI:10.1080/03080188.2017.1381223.
- Smith, H. and Dean T. R. (2009). *Practice-led Research, Research-led Practice in the Creative Arts* (Research Methods for the Arts and Humanities), Edinburgh University Press, Edinburgh.
- Snow, C. P. (1993 [1959]). *The Two Cultures*. Cambridge University Press, Cambridge.
- Sullivan, G. (2005). *Art Practice as Research: Inquiry in the Visual Arts*. California USA: Sage Publications.
- Yusoff, K. (2010). Biopolitical economies and the political aesthetics of climate change. *Theory, Culture and Society*, Vol. 27, 2–3, pp. 73–99.
- Wordsworth, W. (1807). *Poems, in Two Volumes*. Longman, Hurst, Rees, and Orms, London. Available on line at <https://archive.org/details/poemsintwovolume00word/page/48>

Authorship

Lead Author

Eirini Saratsi

Co-Authors

Tim Acott

Ewan Allinson

David Edwards

Chris Fremantle

Robert Fish

Contributors

Emily Brady

Peter Coates

Julie Crawshaw

Harriet Fraser

Rob Fraser

Polly Moseley

Dave Pritchard

Simon Read

Collaborators

Jenna Ashton

Henna Asikainen

Mark Anthony –
ATMstreetart

Lise Autogena

Zoe Benbow

Jo Birch

Clive Cazeaux

Gary Charlton

Tim Collins

Susan Cunningham

Stephen Daniels

Emily Diamand

Clive Doarks

Minty Donald

Kate Flood

Reiko Goto Collins

John K Grande

John Hartley

Harriet Hawkins

Rachel Howfield

Massey

Katherine Irvine

Alana Jelinek

Rachel Labovitch

Tom LaDell

Victoria Leslie

Antony Lyons

Steve Messam

Nina Morris

Kerry Morrison

Poppy Nichol

Jonathan Porter

Joshua Portway

Natasha Richardson

Joe Roberts

Colin Shaw

Daisy Sutcliffe

Judith Tucker

Ben Twist

Stephen Vaughan

Jo Vergunst

Richard White

Val Woods

Acknowledgements

The authors would like to express their special thanks to Tim Collins for his intellectual contribution at the early stages of the development of this document.

Suggested citation: Saratsi, E., Acott, T., Allinson, E., Edwards, D., Fremantle, C., Fish, R. 2019, *Valuing Arts and Arts Research*. Valuing Nature Paper VNP22.

The text is available under the Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA 4.0)

Further information contact the
Programme Coordination Team:
info@valuing-nature.net

 @ValuingN
valuing-nature.net