In the time of art with policy: the practice of Helen Mayer Harrison and Newton Harrison alongside global environmental policy since the 1970s.

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In the Time of Art With Policy: the practice of Helen Mayer Harrison and Newton Harrison alongside global environmental policy since the 1970s[1]

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From around 1970, the artists Helen Mayer Harrison (1927-2018) and Newton Harrison (b. 1932), known as 'the Harrisons,' started to focus on ecology and ecological systems, influenced by amongst other things, Rachel Carson's *Silent Spring* which had been published in 1962. 'Earth Day' was established in 1970. *Limits to Growth* was published in 1972 (Meadows et al.). International environmental policy took a step change with the first of the global environmental conferences, the UN Conference on the Human Environment in Stockholm (1972), as well as the adoption of the first of the modern global treaties on the environment – the Convention on Wetlands (Ramsar Convention, 1971) and the Convention concerning the Protection of the World Cultural and Natural Heritage (1972). What might a juxtaposition of the trajectory described by the work of the Harrisons with the expansion of global developments such as these since the 1970s reveal about the potential cross currents between art in the public realm and public policy?

Exploring the relationship between art and climate change specifically, the recent paper 'Raising the Temperature' (Galafassi et al. 2018) highlights the urgency for decisive action and profound cultural transformations, looking to the role of artists.[2] It frames this challenge as a need for greater levels of socio-cultural integration, while also being respectful of difference. It notes that the arts are increasingly engaging with climate change issues through the co-creation of knowledge and through interdisciplinarity, but are curiously absent from global environmental policy discussions. The authors specifically highlight the absence of the arts from policy documents noting, "Despite increasing interest in the 'human dimension' of global environmental change across a variety of disciplines, the arts are a forgotten dimension in IPCC reports[3]: a word search in IPCC AR5 shows that the term 'arts' (in the sense of artistic practice) does not appear." (Galafassi et al 2018, 72).

The Great Derangement (Ghosh 2016) explores the capability of the arts, and literature in particular, to address the scale and multi-dimensionality of the climate crisis and highlights the responsibility of artists saying, "When future generations look back upon the Great Derangement, they will certainly blame the leaders and politicians of this time for their failure to address the climate crisis. But they may well hold artists and writers to be equally culpable – for the imagining of possibilities is not, after all, the job of politicians and bureaucrats." (Ghosh 2016, 135).

Galafassi highlights the role of the arts in social learning, suggesting that the arts are particularly well equipped to draw on multiple sources of knowledge and to drive action relevant to the kinds of transformations that climate issues have made urgent.

The double challenge articulated by Galafassi and Ghosh concerns ways of being more open to the contribution of the arts and ways in which the arts might best make their contribution. Galafassi highlights the increasing engagement of the arts with climate change

over the ten years from 2006, and offers a framework for thinking about what the different forms of contribution are. Ghosh's argument in *The Great Derangement* is that some of the contemporary forms in the arts, and he particularly focuses on the novel, are ill-suited to addressing the crisis.

One way of reframing the role of the artist is offered by *The Artist as Leader Research Report,* which highlighted the importance of 'reading' artists' practices in the wider context of policy development. The authors explain that, "By mapping policy changes in relation to the arts, we aim to demonstrate the importance of knowledge of policy developments to arts practice as the first step towards developing a critical stance in relation to artistic leadership." (Douglas & Fremantle 2009, 9).

From the perspective of the artist, the research showed that this reading enabled individuals (artists and their audiences/collaborators) to become informed of - and adapt - in important ways to social, cultural, and economic change. At the time that the research was being undertaken (2006-9), change was predominantly defined in economic terms, in the light of post-industrial regeneration and the emergence of the 'creative industries'. From the perspective of society, cultural policy sought to locate the arts (and design) as instrumental to the economy. This posed a problem: While the arts have a function in society, one that shifts and changes, they were increasingly in danger of falling into the trap of seeking to legitimise this function by claiming causation, through social, economic or political impact. The authors observed that "This trajectory suggests that any construction of artistic leadership would need to embrace a more complex set of artistic positions in which artistic endeavour becomes more than the valuing of a certain form of production in monetary terms." (ibid, 22).

With this problem in mind, *The Artist as Leader* research conceived of and explored the approach of a number of artists as a form of leadership in civic life, thinking in terms of 'leading through practice.' Particular practices were conceptualised in ways that avoided instrumentalism while sustaining a clear transformative function in the public realm. Such an 'artist as leader' manifests particular skills and competencies, particular ways of imagining how to work through the arts on societal issues, frequently in the form of direct and practical interventions. Such practices present distinctive and complex ways of ascribing value in public life, a function that policy also attempts to fulfil.

In this chapter we focus on the practice and works of the Harrisons because they are recognised as pioneering the development of an ecologically oriented art practice (Kastner 1998, 36, 142-147).[4]

Helen Harrison was a poet and Chaucer scholar and Newton Harrison, a sculptor. Some fifty years ago they began working together and committed to only making work that served the health of the life web.[5] This commitment, a remarkable conceptual move that has underpinned their practice from that point into the present, shifted the centre of gravity from outcomes to process, from skill in relation to materials to a practice of experimentation and learning, creating a form of inquiry that unfolded over time. This time-based process consciously reframed the way human beings imagined themselves in relation to their environments, and was increasingly set against a backdrop of multiple escalating environmental crises.

The Harrisons are not alone in developing an artistic practice that addresses the pressures of environmental change, effectively bringing the arts into public policy issues.

Others in this field include Joseph Beuys (1921-1986), Mel Chin (b.1951), Agnes Denes (b.1931), Peter Fend (b.1950), Hans Haacke (b.1936), John Latham (1921-2006), Alan Sonfist (b.1946) and Mierle Laderman Ukeles (b.1939), to name a few in the Harrisons' generation, as well as many more that have followed. Through such approaches it becomes effectively possible to scrutinise and unlearn entrenched systems of value (Spaid 2002, 3-4). A consistently crucial facet is the way these artists work with time, exploring the potential for different temporalities to emerge from the imagination of the artists. They work experimentally with, rather than against, the rhythms of ecosystems; or at least expose the disjuncture between human and ecological time, the time of policy and the time of environmental change.

Our aim in this chapter is to uncover qualities of the Harrisons' particular approach as artists and what this offers as a different way to approach the environmental crisis, and possibly to engage policy. We aim to enrich understanding of how this particular artistic practice works in a world of changing perceptions of the environment and its increased presence in global public policy. We will conclude with some observations on what artists might bring to the policy 'table'.

Matilsky, writing on the Harrisons in the context of the other artists included in the *Fragile Ecologies* exhibition and catalogue, says, "Because their art involves the largest territory of any of the artists discussed in this book, it must by necessity be more conceptual. Most artists study and remediate a particular site, which is often fairly small. By contrast, the Harrisons have accepted the challenge of interpreting bodies of land and water that often cross national boundaries." (Matilsky 1992, 66)

The Harrisons' work is rooted in the Deep Ecology philosophy and movement, seeking to reposition the human within the ecological rather than controlling from a position 'outside' (Naess 1986). Their work addresses the complexity of human impacts on environments, most recently through the framing of sea-level rise, heatwave and extinction as the 'Force Majeure' (Harrison and Harrison 2016). It is collaborative, involving the artists in working with many environmental scientists and developing a high level of expertise in several aspects of ecological science.[6]

However, the radical implications of a focus on putting the health of the life web first cannot be understated. Matilsky goes on to say, "The Harrisons' solutions to environmental problems are sometimes utopian calls to action offering alternative visions of art and life. *Meditations on the Great Lakes of North America* (1978) was a way of shocking people into a radical rethinking about environmental problems. …Using maps, texts, and performances, they argued that the citizens of the United States and Canada should secede from their respective countries and reform themselves into an ecological province, not based on traditional political and economic boundaries, and led by a 'Dictatorship of the ecology'." (Matilsky 1992, 68-69).

The Harrisons and Policy

The Harrisons' "...progression from an initial decision, made in '69-'70, to do no work that did not in some way look at ecosystemic well-being" (Harrison & Harrison 2001, np) is further articulated in their work *The Serpentine Lattice* (Harrison & Harrison 1993, 5-6),

> Then
> A new reversal of ground comes into being

where human activity becomes a figure
within an ecological field
as simultaneously the ecology ceases to be
an ever shrinking figure
within the field of human activity

All of their works over fifty years put ecosystems' well-being as a prerequisite for human well-being. Different works explore aspects of this, proposing economic models (*A Vision for the Green Heart of Holland*, 1995), modes of farming (*On the Deep Wealth of this Nation, Scotland*, 2017), urban forms (*Greenhouse Britain: Losing Ground, Gaining Wisdom*, 2008), as well as approaches to remediation and regeneration of natural systems (*The Serpentine Lattice*, 1993).

When the Harrisons started their exploration of ecological systems in the early 1970s, it was still common for many to see nature as unchanging, and ecological systems as self-contained and self-supporting, somehow separate from human life. While human impacts affected ecological systems, these were described as 'interventions'. In other words, a prevalent view was that ecological systems needed to be understood in themselves, as both 'other' and also as stable over time (Ione 2017, np). The Harrisons, however, never subscribed to the notion that ecological systems were 'other'. They positioned the human within the ecosystem and consistently articulated what one might call eco-cultural well-being as the objective. In their work from *The Survival Series* (1970-77) through to at least *Peninsula Europe* (2001), they did on the other hand appear to subscribe to the idea of ecological systems being able to exhibit an optimal stability. The experiments in *The Survival Series* attempt to model life cycles. The measure of success in, for example, *Portable Fish Farm* (1971) would have been stable self-replication. However, each time they attempted to demonstrate this, they failed. The natural systems pushed back and opened up a point of learning. With time, the Harrisons' understanding of stability became more nuanced. They describe this in their essay *From There to Here* saying, "Despite flux, indeterminacy and ongoing change, both cultural systems and ecosystems, individually or in transaction, maintain their stability, their continued existence, by virtue of taking in from their environments that which appears necessary for their well-being. To take in from the environment carries with it *prima facie* the requirement to release that which is unused, the detritus, back into the environment." (Harrison & Harrison 2001, np).

This statement undergoes another shift in gear in 2016, with the publication of their manifesto *The Force Majeure* (Harrison & Harrison 2016, 426-431). Gradually the references to stability are replaced with references to the state of energy in the system, interplay between energy and entropy. Natural systems are low-entropy systems that keep themselves in balance at a local level by taking in what they need and releasing what they do not need back into the environment, to be taken up by other living forms. However, high-entropy systems reverse this dynamic by increasing inert, unusable energy to a dangerous degree. High-entropy systems are those of human culture. The Harrisons express it thus: "Nature's processes manifest themselves by self-organizing, self-complicating, self-evolving, and self-stabilizing, with resilience as the norm – whereas the productive, creative human race is far along in a contrary process, transforming local low-entropy systems (which we can call collectively the ecosystem of the earth) into rising-entropy systems that might well be called Humanity's Preferred Cultural Landscape." (Harrison & Harrison 2016, 426-7).

By including the human within the ecological through the dynamics of energy across natural/cultural systems, the differences between ecologically sound and destructive systems are thrown into sharp relief. At issue is the unchecked growth of human systems in contrast to the limits and boundaries of natural systems.

Turning from the conceptual underpinnings to focus on the policy context, although their work is focused on the public realm, we mainly encounter it in galleries and museums. They use cultural institutions in the places they are invited to work as spaces in which to bring environmental policy issues into the cultural discourse. They frequently actively engage politicians.[7]

The forms of the works, persistently using maps and plans alongside photography, share elements in common with public policy documents, but where the texts of the latter are extensive, repetitive, depersonalised and unified in voice, the Harrisons' texts are poetic. In fact, the Harrisons' use of language draws on key traditions of storytelling, influenced by their involvement in the ethnopoetics movement (Douglas & Fremantle 2016a). This involvement would have brought them into close proximity with different constructions of time along with the understanding that their particular form of poetry should be spoken first. As Matilsky noted, the 'work' is composed of time-based performances. Where public policy uses a unified voice, the Harrisons developed a plural voice, which is able to capture contradictory positions and hold inconsistency so that it can be understood in an expanded way. This is done through literary, rhetorical and performative devices, adopting different personas. In their seminal work *The Lagoon Cycle* (1985) the two voices are the Lagoon Maker and the Witness, the active and the reflective aspects of the artist. The ability to articulate plural voices and complex, contradictory positions is one important contribution that the artist can make to the world of policy and its public understanding (Douglas & Fremantle 2016b).

The use of plurality of voice opens up a set of possibilities in contrast to public policy's closing down through a unified approach to the content of the message. It may also be said that public policy has a unified approach to conceptions of time.

Time in public policy

At this point we are not aware of any academic research (e.g. a cultural history) into framings and understandings of time in public policy, so we offer a few observations of our own.

Environmental policymaking at the global intergovernmental level is constructed from systems of international diplomacy that work through iterative, negotiated trade-offs in search of an eventual consensus. The iterations may take decades, and the eventual consensus, shaped to achieve potential acceptance by nearly two hundred countries representing a vast range of situations and perspectives, is necessarily limited in its ambition by this need for wide agreement. There is thus often a tension between the aspiration to drive a leading agenda for action on the one hand, and on the other hand the appearance, to the general public's eye, that often the result is instead a delayed *re*-action and a weak, 'lowest common denominator' outcome.

Some assumptions seem to underpin these processes about the way they are situated in time. These may speak to more implicit kinds of consensus about dominant world-views. For example, the building of a robust justification for a new instrument may

often follow trajectories of evidence-gathering and adversarial proposition-testing that borrow from particular (usually Western) traditions of scientific method and legal jurisprudence. Linear conceptions of form following function, reaction following action, and so on, are similarly woven into the process, and are conditioned not only by chosen philosophies but also by factors such as linguistics. English, for example, despite its influence as a quasi-*lingua franca* in some circumstances, is just one among many currencies with which to conceptualise the relationship between past, present and potential (conditional) futures.

A global orthodoxy in institutions such as the United Nations has been built up on these foundations, which are nevertheless somewhat culturally specific in their origins, and are perhaps not necessarily representative of the worldwide human community's multiple ways of thinking about time.

There are delicate balances to be struck also between expressions of timeless permanence (as in any affirmation of fundamental rights of humanity, or fundamental principles concerning the value of ecosystems) on the one hand, and shifting perceptions over time concerning priorities, revised understandings and contingent responses to the unforeseen, on the other.

Preambles to global declarations and treaties make much use of the 'present continuous' tense (e.g. "affirming", "acknowledging", "recognizing") in open-ended messaging about enduring conditions. As initial pronouncements about principles lead onward to implementation and monitoring phases of these policy regimes, however, more time-bound devices begin to proliferate, in the form of action programmes, funding cycles, resolutions on shorter-term concerns, and periodic meetings of governing bodies to review progress.

Within the climate change and biodiversity fields, the past half-century has also seen an evolution of more tangible expressions of results to be achieved within defined future timeframes. Most of the Conventions now adopt Strategic Plans for periods between five and ten years at a time, containing indicators of expected performance. End-dates for global expectations have become more explicit, with examples including the "2010 target" for significantly reducing the rate of biodiversity loss, the "Aichi biodiversity targets" (end-date 2020), the "Vision for Biodiversity" (2050), the successive "commitment periods" of the Kyoto Protocol to the Climate Change Convention, the Millennium Development Goals (2015) and the Sustainable Development Goals (2030).

Time in the works of the Harrisons

While time is dealt with in literal, negotiated and agreed ways in global environmental policy, the Harrisons use it as part of a method: they articulate their approach as based on the use of two primary questions, "How big is here?" and "How long is now?" as a starting point in any context. They say, "This way of working in any place begins with …: How big is here? How can what is happening here be understood and engaged? What patterns are forming or reforming? … And the question - How big is here? must also include, How long is our Now? Now may also be understood as an instant, but the instant may be 250 years long?" (Harrison & Harrison 2003, np)

The capacity to shift scale in this way, if 'now' can mean an instant or 250 years, suggests that time in the Harrisons' work is malleable, a means to evoke a vivid idea and

move imaginatively between scales: Their work *A Vision for the Green Heart of Holland* (Harrison & Harrison 1995, np), one of the most significant in relation to issues of public policy, opens,

> Looking at the map of Holland.
> Seeing it as the expression of a moment
> in 1200 years of contested history
> about who will command the land
> and why and how.
> Seeing it as a metaphor
> for yet another contest
> as to who will shape the future
> of this physical terrain
> understood to be the Randstad
> and the Green Heart.
>
> Where in a ten year moment
> less than one percent of the time
> of its whole history as a civilization
> the people on this ground
> must construct a response
> in physical terms
> to intense population pressure
> coupled to an expansion committed
> economic engine in such a way
> that these two self-reproducing forces
> mutually energizing and interrelated
> will consume
> much of these lands available
> in the Green Heart
> …

The 'Green Heart,' an area of open landscape and farmland surrounded by the major cities of the Netherlands (the Randstad), was facing pressures of urban development that would threaten its identity as one of the most important open green spaces in Europe. By framing these competing interests together (economic, ecological and cultural, across an urban/rural divide), the Harrisons envisioned forms of development that worked with the metaphor of 'heart', positioning the greenspace as central to the landscape and using biodiversity corridors (imagined as arteries and veins or rays of the sun) to separate the cities.

Focusing on the specific issue of time, it is interesting to note that the Harrisons are also using a 'continuous present,' e.g. 'looking', 'seeing', just as we have noted is used in policy. They show the urgency for a policy decision by creating intervals of time, "…1200 years of contested history…" and "…a ten year moment…" – the 'moment' in their terms is the 'now', not of an hour or a day, but of the significant time in which a critical event plays out. Time is plastic, capable of being experienced as compressed, capable of being experienced as stretched. Using these two time frames, they create a tension, saying "…the people on this ground / must construct a response…". By revealing the urgency for action as

“less than one percent” of a significant period, we come to feel that urgency in a visceral way.

The Harrisons comment on ‘framing’ as a particular method within artists’ practices (they are referencing painters, but it is by analogy true in other art forms) saying, “For the painter, the field of play becomes a canvas, the physical boundaries are the edge of a canvas, … We define a field of play in much the same way, except that the scale-shift is profound; measured in orders of magnitude.” (Harrison & Harrison 2007, np). Whilst their example is spatial, it is clear that their approach to time is characterised by the same assumptions and approach. Defining a period of time produces a field of play. The field of play allows for emphasising particular aspects, ‘bringing them forward’ in compositional terms.

Another useful example of this approach to framing time comes from the Harrisons’ 2008 work *Greenhouse Britain: Losing Ground, Gaining Wisdom*, where in the audio associated with the large scale three-dimensional model showing the impact of sea level rise on the coastline of the island, the voices say,[8]

[Newton Harrison says]
Will it be enough

[Helen Harrison says]
as the most extreme model suggests
to halt the juggernaut of the ocean
if carbon use is stopped
almost all at once
almost all over
in the next 10 years

The narrative addresses the global issues of climate change which were the subject of discussion at the time including the break-up of the Greenland ice shelf, the widespread loss of forests, the (then still likely) building of hundreds of coal-fired power plants, the melting of the Siberian permafrost and associated release of methane, and the economic implications and requirements of this (The ‘Stern Report’ which highlighted the economic benefits of climate change was published in 2006). The dialogue comes back to the question of time, saying,

[Newton Harrison says]
will it be enough
to construct
a global consensus
to withdraw from the carbon world entirely?

[British Voice says]
Some models say
we have a 30-50 year window to do so

A different alternative is offered,

[Newton Harrison says]
However
some models predict

an ocean rise of only 1 metre
or less
in a hundred years
which
by all accounts
is manageable

Within this conversation comprising three voices, several different timelines have been evoked ("10 years," "30-50 years," "a hundred years") based on the different models, the same models drawn from their discussions with various scientists that were underpinning policy development at the time. The narrative ends with,

And in this state of indeterminacy
in this state of knowing and not knowing
from one perspective
nothing is enough
from another
anything might be enough
…

The Harrisons use literary devices, including repetition and rhythm, co-ordinated with the visual movement of sea level rise and storm surge projected on the model, to draw attention to increasingly complex and indeterminate outcomes. The 'frame' provided by focusing on the island of Britain changing over time provides a field of play where they can explore the significance of different possible futures. Different timeframes are used to highlight different futures. The skill is in the selection of an effective focus, the actual boundary of the island (literally the edge), selected because it is a familiar 'figure' rather than the political entity (environmental policy being a responsibility divided between the separate administrations for England, Scotland, Wales and Northern Ireland). The composition is both in the selection of compelling elements (aspects of climate change) and their juxtaposition within the narrative, visualised through the changing 'figure'. Time provides both underlying rhythm as well as tension.

However, it is important to understand that the Harrisons also recognise the limitations of these devices, saying "Nature, the life web in its entirety, appeared interactive, interdependent, mutually evolving and, therefore, in various degrees indeterminate and frameable only in a narrow way. As a result, any central images that appeared seemed to exist for only a moment and thereafter to fade back into a pattern of moments grouped within moments." (Harrison & Harrison 2001, np).

In the two previous examples, we have seen how the Harrisons use the question, "How Long is Now?" to open up possibilities, connecting ecological time with human time. We want to turn to their most recent articulation in *The Time of the Force Majeure* (Harrison & Harrison 2016) where they re-express the underlying problem of human development in terms of intervals of time, in this case evolutionary time. Their argument is that, as noted above, human culture has developed "…rising-entropy systems that might well be called Humanity's Preferred Cultural Landscape." (Harrison & Harrison 2016, 426-7). They step back from the consequences of rising-entropy systems, offering no judgement as to whether these are related to industrialisation or to the advent of agriculture, instead focusing on the implications. It has taken 3.5 billion years for the planet to be formed; 50

million years for the planet to re-form to its present state after the 5th mass extinction; and there are 2-300 million years before the sun's slowly increasing temperature makes most of the life on earth impossible. This latter interval of time constitutes four to six cycles of 50 million years each for life to begin again and 'get it right,' i.e. for intelligent life to create an exchange-based civilisation rather than an exploitative one.

In the final poetic text of the manifesto, the Harrisons appeal to the politicians, policy makers and voters for new forms of legislation.

> We see no alternative than to yield to nature's agency
> accepting a new form of global governance that reflects
> surrendering the idea that humankind is a special case
> understanding that we are simply
> even humbly, a species among species
> (Harrison & Harrison 2016, p 431).

This sophisticated and visionary articulation draws ecologically-informed environmental policy (as it might become in the future) into the cultural realm. It does so through aesthetic means in the form of a poem. It connects practical/ implementable value together with intrinsic value, creating a foundation for new global policy and legislation built on what it is 'right to do.' The Harrisons talk about this approach as addressing the 'ennobling problem' saying, "First, ennobling issues need to be taken up directly. By "ennobling" we mean envisioned actions that most people would accept as *prima facia* good to do, whether or not they believed they *could* be done." (Harrison & Harrison 2007, np emphasis in the original).

This means that they are not focusing on what we characterised earlier as the 'lowest common denominator outcome' on which a large group of nation states with diverse interests could possibly agree. Instead they focus on that which everyone would agree is "good to do." When we think about this in relation to ideas of 'avant garde,' we recognise that the Harrisons' concern with the "utilitarian" (Harrison & Harrison 2001, np) and the implementable is provocative in relation to contemporary art practice. This concern goes back to *The Survival Pieces*, on which they commented, "Our decision was to deal with survival and allow all the forms we used and all the activities we pursued to spring from that single decision." (Adcock 1992, 35).

Conclusion

Galafassi and Ghosh provided a double challenge to policy makers and to artists at the outset, on the one hand for global environmental policy to engage with the arts, and on the other hand for artists to address climate change. Drawing on *The Artist as Leader* we recognised that artists seeking to contribute to the civic realm need to engage with and be alert to public policy in the areas of their interest. Whilst not concerning ourselves with claims for causal relations, we explored the works of the Harrisons and some aspects of global environmental policy. From this we have been able to draw out some similarities and differences, indicating what certain aspects of artists' practice, at least as demonstrated in one particularly salient body of work, might contribute distinctively to policy formation in the public realm.

In focusing on the practice of the Harrisons we have drawn attention to their underlying commitment to looking to 'ecosystemic well-being' and putting the life web

'first' in all decision-making. This guiding principle plays out through juxtaposing ecosystem 'frames' with human 'frames.' By contrast, global environmental policy has tended to be driven by human frames. Whilst the Harrisons' guiding principle is shared with others associated with the Deep Ecology movement, it is enacted in the art works through an understanding of framing drawn from the deep traditions of art practice. They are able to draw attention to multiple, often competing versions of reality, and to hold these in relation to each other by using multiple voices and linguistic devices including pattern and rhythm. It is worth noting that their engagement with environmental issues at the scale of policy, starting with *The Serpentine Lattice* (1993) comes after they have negotiated these aspects of their practice (starting with *Making Earth* (1970).

There is a tendency to be concerned with what the arts offer other domains such as environment, health and justice, domains that form part of the 'public realm.' This overlooks the value of drawing these issues into the cultural sphere to enable audiences to experience their own everyday concerns in new ways. It is this enabling to see differently that forms one of the key contributions of the Harrisons' work, drawing issues of environment and environmental policy into the cultural sphere. They demonstrate that these issues can form material for art works which create an encounter with climate change that is well-informed, imaginative and emotionally intelligent.

Perhaps in contrast to policy (and also to activism) the Harrisons' use of 'urgency' is situated within their construction of time, so they talk about the "urgency of the moment" (Harrison and Harrison 2003, np) but the moment is not today or tomorrow as it can be in pragmatic political terms. The urgency may be extreme but the transformations of the cultural behaviours to focus on ecosystemic wellbeing are not so fast.

Galafassi and his co-authors suggest that significant work is needed to understand how artists can contribute to social transformation in the face of environmental crises, indicating that some aspects might include the way artworks become experiments which pre-figure change, and the way narratives engage thinking and feeling in new ways.

> The arts provide fresh approaches that can support societies in thinking, feeling and narrating their experiences of complex issues of socio-ecological change. Artistic engagements are becoming sites of active experimentation, enacting novel social–ecological relationships and leading to more-than-rational explorations of current systems and possible futures. They create spaces in which the normative aspects of climate change can be addressed, and thus negotiated and redefined through collaborative processes. (Galafassi 2018, 77).

The Harrisons express the same thought thus "…generally we make installations which stand for the place and as a meeting ground for discourse." (Kester 2004, 64).

Expanding Galafassi's sense of artistic processes as path-making strategies, we might draw out of the Harrisons' approach the following recommendations for future work. Art practices like that of the Harrisons demonstrate the value of imaginative engagement with the world of policy, drawing critical attention to unspoken assumptions and implicit cultural conditionings (e.g. on the issue of time). One of these conditionings is the, perhaps particularly Western, need for policy to be underpinned by evidence and to therefore also have a determined outcome. The Harrisons exemplify a willingness to inhabit indeterminacy, "this state of knowing and not knowing" (Harrison and Harrison 2008, np), is a clear challenge to the 'outcome' focus of policymakers and politicians.

Some forms of art practice, and in this the Harrisons are a key example, position collaboration at the core. This is related to another aspect of arts practice and ecological mindedness: the ability through compositional skills to hold conflicting ideas in tension. It suggests that further research into such practices can enrich how we are addressing the challenges. In turn it prompts the need for intensifying methods of facilitating collaboration along with sharing commentaries and analyses of similar issues elsewhere and involving other practitioners.

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[1] 'Global' refers to those policies which involve a significant proportion of the countries of the world, where "International" includes regional (in the sense of supra-national regions) and bilateral, trilateral, and other transboundary levels too.

[2] There is much debate about whether the term 'climate change' should be replaced in political discourse by climate "breakdown," "disruption" or "crisis." We are continuing to use "climate change" because that is the way it is enshrined in most of the relevant policy instruments, not least the UN Framework Convention on Climate Change itself.

[3] IPCC is the acronym for the Intergovernmental Panel on Climate Change and IPCC AR5 refers to the series of scientific Assessment Reports produced by the Panel in 2014, the 5th assessment cycle.

[4] The Harrisons' works are included in most of the significant exhibitions of environmental art that have been created since the late 1970s including *Fragile Ecologies: Contemporary Artists' Interpretations and Solutions* (Matilsky 1992), *Natural Reality: Artistic Positions Between Nature and Culture* (Strelow 1999), *Ecovention: Current Art to Transform Ecologies* (Spaid 2002), *Groundworks: Environmental Collaborations in Contemporary Art* (Kester 2005), *Weather Report: Art and Climate Change* (Lippard 2007), *Radical Nature: Art and Architecture for a Changing Planet 1969-2009* (Barbican 2009), as well as exhibitions on art and research (Spurlock 1979). Their work is also included in key texts on systems aesthetics (Burnham 1974, 15), dialogic aesthetics (Kester 2004, 63-66, 172-173), and art and sustainability (Kagan 2013, 283-288; 2014, np).

[5] The Harrisons use the term 'life web' (and sometimes 'lifeweb') drawing on Fritjof Capra's conception of the 'web of life,' focusing on patterns rather than things.

[6] More than 30 scientists are named in *The Time of the Force Majeure* (Harrison and Harrison 2016)

[7] Something like forty-five town and city mayors are mentioned (though not named) in *The Time of the Force Majeure* (Harrison & Harrison 2016).

[8] This and the following quotes from the audio element of the Harrisons' work *Greenhouse Britain: Losing Ground, Gaining Wisdom* (2008) are not reproduced in full in The Time of the Force Majeure (2016). They have been sourced from working documents.