Harmony – not 'theory'

Academics love theory, but theory can become ideology. Much of recent theory in ecology has not been kind to non-human nature. This paper considers ecological theories about nature, from the superorganism idea to 'adaptive management' and then to recent theory such as 'new conservation' and 'critical social science'. Most recent theory (other than Gaia) comes from an anthropocentric perspective, where nature is just a resource, and the problems of this are detailed. The author argues that we should instead focus on the harmony we feel when we step into natural places. He makes the case that our harmony with nature should be our mission, our goal, our vision and our path. We must find an ethics of harmony, he contends. The United Nations' Harmony with Nature programme represents a promising start.

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"As I step outside
Into the wild,
I embrace
A harmony of lives,
Meshing together,
In a serene
Yet changing balance
Of co-evolved equilibrium,
Where the whole
Is far, far greater
Than the sum of its parts.
Stable yet dynamic –
Such exquisite artistry
Of belonging."
(Washington, 2013b)

Ecologists and conservation biologists used to speak about 'stability', then they moved to speaking about 'ecological integrity', and now today they mostly speak about 'resilience'. I write as an environmental scientist (originally plant ecologist), so I have seen these terms come (and go), often driven on the wings of theory. However, as someone who has spent a lot of time in wild places, I am keenly aware that one word rarely spoken of in academia is *harmony*. I remember years ago, when researching my PhD, I talked to geographer Jamie Kirkpatrick. When I asked him what word defined wilderness for him, his answer was "harmony". The reply made me smile with recognition, and I have pondered this truth ever since. However, ecological theory (driven by ideology) has a strong influence on how we think about nature. So I feel I must speak out for the centrality of harmony, and question the dominance of current anthropocentric theory.

Past theory about nature

The ecologist Frederick Clements (1916) described the successional development of an ecological community as being comparable to the development of an individual organism. Other ecologists likened the ecological community to a 'superorganism', where the interdependence of the various species in an ecosystem mimicked the way various organ systems functioned as parts of an individual organism. This approach highlighted the role of cooperation in ecosystems. Working within this theoretical framework, some ecologists sought to define a stable single 'climax' vegetation community for each area. There were good reasons for ecologists to follow such an approach, when humanity's impact on nature was far less than today. Primary forests (old growth communities) were common (or only slightly disturbed) and dominant plant communities were visible everywhere. However, these past plant

ecologists may have made too much of 'stability' and climax communities.

To put things in perspective, plant and animal communities have persisted over eons (*e.g.* rainforests survive for many millions of years). More biodiverse ecosystems tend to be more stable because they have greater productivity, greater drought tolerance, better water management, better nutrient cycling, greater community respiration, greater biotic resistance to pests and thus greater resilience (Cain *et al.*, 2008; Elmqvist *et al.*, 2010). However, it is not the case that past ecologists denied the existence of *change* in ecosystems. Clements never argued that climax communities must always occur; rather, he used it as a conceptual starting point for describing local vegetation. Ecologists then (as now) saw the change that disturbance makes, for example, in forests, and they could see the successional change on beach sand dunes. They could see that nature was to some extent always in a state of flux, but they could also see a persistent 'balance of nature' in many areas. Hence they felt it appropriate to speak of stability in ecosystems, to wonder about the relationship of diversity to stability, and to try to measure this (Washington, 1984). This was fully consistent with the underlying worldview of nature as a superorganism. This worldview also lent itself to support of ecocentrism, and underpinned what Donald Worster (1994) described as the 'Arcadian' (or 'naturalist') approach to ecology. It should be noted that the superorganism worldview has not totally disappeared, for arguably it was resurrected in Gaia theory (Callicott, 2013).

Ecologists also later commonly spoke of 'ecological integrity', this being "the ability of an ecosystem to support and maintain ecological processes and a diverse community of organisms" (Ocean Health Index, 2017), and some still do (*e.g.* Environmental Protection Agency, 2012). Often the term 'ecological integrity' went undefined in environmental papers, for its meaning was deemed to be obvious – one kept natural communities 'natural', without too much damaging human disturbance.

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However, theory changed, and these terms declined in use. What happened?

Modern shifts in theory

Most of the views I will criticize in this section are those that have come to be known in recent years simply as 'theory'. They are dominated by various versions of the thesis that reality – including nature – is a social and political 'construction'. The importance of perturbations in natural communities was revisited, where those communities were constantly being altered naturally by such phenomena as wind storms, fire, landslides and so forth. At the same time, human influences on natural communities were massively on the increase – as summed up in the acronym HIPPO (standing for Habitat loss, Introduced species, Pollution, human over-Population and Over-harvesting; see Wilson [2010]). To some extent, ecologists thereby lost their natural 'baseline', as the majority of habitats were disrupted – mostly by humanity. So, while rainforests may persist over millions of years, they are constantly being perturbed by many small natural influences, and increasingly by human influences. If there was an equilibrium in such ecosystems it was a *dynamic* equilibrium, where some change was always happening.

It was in this context that theory came to the fore in various ways. Many academics love theories and models. However, it is worth remembering the dictum: "Essentially, all models are wrong, but some are useful" (Box and Draper, 1987: 424). So theories can be useful – *if* they help our understanding. However, there is always the danger that the theory can become more real to the theorist than reality. Philosopher Alfred North Whitehead (1929) called this 'the fallacy of misplaced concreteness'. Neoclassical economics is full of this (Daly, 1991), but so also is ecology, and recent theorization has not been a friend to non-human nature.

Worster (1994) explains that apart from the Arcadian stream, there is a Linnaean or imperial stream of thought in ecology, which is particularly evident in mathematical

and theoretical ecology. This stream of thought tends to be anthropocentric, with an emphasis on human mastery of nature. It also tends to focus on the role of competition in ecosystems rather than on cooperation. Nature is thus not envisioned as a superorganism, but as made up of competing parts that operate in a machine-like way. Imperial ecology is now dominant in academia. A very influential theory within this stream of ecological thought is 'panarchy' and 'adaptive management', championed first by Holling (1973) and later most notably in Gunderson and Holling (2002). While earlier ecologists perhaps overstated the role of ecological stability and cooperation, these later theorists overstate the role of disturbance and competition. Indeed, this overemphasis leads Gunderson and Holling (2002: 101) to argue that "there is no such thing as nature separated from human social processes," and that (2002: 150; my emphasis):

> There is *no nature out there*, there is no baseline, current states of nature are seen as extremely path dependent. The environment is not constant and environmental change is episodic.

Indeed it becomes clear that these authors write from an anthropocentric, neoliberal ideology, which leads them to ask, "The paradox is that if human exploitation leads to resource collapse, why haven't all ecosystems collapsed and why are humans still here?" (Gunderson and Holling, 2002: 14).

In asking this question, Gunderson and Holling thereby ignore the extensive indicators of increasing ecological deterioration (*e.g.* Millennium Ecosystem Assessment, 2005; Washington, 2013a). Gunderson and Holling (2002: 31) also ask: "is it desirable to have a goal of preserving and protecting systems in a pristine, static state?" They thus question keeping national parks and wilderness. Gunderson and Holling (2002: 192) further claim that "collapses [...] are likely the inevitable consequence of human interactions with nature." This makes it sound as if ecosystem collapse is natural and normal. However, such a claim confuses natural change and cycles in ecosystems with the substantially larger (and often previously unknown) stresses that humans are putting on nature today (*e.g.* rapid climate change, nutrient pollution and toxification by new chemicals). Their misleading claim that 'collapse' is natural provides justification for exploiters to argue that there are no environmental limits or crises, and that we should not worry about increasing ecosystem collapse. Such a position simply aids and abets further degradation of the Earth's life-support systems (Washington, 2015).

So the fathers of 'adaptive management' clearly write from an anthropocentric ideology and come close to denying the existence of the environmental crisis. Despite this, the influence of adaptive management is everywhere in contemporary environmental studies and science, and its concept of 'resilience' has mostly displaced prior notions of 'stability' and 'ecological integrity'. For example, in Australia today, 'adaptive management' is regularly cited as an excuse to conduct any experiment (no matter how damaging) in natural areas, largely on the grounds that all change is natural.

The ideas of stability and ecological integrity, I argue, were in some way influenced by an ecocentric worldview with nature seen as a superorganism; panarchy and adaptive management, in contrast, are clearly influenced by an anthropocentric, neoliberal worldview. I suggest that both of these ecological perspectives are overstated, and that only an approach firmly in line with ecocentrism will lead humanity to a sustainable future (Washington *et al.*, 2017).

However, recent theory seems to have become even more anthropocentric, with the arrival of what has been labelled 'post-nature' theorizing (*e.g.* Purdy, 2015). Many scholars continue the attack on 'nature', even to the extent of promoting what philosopher Val Plumwood (2006) called 'nature skepticism'. Postmodernists in particular seem to line up to deny that there is such a thing as 'wild nature' (Washington, 2006) – or that 'nature' as such exists. Some even argue that nature

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is just a 'human artefact' (*e.g.* Langton, 1998). This denial of nature has been taken up by two new groups, the so-called 'new conservationists' (who draw on neoliberal ideology) and 'critical social scientists' (who draw on neo-Marxist ideology).

As Soulé (2013) has pointed out, the new conservationists promote economic development, poverty alleviation and corporate partnerships as surrogates or substitutes for endangered species listings, protected areas and other mainstream conservation tools (*e.g.* Marris, 2011; Kareiva and Marvier, 2012). Miller and colleagues (2014) have shown that new conservation builds its arguments on ecological science distorted by anthropocentric ideology. They list its assumptions as being:

1 nature is a warehouse for human use;
2 humans can construct new ecosystems from non-native species;
3 humans do not have to live within ecological limits;
4 nature is resilient;
5 nature is a social construct;
6 conservationists preach too much doom and gloom;
7 people can manage nature intensively while still preserving biodiversity.

Miller and colleagues point out that these assumptions are not based on conservation ecology but on ideology. My own brief response to these assumptions is as follows:

1 It is anthropocentric to define nature as just a resource for humans (Crist, 2012); in contrast, ecocentrism sees nature as the living world of which humanity is just a part.
2 It is hubris to think we can construct new ecosystems as we see fit – something borne out by the limited success of past attempts to do this (Moreno-Mateos *et al.*, 2012).
3 Humans, like all species, have to live within ecological limits, as the collapse of past civilizations has shown (Diamond, 2005)
4 'Resilience' is not open-ended – while nature does bounce back from some disturbances, this capacity has limits that have been exceeded.
5 Humans are an evolved construct of nature – after all, nature was here first, and thus cannot be *our* construct (Rolston, 2001).
6 Environmental scientists report declining ecological indicators that are not mere 'doom and gloom' but reflect a reality we need to act on.
7 The current mass extinction underway shows that human attempts to manage nature intensively have been disastrous, not sustainable.

Critical social scientists claim that nature protection is the providence of Western elites – the sole beneficiaries (Büscher *et al.*, 2016; Holmes *et al.*, 2016). In effect this argument strips nature of any value other than that of supporting humanity. Some scholars now also contend that, since humans are part of nature, the distinction between 'human' and 'natural' is specious (Malone, 2016). Those advancing this critique are often indifferent to the loss of wild places and species; instead they dismiss the very idea that 'wild nature' has ever existed (Fletcher *et al.*, 2014). According to this critique, the concept of 'wild nature' embodies "privileged, nostalgic, romantic (and primarily white male US) notions" (Malone, 2016: 341). Such critics place concern for disadvantaged local human communities at the forefront of conservation efforts and ultimately – like the neoliberal new conservationists – see nature as just a resource for human use (Crist, 2012).

For the reasons given above, I find much recent ecological theory (other than Gaia theory) deeply anthropocentric and thus unsettling. My concern is that often theory is portrayed as a 'given truth', when in fact it has ideological roots. Often it may be wrong, or only a partial truth. Such ideologically tainted theory has not helped humanity develop an ecological ethic to promote living within the limits of the Earth (Washington *et al.*, 2017). Rather, as we have seen, much of it argues that nature does not exist, being just a social or political 'construct'. It also continues to deny the existence of ecological limits – arguing that, for

example, because nature is 'resilient' we can do whatever we like. Yet the evidence shows that humanity is overwhelming nature's resilience everywhere. The consequence of this denial of limits is a rapidly escalating environmental crisis, where over 60% of ecosystem services[1] are degrading (Millennium Ecosystem Assessment, 2005) and it is estimated that by 2100 *two-thirds* of terrestrial multicellular life may be extinct (Raven *et al.*, 2011). This is an appalling reality, but one that much recent theory still ignores or even denies.

Harmony

I return to harmony. I am a scientist but also a poet, and I suggest that *listening* is key to both disciplines. Scientists tend to call such listening 'observation'; poets might name it 'empathy'. Now, it might be suggested that harmony is 'just another theory'. However, I am not talking about a theory produced out of cerebral thought by academics sitting at their computers. Rather, I am talking about the *phenomenological reality* of harmony that one finds when stepping forward and truly listening to the land. A theory, after all, may be defined as a supposition or a system of ideas intended to explain something. By speaking of harmony I am not offering a system of ideas – although such a theory would, I suggest, make a lot of sense, and is perhaps necessary if humanity wants to find a sustainable future (Washington, 2013a). What I am speaking of here is not a human idea but rather the reality I experience phenomenologically when I step into wild nature. It is also the reality that many others have discovered (as discussed below). However, scholars today seem to be hesitant to speak about this, perhaps fearing it may be deemed 'unacademic'. However, I feel it is time to speak openly about harmony.

I live on the edge of the largest wilderness in New South Wales, Australia, and have spent many months in that wilderness. On my land I walk most days along the edge of primary forest, and I listen and watch – and feel. Natural places have a harmony that embraces me when I set foot in them, a harmony of lives. I feel this as both a scientist and a poet. Indeed, as a scientist, I cannot ignore what is so clear in such places. I do understand (as an ecologist) that that harmony is a dynamic equilibrium, where there is a state of flux... and yet the harmony endures. Indeed, if you listen, the harmony reaches out and teaches – as Thoreau (1995) found at Walden Pond; as Leopold (1949) found in the wilds; and as most indigenous peoples found and wove into their lore and law of how to 'care for country' (Knudtson and Suzuki, 1992). As Rowe (1994: 106) notes, ecocentrism is the "chord that harmonizes humans and Earth." When I walk in my forest – one that does indeed burn in bushfires, suffers wind-throw and will be altered by climate change – I have to dismiss the theoretical notions that 'there is no nature out there', that it is all just random competition or a 'social construction'. Such notions are arrogance – indeed, they are hubris. When I enter the wild, I do not enter a 'Nature red in tooth and claw', Tennyson's (1849) erroneous label of nature. The wild is no neoliberal realm of species striving competitively to wipe each other out. Instead, it possesses a harmony – a harmony which one finds in all natural places if we do not overwhelm them with human disturbance. This is a harmony that encompasses both competition and cooperation, and that can be restored in disturbed places. This is the harmony that underlies the 'old' sustainability (Washington, 2015). As O'Neill and colleagues (1986: 3) note, those who see stability, and those who see change, are looking at two sides of the same coin, for "both impressions are correct, depending on the purpose and time–space scale of our observations."

Awareness of harmony goes hand in hand with a sense of wonder at life, the true love of the land (Washington, 2002). Scientists love to measure things, yet we cannot measure this on a 'harmonimeter', and this may explain why it is ignored. However, one can *feel it* if one comes in reverence and respect. To experience it turns all that theory – whether from the political right or the left, whether from mathematical ecology or human supremacy – into dust. Natural places have a harmony that clearing and

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pollution damages, that introduced species diminish, that toxic chemicals weaken and that climate change throws out of kilter. Yet, harmony still persists – if we assist it

First and foremost, I believe it is harmony that we should be aiming for: it should be our mission, our goal, our vision and our path. We must seek an ethics of harmony, a true Earth ethic (Rolston, 2012). Science may ask if nature is stable, always changing or resilient, or has ecological integrity. But in asking such questions have we missed the point? Rather, we should be asking whether it has harmony, and how we can aid this and be part of it. Many other concepts tie in with this notion of harmony, the most obvious being *respect* and *responsibility*. We must have the deepest respect and reverence for this evolved harmony of natural places. And we should feel a responsibility to maintain that harmony, and a duty to aid it and to celebrate its ongoing existence.

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Now the United Nations (UN) has in the past failed to lead the way in regard to ecocentrism (Washington *et al.*, 2017). Indeed, the Sustainable Development Goals are quite anthropocentric in nature. It is therefore a positive development that the UN has now established a Harmony with Nature programme (www.harmonywithnatureun.org), stating:

> The Harmony with Nature initiative speaks to the need to move away from a human-centered worldview – or 'anthropocentrism' – and establish a non-anthropocentric, or Earth-centered, relationship with the planet. Under this new paradigm, Nature is recognized as an equal partner with humankind and is no longer treated as merely the source of raw materials to produce ever more commodities and feed the indefinite private accumulation of capital.

This programme has called for a report on how the UN Sustainable Development Goals can be implemented in harmony with Nature. This is a great step forward, but past history tells us a barrier to living in harmony with nature has been anthropocentric academic theory and ideology. So much of this theory is, in the end, empty shibboleths, divorced from the beauty and wonder of the living world.

So how do we act to assist harmony? Some ways to renew one's sense of wonder and improve our harmony with nature are (Washington, 2002):

- Be there with nature! Belong in the land.
- Take your children and friends to wild places so they can see the natural world as it really is, and bond with it.
- Take time to listen and ponder – whether this is called meditation, or empathy, or prayer, or contemplation or just sitting somewhere 'at one with the world'.
- Keep your imagination, creativity and artistic expression alive. In these you find the wellspring of your 'being', which renews your sense of wonder.
- Cherish the imagination of your children, and let them play in natural places (even small ones) with unstructured play (Louv, 2005).
- Encourage your empathy on a sunny day. Find a beautiful spot and let your defences down and empathize with the natural world. Perhaps you too will find, as Thoreau (1995: 'Solitude') did, that: "Every little pine needle expanded and swelled with sympathy and befriended me."
- At the institutional level, we need more emphasis in universities on field naturalist courses (Louv, 2005).
- At government level, we need greater support for the Nature Needs Half vision (Dinerstein *et al.*, 2017).

It is time to abandon the baggage of anthropocentric theory, and to step forward to listen to and support the harmony of nature, of which we can (and should) be part. Or as Leopold (1949: 158) so eloquently put it:

> [S]it quietly and listen for a wolf to howl, and think hard of everything you have seen and tried to understand. Then you may hear it—a vast pulsing harmony—its score inscribed on a thousand hills, its notes the lives and deaths of plants and animals, its rhythms spanning the seconds and the centuries. ■

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Notes

1 This is, admittedly, an anthropocentric term limited to services for humanity – for a critique see Washington *et al.* (2017).

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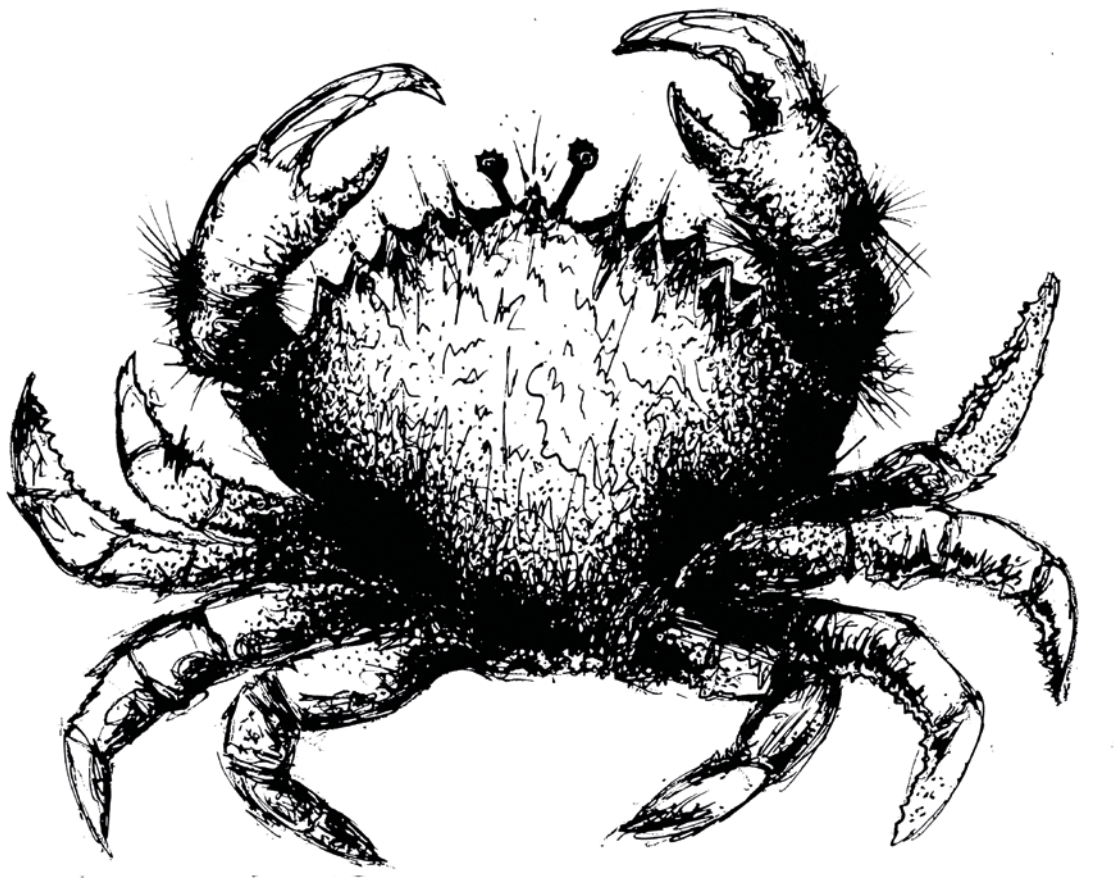
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