# 4 Transformations of time on ecological pilgrimage

*Peter Reason*

As I write, I have in front of me three pieces of rock from the coast of the northwest Highlands of Scotland. The first is a pebble of pink granite, collected on the beach on the southwest corner of Mull. I had anchored my little yacht Coral in the narrow bay at Rubh' Ardalanish and gone ashore to explore, picking it out from the beach as I returned. It was startlingly pink when I lifted it out of the cold water; now dry it is more subdued but still remains strongly coloured, its coarse crystalline structure evident to the naked eye. Granite is an igneous rock, its crystals formed in intense heat and pressure under the Earth surface, cooling as it bubbles through in dome-shaped formations. My piece of granite erupted some 50 million years ago as part of the major earth movements that formed the Highlands. In geological terms, it is broadly contemporaneous with the columnar volcanic basalt, most celebrated on the small island of Staffa, but generally common across this area.

After exploring Mull, I made my way north, past the Small Isles and Skye to the northwest mainland, finding an anchorage surrounded by the massive rounded hills of Loch Torridon. Here I found my second piece of rock: a pebble, deep browny-red, composed of fine, even particles with no crystalline structure to be seen. This is Torridonian Sandstone, a sedimentary rock more ancient by far than the igneous rocks of Mull and Skye. Composed of the eroded fragments of earlier formations and deposited about a billion years ago as a low relief plain, it has weathered through eons of time into the rounded mountains that characterise this landscape.

My third piece of rock comes from yet further north. It is rough and craggy, with a crystalline structure more coarse even than the granite. On one side, bands of dark and light crystals are scattered with gleaming dots of fools' gold; the other side is pinky-red embedded with fragments of mica. This is Lewisian gneiss, collected from the far northwest. This rock originates in the Precambrian era, up to three billion years old, a metamorphic formation forged by the transformation of even older rock by the enormous heat and pressure as the crust of the primal Earth solidified. These rocks were already ancient and eroded when the sandstone was laid down; they are among the oldest on the planet.

I collected these rocks as I travelled through and dwelled within these geological landscapes, contemplating the ancient rocks, picking over them on the

foreshore, reading about them in the geology books in my ship's library (including my favourite, Fortey 2010). And through this dwelling and contemplation, I entered into experiences of time quite different from the clock time of my everyday life.

****

This voyage was part of an experiment in ecological pilgrimage. Over two summers I sailed, mainly single-handed, on the western edge of the British archipelago: from Plymouth, past Land's End and the Scillies, across the Celtic Sea, up the west coast of Ireland, across to Scotland and the Western Isles, and on to the coast of the northwest Highlands.

The idea of pilgrimage draws on many sources. It is part of the tradition, possibly as old as the human species, of making a more or less arduous journey away from the comforts and familiarities of home in search of new insights and deeper understandings. The faithful embark on religious pilgrimages to encounter a holy realm; my ecological pilgrimage took me away from the habits of civilization and disrupted the patterns of everyday life in search of a vision of the Earth of which we are a part. I took as my 'text' Thomas Berry's lament that 'we are only talking to ourselves', that we are no longer talking to the river or the seas and indeed no long listening to them (Berry and Clarke 1991, p. 20).

At these times when human activities threaten the continuation of civilisation and complex life on Earth, I carry with me questions I believe are critical: How can we Western humans learn to understand, emotionally and spiritually as well as intellectually, that we are entirely part of and dependent on the natural world? How can we understand this in a way that is self-evident, utterly natural, for us – in the same way that the existence of God was self-evident in medieval society and the world of objects is to modern humans?

The modern eye may see pilgrimage in its traditional sense as full of superstition, self-delusion and even mass hysteria. However, poet and wilderness writer Gary Snyder describes the wilderness pilgrim's 'step-by-step breath-by-breath' progress into the wild, whether the wild of mountains or ocean or meditation, as 'an ancient set of gestures' that bring a sense of joy, a joy that arises through 'intimate contact with the real world' and so also with oneself (1990, p. 94). Douglas Christie (2013) shows this was also true of the Desert Fathers of the early Christian era: Their contemplative disciplines took them between inner and outer landscapes in search of a consciousness of the whole of creation (see also Reason 2013). So if we are able look beyond modern prejudices to this 'ancient set of gestures', we may discover how practices of pilgrimage might inform the development of ecological sensitivity and responsiveness.

Pilgrimages into the wild world are one response to the ecological crisis of our times; intimate knowledge and appreciation of our home patch is another. Both are ways of restoring our enchantment to the world of which we are a part. Re-enchantment is not, of course, a sufficient response, for we also urgently need a whole range of political, financial, technological, and cultural initiatives

that would change society as we know it. I think it is nevertheless a necessary response, one that may inform these more practical and political concerns. Yet, opening oneself to the wild world and describing what one finds with love and passion is itself a political and spiritual act.

My pilgrimage was also a process of inquiry. As a longstanding practitioner and theorist of action and participatory research (Reason and Rowan 1981, Reason and Bradbury 2001, 2008), I have argued that such approaches to inquiry are not simply alternative research methods, but reach toward a participatory worldview that challenges Western dualism. At its fullest ambition this leads to 'living as part of the whole' that places humans in the web of life as embodied participants (Reason 2005). My colleagues developed work along similar lines: Judi Marshall (1999, 2004, 2016) in both personal and professional spheres strove to practice what she called 'living life as inquiry'; Bill Torbert (1991, 2004, Reason and Torbert 2001) developed 'action inquiry', to be conducted in everyday life in the interests of human persons, their communities, and the ecosystems of which they are a part.

A primary vehicle for such inquiry is an attention that encompasses experience, representation, sense-making and action. The development of such attention can be cultivated through mindfulness disciplines such as meditation, martial arts, and the practices of living life as inquiry; sailing the Atlantic coasts single-handed in a small boat helps cultivate a similar quality of attention. This is not to say that such attention is always present: that would be claiming far too much. Rather, we stumble along, often distracted, falling short of our aspirations; as my Buddhist teacher would say, we pull ourselves through life – as through meditation – mistake by mistake by mistake.

My approach to inquiry was intense but simple: I sailed off on my own with notebook, audio recorder, cameras, and iPad. While managing my small boat in more or less wild waters, I quite simply immersed myself in the landscape and seascape, sometimes drawing on formal meditation and Tai Chi practices, sometimes just being there. I kept records of what I saw and felt; from time to time, I wrote and posted more carefully composed blogs (onthewesternedge.wordpress.com). On board, I had sailing directions and other travel guides as well as reference books on wildlife and geology that I used to deepen my understanding of what I was seeing.

In action research language, I was engaged in cycles of action and reflection, moving through an extended epistemology of experience, representation, sense-making and action (Heron 1996, Heron and Reason 2008). The pilgrimage itself was one large cycle (which is of course ongoing as I return home and try to integrate my learning into everyday life); it included smaller cycles during the voyage itself. These cycles were initially 'first person inquiry', but as my experience deepened, from time to time I touched on a world not of things but of presences with which I was required to negotiate. As I wrote in *Spindrift*, my first book of ecological pilgrimage (Reason 2014, p. 125), 'The world around me took on a subjective presence', which led me in and out of a 'second person' inquiry.

The experiences on pilgrimage were then deepened by the narrative writing that I engaged in on my return home. It is written primarily as 'nature writing' or 'ecological literature' rather than in academic form.

****

I have my first intimations of the disruption of my sense of time while at anchor between the low, grassy Inch Kenneth and the huge basalt cliffs at the entrance to Loch na Keal on the west coast of Mull. I approach the sheltered anchorage cautiously: It is guarded by underwater reefs and there are no clear indications of the passage between them. Once safely in and settled, I look around me. Coral is anchored between the hard and the friable. Inch Kenneth is formed of sedimentary rock where ancient conglomerates and limestone outcrops have broken down to give good grassland. The cliffs, in contrast, are volcanic in origin: Sequential eruptions laid down layers of Triassic basalt; over time these eroded into terraces stepping down the hillsides. At the base of the cliffs, by the road along the shore, stand three tiny white cottages. In many ways they are quite insignificant, but also a testament to human ability to create living space in the most unlikely places.

I decide to stay put for a day. It is early in my pilgrimage, I need to settle in, take things gently. The following day it is raining and windy, and I see no point in getting wet and uncomfortable and so stay another night. I devote periods to formal meditation, quietening my mind then opening to the land around me. With the rain spitting and fresher winds rocking the boat, as well as my restless mind, concentration is difficult. In time, however, I am able to really attend to these cliffs. I watch them through the day as the sun moves across the sky, casting shadow in the morning and lighting their peaks with orange in the evening. I notice the details of the streams tumbling down, glimmering where the light catches the falling water. I absorb the contrast between the cottages at the foot and the enormity of the 200–300 metres drop. All this attention provides me with a tiny sense of intimacy, of being in place rather than watching scenery. And I am struck by the contrast between my human impatience, my restlessness to get on, and the simple presence of these cliffs.

Without really thinking about it, I am drawing on a practice of deep participation strongly influenced by the work of the philosopher Henryk Skolimowski, one of the first to articulate the possibility of 'participatory mind'. He argues that Western persons are conditioned by what he called a 'Yoga of Objectivity', a 'gentle form of lobotomy' that teaches us that things exist in isolation. To develop a participatory mind we need training exercises: a 'Yoga of Participation'. This Yoga consists of a series of practices that one can draw on in an encounter with another being. He outlines these as a) preparing one's consciousness by calming the mind; b) meditating on the form of being of the other; c) reliving its past, its present, its existential dilemmas; d) asking permission to engage with it; e) praying to be allowed to enter into communion; f) in-dwelling in compassionate, empathic terms, exploring what forms of dialogue were possible; and g) withdrawing with thanks and gratitude (Skolimowski 1994, p. 147–164).

In this practice, I am glimpsing time at the limits of human imagination. While the basalt rocks and my pink pebble are geologically quite young, they were formed long before the ancestors of the *homo* species emerged. And yet those little cottages appear so permanent, so part of the scene. There is a lesson about the nature of time here, but at this early stage of my pilgrimage I am not yet ready for it. I need to get further into the experience and allow it to disrupt my everyday sense of time more thoroughly.

****

Late one midsummer evening some weeks after my stay at Inch Kenneth, I put aside my book and climb the companionway to the cockpit. Coral is anchored in the pool off Tanera Beg in the Summer Isles, a few miles north of Ullapool. The sun is poised just above the peak of the Eilean Fada Mór to the northwest, throwing a rich golden light onto the sandstone rocks that circle the anchorage – the same sandstone deposit as the dark red pebble I picked up at Loch Torridon a few miles to the south. A heron stands in the deep shadow along the shoreline, motionless, poised to strike. A few gulls cry harshly; there is a twittering of land birds from the shore. The flag halliard rattles lightly against the backstay. Otherwise silence.

Opposite the sinking sun, the three-quarter moon is rising into a just-blue sky over the line of mountains on the distant mainland. The low sunlight highlights the ridges and casts the valleys into shadow, giving the mountains a dimensionality and body even though they are in the far distance.

The sky is clear apart from a few wisps of dark cloud over the peaks: A slack weather system with patchy cloud and light, variable winds has persisted for the best part of a week. The sea reaches calm all the way to the mainland shore, tiny ripples moving dark shadows hypnotically across the surface. The tide is falling, revealing the reefs at the entrance to this pool and uncovering the coral beach, ghostly pale in the failing light, where an oystercatcher is busily hunting along the water's edge.

Night is coming, and yet at this time of year and at this latitude it will be scarcely dark, especially with the near-full moon high in the sky. In the time it takes to scribble a few words in my notebook, the sun has disappeared, the distant mountains seem to be in a greater light; the moon has risen higher and is more clearly defined in a darkening sky.

****

My everyday life is dominated by clock time: I wake and retire, have my meals, arrange to meet people, pretty much to a set schedule. This remains true at the start of my voyage, as I religiously consult the almanac for the times of high and low water for the week ahead and note them down in my tidal atlas. But as the pilgrimage unfolds, while there remains a sense of time passing, this is increasingly marked, not by the digital regularity of clocks, but by the natural rhythms of the planet that I shall call 'Earth time'.

Two months into my ecological pilgrimage, anchored in the Summer Isles, I am saturated in Earth time. This is the first major disturbance to my sense of time. I experience time passing not by one digital metric, but by a series of overlapping rhythms. The sun rises and sets; the moon waxes and wanes; high tide moves forward about 50 minutes each day; I get hungry and I eat, tired and I rest. The passing of weather systems brings a longer beat to the rhythm. When slow moving or slack weather systems predominate – as in the 'long hot days of summer' – little changes to mark the passing of time. But when depressions move in quickly from the Atlantic, bringing fresh, changeable winds, they stir up sense of change and even urgency. Clock time never disappears completely, of course; it simply becomes another strand in the weave, only salient when, for example, I need to know the start of the favourable stream through a narrow passage.

****

As clock time fades in significance and a more direct encounter with the wild world distracts attention from everyday preoccupations, social constructions of reality fade away. This allows for a second experience of time that I call the 'eternal present': those moments when clock time appears to stand still and differences between self and other, inner and outer, disappear. At such, often tiny, moments it is as if there is a crack in the cosmic egg through which a different world opens that is nevertheless the same world.

Leaving Scalpay, it is more of a performance than usual to get out of the harbour and on my way. It takes a while to get the dinghy on board and properly stowed. The anchor chain comes up black and sticky, spreading mud all over the foredeck, taking several buckets of seawater and a lot of scrubbing to clean up. As I motor out of the harbour there are unfamiliar rocks and reefs to negotiate. And once the mainsail is hoisted and set, it is clear that there is very little wind, and to make any progress at all I need to rig the inner forestay and hoist the No.1 genoa – a big sail that sweeps the deck and reaches nearly as far aft as the cockpit – rather than just unfurl the working foresail. For nearly an hour I seem to be constantly on the go from cockpit to foredeck and back again.

Once settled, with all sail set, Coral sails elegantly toward Skye, rippling the unusually smooth waters of the Little Minch, making just over three knots. But soon the wind fades. Coral's speed drops below three knots, then two, and after creeping along for half an hour or so, to nothing at all. 'Let it be', I tell myself. 'There is plenty of daylight, we are not unsafe or uncomfortable'. I allow Coral to drift about in the middle of the sea.

The day is pleasantly warm. Loose cloud covers the sky, the sun shining fitfully through the gaps. The wind is even more fitful, ruffling the water, promising some action, and then fading into nothing very much. Ahead lies Skye, a dark silhouette; astern, bright sunshine picks out the outcrops of gneiss on Harris. Fair weather cumulus rises along the whole line of the Outer Hebrides from Barra to Stornoway. The sea is quiet, undulating like a dimpled mirror, throwing shallow reflections

this way and that. Both sea and sky are the same exquisite silvery grey, meeting in the far distance north and south at a horizon that is diffuse and uncertain.

Now I have stopped fiddling around trying to get Coral to sail, I am open to the wonder of the moment. Held in a space between two lands, and with the sea merging into the sky, the sky into the sea, I lose myself into this wider, silvery world. My sense of self becomes as diffuse and uncertain as that horizon. I am still present, but with no sharp distinction between in here and out there, I become part of the quiet presence of the world.

****

As Gary Snyder puts it, such 'sacred' moments take one away from one's little self into the wider whole (1990, p. 94). If I have learned anything in three long seasons of sailing on the western edge, of pilgrimage in search of a different kind of relation to the Earth on which we live, it is that these sacred moments arise quite spontaneously and unexpectedly. They certainly cannot be forced, although I notice they often come when I step back from preoccupation with the demands of sailing and pilotage. But on occasion, they arise in the midst of such preoccupations.

Sailing north, making for Ullapool, in strong and gusting winds, I secure the double-reefed mainsail with a preventer and pole out the genoa with the spinnaker boom. Through the morning Coral blows fast, but not uncomfortably, up the coast toward the headland Rubha Reidh, keeping safely well offshore. I make myself coffee, then soup and a chunk of bread for lunch. Coral passes the headland and it is time to gybe round into outer Loch Broom. (Sailors will know that gybing involves bringing the mainsail across from one side of the boat to the other; done properly, it is a safe manoeuvre; uncontrolled, it can be dangerous.) I start the routine of getting Coral ready for the turn: I roll in the genoa; then, secure with lifejacket and harness, I go forward to the exposed foredeck to lower and stow the spinnaker boom.

It is only when back in the cockpit that I look astern at the following sea. The waves seem bigger than I had expected, the troughs between them deeper. For a moment I hesitate. Can I really do this safely on my own? The grey-green surface of the approaching wave looks cold, relentless and implacable, a small hillside of water, then another, then another. I watch the waves for a few short seconds and my fear drops away. Now, in recollection, I would describe this as a moment of direct meeting, when I am simply present in this wild sea with no thoughts and no self-concern. By watching the waves roll toward Coral's stern, I have tuned myself to their rhythm: Without conscious decision the, moment of action arrives. I haul in the mainsail hand over hand and jam it firm in the cleat. I lean against the tiller with my thigh and hold it there. Coral's stern comes round through the wind and the mainsail, constrained by the tight sheet, flips safely through its short arc. I slowly pay out the sheet so Coral settles onto the opposite tack, driving eastward into the loch. With the mainsail safely gybed, I roll out the genoa again and, after peering through the spray into the distance and comparing what I can see with what was shown on the chart, set a course to pass to the south of Priest Island.

****

In many ways there was nothing special about this. I was on my own in rough and windy weather, but a gybe is just a gybe, one of many on a three-month voyage. But in the weeks that passed, the image of those implacable waves rolling up behind Coral's stern kept returning, until I found some illumination in David Hinton's book *Hunger Mountain*, in which he explores the wisdom of the ancient Chinese poets and sages (2012, p. 105). In contrast to the everyday Western experience of the self as separate from the world and acting intentionally as a 'transcendent spirit centre', Hinton considers the terms *wu-we* and *tzu-jan*. *Wu-we* means 'not acting', in the sense of 'acting without the metaphysics of self'. By being absent or self-less while acting, Hinton suggests that 'Whatever I do, I act from that source and with the rhythm of the Cosmos' (the "I" in the sentence must be read ironically, in the sense of 'this particular being'!). *Tzu-jan* is usually translated as 'suchness', and points to the spontaneous unfolding through which the world burgeons into presence. And while I don't want to get into absurd and unsustainable claims of selflessness, it does seem to me that in the moment of the gybe I was sufficiently tuned to the boat and the wind and the sea that the action was accomplished with an elegance that was not just of my own making.

These tiny moments when time stands still, or maybe more accurately becomes irrelevant, are easy to overlook or to see as insignificant. They are not overwhelming transformations of consciousness, but nevertheless are profoundly important in calling forth a different relationship with the world: no longer out there as landscape, but recognised as a subjective presence of which we are part. The challenge, the creative opportunity, is quite simply to be open to these moments when they arise.

****

Further north again, the sea around Coral turns a bright turquoise blue as I sail past Rubha Coigeach into Enard Bay. The low shore ahead is gnarled and lumpy grey gneiss, with many small inlets and scattered islands. From out at sea I can see the succession of sandstone mountains – Stac Pollaidh, Suilven, and Quinag – rising as a sculptured line above the gneiss platform.

I find a place to stop overnight in the small but sheltered anchorage at Loch Roe. As I close the shore, the gnarled crystalline rocks seem featureless. The sailing directions refer to a high bluff that distinguishes the entrance; but there seem to be high bluffs all along the coast, and I find it difficult to discern the way into the small loch against the background of grey rocks merging into each other. On first approach, I sail past the entrance before I realise my mistake. With the sails down I motor back, close along the shoreline. Ah! that must be the bluff of rock, there are the offshore rocks marked on the chart. I steer closer into what looks like a narrow entrance, ready to retreat at a moment's notice. The little bay ahead ends in a beach strewn with seaweed and plastic litter, but a passage to starboard opens between a tidal island and a patch of floating bladderwrack that indicates the presence of an underwater reef. Beyond is a tiny pool, deep, with just room to swing at anchor. A sheer cliff of crystalline gneiss stands high above the cockpit to one side, a line of rocks and tidal islets where seals are resting provide shelter on the

other. And in the distance, the ridge of Quinag rises above the flattened landscape, clearly visible across the top of the loch.

The tide rises so the pool is full to the brim, covering the rocks and chasing the seals away. The swell from the sea finds its way between the islets, moving Coral gently around. Enchanted, I sit in the cockpit as the sun goes down, watching the light play on the rocks and mountains, absorbing an unfathomable sense of geological time. This is the place I have been looking for, where I catch a glimpse of a world both eternal and made anew in every moment.

****

Just what is it about these different rocks and mountains that I find so satisfying to see, to be in the presence of? Apart from the fascination of their different origins; apart from their beauty and grandeur, the way they shapeshift with the changing light; and apart from the contrasting landscapes they give rise to?

It seems to me that beyond all that there is something simply inconceivable about their age, their origins, their history, and that this is an opening of a third dimension of 'deep time'. Confrontation with the age of the Earth – and beyond that the Cosmos – allows a glimpse of time as the container of all possibilities. Dwelling with these mountains – by which I mean spending time with them, meditating on them, studying their origins – gives me some sense of deep time quite different from what I have called Earth time and the eternal present. We can measure their age, but the age we derive is really beyond our grasp: Truly, whose mind can encompass two and a half billion years? We might also consider that, in terms of time passing, the Sun and Earth and solar system are more or less halfway through their lifespan. If we struggle to consider two and a half billion years of rock formation, or four and a half billion years of the Earth's existence so far, how inconceivable is it to think of the evolutionary possibilities that are latent in another four and a half billion years before the whole is swallowed in the red giant that the Sun will eventually become?

Contemplating these issues, I come to think of deep time as close to the Taoist notion of Absence, the pregnant emptiness from which all things appear and to which they return in a process of perpetual transformation. We cannot know this absence directly, but we may get a suggestion of it through the ancient presence of these rock formations and mountains. They seem to point beyond time in any human sense to a timelessness at the heart of existence.

****

A few weeks later Coral and I slip back into the marina and moor safely, just ahead of the stormy weather brought to these islands by the tail end of Hurricane Bertha. I have just enough time to tidy up, pack my clothes and order a taxi that will get me to the railway station in time for my reservation. I have an advance single ticket that gets me home just as I planned many months ago. At the end of my pilgrimage, clock time summons me back to social reality.

Back home, I tell the story of my descent in time to Elizabeth, my wife, passing each of my three pieces of rock to her in turn, explaining where I collected them and their geological origins. She listens intently and responds with delight, telling me that holding the stones helps her connect with my story and my pilgrimage.

I continue my inquiry, reflecting on my experience, making sense and composing a narrative. My reflections on time become more focussed when my friend Bill Torbert sends me his thoughts about time in a draft paper (2014) and I adopt, with amendments, the three dimensions of time he outlines. I write a draft of this chapter, drawing on my memories, reading my notebook and studying my photographs. This is the reflective, sense-making, stage of my inquiry, where I am integrating my story in both presentational and propositional form (Seeley and Reason 2008).

I am invited to talk about ecological pilgrimage and to read from my earlier book *Spindrift* at various literary and ecological events. I take my rocks with me and pass them around as I tell the story of my descent into deep time. People seem to immerse themselves in my story as they hold the rocks: the obloid pink granite pebble that sits smooth and heavy in the palm of the hand; the smaller piece of sandstone that one wants to rub with the thumb while holding in the fingers; the jagged gneiss that demands you turn it over to examine its different facets and run a finger along its sharp edges. It appears there is a deepening sense of engagement with deep time as people hold the rocks. But how would we know?

I place the rocks in the middle of our dining room table, where they stay through the winter, a reminder and stimulus for occasional conversation. As the New Year awakens, they are put away and replaced by vases of spring flowers. As I finish this writing a year and more on, I hunt them out and put them on my desk again: They hold my memories and are a way of bringing my pilgrimage home.

## References


Berry, T., and Clarke, T., 1991. *Befriending the earth: a theology of reconciliation between humans and the Earth*. Mystic, CT: Twenty-Third Publication.

Christie, D.E., 2013. *The blue sapphire of the mind: notes for a contemplative ecology*. New York: Oxford University Press.

Fortey, R., 2010. *The hidden landscape: a journey into the geological past*. London: The Bodley Head.

Heron, J., 1996. *Co-operative inquiry: research into the human condition*. London: Sage Publications.

Heron, J., and Reason, P., 2008. Extending epistemology with co-operative inquiry. *In:* P. Reason and H. Bradbury, eds. *Sage handbook of action research: participative inquiry and practice*. London: Sage Publications, 366–380.

Hinton, D., 2012. *Hunger mountain: a field guide to mind and landscape*. Boston, MA and London: Shambhala.

Marshall, J., 1999. Living life as inquiry. *Systematic Practice and Action Research*, 12 (2), 155–171.

Marshall, J., 2004. Living systemic thinking: exploring quality in first person research. *Action Research*, 2 (3), 309–329.

Marshall, J., 2016. *First person action research: living life as inquiry*. London: Sage Publications.

Reason, P., 2005. Living as part of the whole. *Journal of Curriculum and Pedagogy*, 2 (2), 35–41.

Reason, P., 2013. Review, the blue sapphire of the mind: notes for a contemplative ecology by Douglas E Christie. *Resurgence & Ecologist*, 281 (November/December), 60–61.

Reason, P., 2014. *Spindrift: a wilderness pilgrimage at sea*. Bristol: Vala Publishing Cooperative.

Reason, P., and Bradbury, H., eds., 2001. *Handbook of action research: participative inquiry and practice*. London: Sage Publications.

Reason, P., and Bradbury, H., eds., 2008. *Sage handbook of action research: participative inquiry and practice*. London: Sage Publications.

Reason, P., and Rowan, J., eds., 1981. *Human inquiry: a sourcebook of new paradigm research*. Chichester: Wiley.

Reason, P., and Torbert, W.R., 2001. The action turn: toward a transformational social science. *Concepts and Transformations*, 6 (1), 1–37.

Seeley, C., and Reason, P., 2008. Expressions of energy: an epistemology of presentational knowing. *In*: P. Liamputtong and J. Rumbold, eds. *Knowing differently: arts-based and collaborative research methods*. New York: Nova Scotia Publishers, 25–46.

Skolimowski, H., 1994. *The participatory mind*. London: Arkana.

Snyder, G., 1990. *The practice of the wild*. New York: North Point Press.

Torbert, W.R., 1991. *The power of balance: transforming self, society, and scientific inquiry*. Newbury Park: Sage Publications.

Torbert, W.R., 2004. *Action inquiry: the secret of timely and transforming leadership*. San Francisco, CA: Berrett-Koehler Publishers.

Torbert, W.R., 2014. Mathematical intuitions: underlying the meta-paradigm of science named 'collaborative developmental action inquiry'. Unpublished paper.