An ‘Outdoor Philosophy’ retreat, led by the British ecological philosopher and activist Kate Rawles, was held on the Hebridean-facing shore of Scotland in June 2014. The eleven participants comprised a group of environmentalists who included five academics and six environmental consultants and executives of environmental organisations. One had led the first experiment in iron fertilisation in the Southern Ocean to estimate the potential of this geoengineering technology to draw down anthropogenic atmospheric carbon (Boyd, Watson 2000). Two had recently published research monographs on ecological and climate politics (Dobson 2014, Northcott 2014). Two had written travelogues of continent and planet-spanning journeys by bicycle and boat/train to highlight the urgency of a civilisational move from a high to low carbon travel in the light of climate change (Rawles 2012, Gillespie 2014). The course was based in a Scots baronial-style country house on the West coast of Scotland. From the coast the Isles of Eigg and Rumm are visible and the ocean and coastline are inhabited by seals, and frequented by migrating birds including Arctic terns as well as endangered native birds such as Sea Eagles. The main activity was sea kayaking around the Caribbean-like seas, kelp forests and coral sand islands off the coast around Arisaig on the edge of the Inner Hebrides. Sea kayaking expeditions were interspersed with discussions on topics from deep time to environmental politics and with ritual experiences such as the one I will now describe.

Holding the seminar for the most part out of doors is intended by Rawles to reduce the distance between philosophy and nature by setting reflective activities principally in non-anthropogenic environments (Rawles 2014). The outdoor setting of most activities was considerably improved in comfort level by unusually sunny and warm June weather, combined with warmer than usual sea temperatures. The first morning began with a ritual exercise in which the participants were invited to place in chronological order laminated cards depicting the principal geomorphological events, from the big bang to the inventions of agriculture and the steam engine, in the approximately 4 billion year history of earth on a 40 metre climbing rope laid out on the grass. The participants mostly got the order right, and in some cases even the appropriate temporal intervals. All the human events were bunched up on the last few centimetres of the rope, while the time of the pre-human forces of volcanoes, stars, species, rocks, gases, and biota stretched into the distance to the furthest edge of the large lawn. Kate Rawles concluded the exercise with a reflection in which she suggested that the tiny part of the time line on which humans had existed palpably represented the insignificance of the human to the history of
life on earth. Experiencing earth’s deep time would enable us to emotionally identify with the earth and its myriad creatures as living beings which had long preceded us: moving beyond anthropocentrism should promote humility towards other than human life, and motivate a more ecologically situated set of attitudes and practices than those displayed by many of our contemporaries.

The deep time exercise was pioneered by Australian deep ecologist John Seed in the Tasmanian rainforest as part of a larger ritual called the ‘council of all beings’ in which participants ‘step aside from their human identity and speak on behalf of another life-form’ (Macey 1998). ‘Evolutionary remembering’ of volcanoes, rocks, rainforests, oceans and the Big Bang, long before human life began, is said to assist participants in overcoming the modern alienation between nature and culture by stimulating the ‘species memory’ of humans as mammals, and before that as cosmic elements: ‘as the fog of amnesia disperses, there is a transformation in your relationship to other species, sand in your commitment to them’ (Seed, Macy et al 1988, 36). The ritual is an example of the ‘New Genesis’ genre of science-informed creation myth and ritual inspired by the North American Roman Catholic theologian, or ‘geologian’ Thomas Berry. For Berry the environmental crisis was as much a crisis of worldview as of behaviour and to transform worldviews he argued that the Christian creation story, based as it is on the history of successive human generations, should be replaced with a new sacred myth of human and earth origins based upon scientific knowledge of geological time and evolutionary history (Berry 1999). For Rawles, as for Berry, experiential engagement with the scientific story of the formation of the earth and of biological life reconnects us with ‘the value of the natural world, and our relationships with it’ on a planet at risk from the ecological impacts of excessive consumption and of human beings living in a disconnected relationship to their environment (Rawles 2014).

The West coast of Scotland is a highly appropriate place to reflect on deep time since the Lewisian Gneiss rocks of the Scottish Hebrides, at 3 billion years old, are among the oldest visible on the earth’s land surface. Furthermore it was Scottish geologist James Hutton who invented ‘deep time’. Hutton based his account of deep or geological time on observations of soil erosion and upthrust rock strata counterposed with horizontal ones on Scotland’s rocky shorelines. In an address to the Royal Society of Edinburgh in 1785 Hutton argued that only a vastly deep temporal history could have formed what he was the first to call the ‘earth system’ and in the geological record of this temporal history he could ‘find no vestige of a beginning, no prospect of an end’ (Hutton 1786). Hutton’s account was highly controversial because scientists as well as theologians had until the eighteenth century based their estimate of the age of the earth on the chronology of the Bible, mapping earth history onto the biblical record of intergenerational history. But Hutton argued the earth was vastly older than
*Homo sapiens* and its history needed to be counted in geologic epochs and eras extending back over hundreds of millions, and it is now believed billions, of years.

The invention of deep time, and geological history, produced a new bifurcation between natural and human history since for most of the vastness of geological time the earth was ‘without us’ (Chakrabarty 2009). This bifurcation had cultural implications that are not fully appreciated by those who propose that participation in a deep time ritual, or a ‘new universe story’ that resituates human consciousness in deep time, will facilitate greater identification between humans and the rest of the ‘natural’ world. A deep time ritual, while it may provoke wonder at the ‘abyss of time’ that Hutton opened up, also generates a sense of the epiphenomenal character of human history as compared to the history of life on earth. If the passing of human generations, and the birth of children and grandchildren, is so peripheral to earth history, it may be said to be unreasonable to argue, as climate scientists and some evolutionary biologists now do, that humans are capable of significantly influencing the course of *natural* history, and particularly when there are now 7 billion of them. Hence Hutton’s deep time chronology underwrites the refusal, which is particularly prominent in Anglo-Saxon cultures, to acknowledge that humanity may be passing critical thresholds in her influence on species and the climate. For deep time futurists twenty-first century climate change represents a mere blip in the future history of the planet and decisions about fossil fuel use or deforestation have less significance in this longer view (Stager 2011). Hence the claim that geological time provides the basis for a new sacred universe story that promotes greater care for the earth than traditional intergenerational sacred stories, such as the Christian account of the earth from Adam and Christ to the present, may be erroneous.

Advocates of science-based myths and rituals of the ‘New Genesis’ genre envisage that scientific accounts of the Earth System and its history function in a way that is analogous to religious cosmologies and sacred stories by generating ‘the desired values and sense of connection’ with nature and underwriting a civilisational turn from ecological destruction to restoration (Sideris 2013, 155). But as Bruno Latour argues, it is precisely the tendency of scientists to set apart scientific ‘factishes’, distilled from observations of the kind Hutton undertook, from human cultures, meanings and values that promotes the bifurcation of nature from culture and the disconnect between ‘moderns’ and the environment (Latour 2010). Against unchallenged faith in the project to re-engineer atoms, genes and even the climate of the earth through mechanistic science and technology, Latour argues that scientific knowledge and practices need to be opened up to other modes of existence, including especially the sacred/secular worldview opened up by the Gaia hypothesis:
To put it as starkly as possible, I would claim that those who intend to survive the coming cataclysms of climate on hope and faith, or who square off against it armed only with the results of externalized and universal knowledge are doomed. The age of such faiths is over. I hope to show that it is by facing Gaia, that wholly secularized and earthbound set of processes, that there is a dim possibility that we could ‘let the Spirit renew the Face of the Earth.’ (Latour 2013a)

By opening up the contested debate about climate change, species extinctions, Genetically Modified foods and other environmental controversies, to other cultural ‘modes of existence’ it is possible to expose, and then pluralise and supplement, the privileged cultural mediations, tools and worldviews used by scientists and engineers to construct a social world in which the re-engineering of ‘nature’ - including the genome and the earth’s climate – has become normative. (Latour, 2013b).

There is a presumption among advocates of the ‘new universe story’ that myths based on science will be more ‘earth-friendly’ while religious creation stories are anti-environmental. If we ask for the evidence for this presumption there is none but it emanates from a well known paper by Lynn White which, despite providing no empirical evidence although published in the journal Science, simply argued from a reading of medieval history that the Jewish and Christian story of creation, and the associated Christian doctrine, were principal roots of the ecological crisis (White 1967). The evidence is gradually accumulating however from empirical studies of environmental attitudes, practices and values in the UK, North America and Europe, that the population group most likely to advocate maximal human domination of ‘nature’ or the environment are not Christians but atheists, and people with a higher level of scientific education than the general population (Hayes and Marangudakis 2000, Hayes and Marangudakis 2001). On this evidence creating new sacred myths around scientific information, and discarding ‘old’ creation stories, will have precisely the opposite effect to the one intended since it will remove cultural sources of resistance to the domineering and mechanistic approaches to earth, life and matter that modern science and technology have advanced.

The waters and coastline around the Scottish Inner and Outer Hebrides represents Western Europe’s most extensive and biodiverse coastal wilderness environment. They are inhabited by a largely Protestant people who have adhered more actively to rituals that celebrate the old doctrines and stories of the Old and New Testaments than any other people in the UK or Europe, attending church at rates twenty times those of West Europeans generally
(McIntosh 2013). It is ironic then that advocates of the New Genesis envisage that this rare biocultural region will be better protected from the impacts of consumerism by the substitution of a cosmopolitan and scientific universe story composed by a North American ‘geologian’ for the creation story, and related practices of sacred time and place, that have served the Hebrides so effectively as a source of resistance to the extractive and biodegrading economy of the mainland (Northcott 2015).

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