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Science and the sacred: a necessary dichotomy?

It is a pleasing irony that sacred natural sites (SNSs), once the preserve of religion, are now drawing increasing recognition from biological scientists (Verschuuren et al., 2010). At a basic level this is utilitarian. SNSs frequently comprise rare remaining ecological ‘islands’ of biodiversity. But the very existence of SNSs is also a challenge to science. It poses at least two questions. Does the reputed ‘sacredness’ of these sites have any significance for science beyond the mere utility by which they happen to conserve ecosystems? And is this reputed ‘sacredness’ a feature with which science can, and even should, meaningfully engage?

In addressing these questions science most hold fast to its own sacred value – integrity in the pursuit of truth. One approach is to say that science and the sacred cannot connect because the former is based on reason while the latter is irrational. But this argument invariably overlooks the question of premises. Those who level it make the presumption that the basis of reality is materialistic alone. The religious, by contrast, argue that the basis of reality, including material reality, is fundamentally spiritual. Both can apply impeccable logic based on these respective premises.
and as such, both are ‘rational’ from within their own terms of reference.

This leads some philosophers of science to the view that science and religion should co-exist in mutual but compartmentalised respect, separated, as it were, by an impermeable membrane. The evolutionary biologist Stephen Jay Gould advanced this view where he wrote:

’No such conflict should exist [between science and religion] because each subject has a legitimate magisterium, or domain of teaching authority - and these magisteria do not overlap (the principle that I would like to designate as NOMA or ‘non-overlapping magisteria’). The net of science covers the empirical realm: what is the universe made of (fact) and why does it work this way (theory). The net of religion extends over questions of moral meaning and value. These two magisteria do not overlap. (Gould 2007: 594)’.

But is such a position good enough, especially when the scientist is invited to engage with the ‘sacred’ because sacred groves, mountains, lakes, etc. might be just about the only remaining semi-intact areas of biodiversity around on account of the ravishes of materialism? Such a scientist will doubtless have the generosity to concede the biological utility of the sacred, but is there also ground for her or him to entertain the root phenomenon of ‘sacredness’ itself? It is true that many of the claims of religion prima facie rule themselves out of court from a scientific perspective. For example, idea that God (as the ‘ground of being’) created the world in six days is manifestly preposterous. But scratch a little deeper and most modern theologians view such imagery as poetic or metaphorical truth rather than literal truth. The one speaks the truth of the ‘heart’, the other of the ‘head’, and we need both to be fully human and thereby to engage the ‘hand’ in active management. Every time a scientist speaks of ‘parallel universes’, or even of the school textbook construction of the atom, they too are using metaphor.

More than just reflecting on the structures of logic and language, we might also ask, if we are to be scientific, whether the sacred might actually be amenable to scientific inquiry. If people claim that the sacred is something ‘experienced’, and if it appears to be an experience with consistencies, why should that not be studied empirically like any other perceptual phenomenon that purports to shed light on reality? Who said that religion must be confined to being the straw man of blind faith? What interests are served by keeping it there? Is it not so that, as with other scientific phenomena, if you don’t look you won’t see? Is it therefore not incumbent upon science at least to entertain investigation of the claims derived from religious experience, especially where these appear to find a measure of consensual validation? This is increasingly being undertaken in medicine where advances in neuroscience have opened up new vistas of research into spiritual
experience as part of the healing of the body (Clarke 2010). Why should it not also be a new field for conservationists who have a responsibility for planetary health? So doing can allow park managers to optimise their assets. It can synergise benefits across an extended spectrum, thereby ultimately strengthening the political will to sustain and resource nature conservation.

In hinting that ‘nature is good for the soul’ the hard-pressed biological scientist should not be expected to become an authority in spiritual matters. However, it may be useful to know that an extensive body of research and literature has build up over the past century, culminating in the field of consciousness research. An early milestone was William James’s classic study, The Varieties of Religious Experience, first presented as the Gifford Lectures in ‘natural religion’ at Edinburgh University between 1900 and 1902. The twentieth century saw further experimental and conceptual advances. A fine review of the literature is Varieties of Anomalous Experience: Examining the Scientific Evidence published the American Psychological Association (Cardena et al. 2000). Especially relevant is the last chapter by Wulff on mystical experience.

Weak and strong sacred experience

A range of terms have been devised to describe religious and related ‘anomalous’ experiences such as might be associated with either the founding ‘saintly’ figures behind SNSs, or with subsequent experiences reported by visitors. The theologian may speak of experiences as ‘visionary’ or ‘mystical’. Rudolf Otto used the word ‘numinous’ in popularising ‘the idea of the holy’. The humanistic psychologist Abraham Maslow, best known for his hierarchy of human needs, devised the term ‘peak experience’. This latter term allows the inclusion of experiences that may not have an explicit religious connotation but is still perceived as uplifting to the ‘spirit’. All of these comprise an area of study known as ‘transpersonal psychology’ For our purposes it is helpful to follow Wulff (in Cardena et al. 2000: 397–460) in recognising a continuum from mild to extreme (or weak to strong) transpersonal experiences – so-called because they suggest a realm of experience that lifts consciousness beyond normal ego-bounded limitations.

Weak peak experience (to use Maslow’s term) is very common outdoors. These include mildly intensified aesthetic experiences with nature and close bonding with fellow humankind. For example, a mildly euphoric feeling of closeness to one’s friends might be memorably felt while mutually witnessing a breath-taking sunset.

Ringer and Gillis (1995) have indicated the importance of outdoor trainers understanding that such weak experiences can readily escalate to strong levels of psychological depth. They propose an eight-point scale ranging from surface-level aesthetic experiences, through deepening levels of identity formation, all the way to the ‘universal lev-
el’ of mystical experience – something that is widely experienced by indigenous people. They suggest that levels of depth should be managed during adventure training in order to respect the implicit contract of what groups have signed up for. In an important anthology Grof and Grof (1989) also highlight the importance of recognising that ‘spiritual emergence’ can become a ‘spiritual emergency’; an ontological crisis. This, perhaps, is one reason why the sacred is often held at arms length.

That recognised, some people actively seek out strong experience. Robert Greenway, a pioneer of ecopsychology, invoked what he calls the ‘wilderness effect’ to facilitate this with some of his students. In his studies covering 1380 people, 90 percent described ‘an increased sense of aliveness, well-being, and energy’ and 38 percent described life-changes that ‘held true’ five years after their return from what he led them through. Greenway offers as fairly typical the following account from a group of twelve people near the end of a two-week trip up the Eel River in northern California (Greenway 1995).

‘We had gone as deep into the center of the wilderness as we could, and as deep into our hearts and minds. We had adopted games and structures we knew would open us beyond our familiar constraints. Now, in the fullness of our opening, our ability to feel and understand reached unexpected depths.... We came upon a huge pool that seemed bottomless - shadings of blue-green darkening almost too black in the depths.... We knew without speaking that we had found ‘the place’. We fell silent at the sight, knowing that this would be the turning point, ‘the most sacred’, the place of deepest wilderness, for this day, for this trip, for this time in our lives, and perhaps in our entire lives.... We swam, crawled onto the hot rocks ... most of us slept for a time. Later some spoke of amazingly vivid dreams.... Distance disappeared and there was an openness into ourselves that was an openness to each other that embraced the pool, the river, and further out into the wilderness, the ‘other world’, the whole Earth, the universe’.

Such an example is not tied to any specific religion. An example of a strong mystical experience that is tied would be the following from George Fox, the founder of the Quaker movement.

‘I now came up in the spirit past the flaming sword into the paradise of God. Everything was new. And the whole creation gave off another smell to what I knew before, beyond what I could ever express in words. I knew nothing but purity and innocence and rightness as I was renewed in the image of God by Jesus Christ, so that, as I say, I entered the state that Adam was in before he fell. The creation was opened up to me.... Great things I was led to [see] by the Lord and wonderful depths were revealed to me, beyond what I could ever put in words’ (Ambler 2001: 101).
Fox’s experience wears very different clothing than Greenway’s more eclectic example. However, both share a sense of ‘cosmic consciousness’ such as has caused mystical experience to be described as ‘the perennial philosophy’. Walter Stace identifies such cosmic unity and up to eight other characteristics with mystical consciousness (Pahnke and Richards 1969):

- Undifferentiated unity – sometimes called ‘the hallmark of mystical experience’.
- Objectivity and reality – the experience seems more real than real.
- Space and time – feel as if they have been transcended.
- Sacredness – pervades the experience.
- Deeply-felt positive mood – joy, blessedness and especially love.
- Paradoxicality – normal categories of logic seem to fall away.
- Ineffability – cannot adequately be expressed in words.
- Transiency – The intense aspects of the experience usually pass fairly quickly (one of the features that differentiates it from psychosis).
- Positive change – to life in attitude and/or behaviour, often permanent.

Like other contemporary scholarly approaches, Wulff’s review (op. cit.) explores a range of ways that might account for such states and their frequent generalised consistency with one another. These include neurophysiological theories, psychoanalytical and other psychological perspectives, and all the way to face-value acceptance of spirituality. But that debate need not concern us here. It is sufficient for us to note that the association of a natural site with sacredness has a phenomenological significance that might take it beyond mere utility from a conservationist’s point of view. It is possible that such sites are important not just for the biodiversity of non-human species, but also for the evolution and health of the human condition in a troubled world.

Sacred natural sites and spiritual presence in varying traditions

If ‘spirituality’ broadly consistent with Stace’s criteria might be on the cards, what might this suggest for the human ontological significance of SNSs? A spiritual worldview is one that considers the world, and specifically, human life, to be ensouled. The spiritual is that which gives life and specifically, life as love made manifest. It is the ‘interiority’ of that which is exterior; the knowing consciousness behind the known. Several major religions consider such consciousness to be personified, thus the Kena Upanishad of Hinduism asks: ‘Who sends the mind to wander afar? Who first drives life to start on its journey? Who impels us to utter these words? Who is the Spirit behind the eye and the ear?’

The Manduka Upanishad underscores the suck-and-see empirical approach to spiritual consciousness, thus: ‘In the union with him is the supreme proof of his reality’. The Mundaka Upanishad says: ‘In truth who knows God becomes God’ (Mascaro 1965: 51, 83, 81). These concepts have their equivalents in other religions, for example, the deification or
theosis in Orthodox Christianity based around the mystical notion that St Athanasius expressed in the words, ‘God became man so that man might become God’. Christian associations between nature and the sacred are also seen in such teachings of Jesus as ‘Consider the lilies of the field…’, in the totemic designations of the gospels where Mark is the lion, Luke the ox and John the eagle, and in panentheistic passages such as John 1, Psalms 104 and the twelfth chapter of the Book of Job which says: if in any doubt about the divine ‘Ask now the beasts … and the fouls of the air, and they shall tell thee. Or speak to the earth, and it shall teach thee’. To borrow another term from Orthodox theology, higher consciousness interacts with nature in apocatastasis – the revelation (apocalypse) of what is actually to be found there (stasis). From this we might derive the hypothesis that SNSs are of vital importance because they show us more deeply what nature actually is.

It might additionally be noted that the most sacred site in Islam, the Kaaba at Mecca, holds at its epicentre the Black Stone. Encased in silver, this is about thirty centimetres in length. Pilgrims on the Hajj process around and, if they can get close enough, kiss it. According to tradition, Umar, the second caliph and companion of Prophet Muhammad (p.b.u.h.), said to this stone: ‘No doubt, I know that you are a stone and can neither benefit anyone nor harm anyone. Had I not seen Allah’s Apostle kissing you I would not have kissed you’ (Bukhari 2007: 2:26:667). On such account the practice, strange though it is in the wider context of Islam, is not considered to be idolatrous.

Amongst many of the world’s indigenous peoples the sacredness of nature is central to the conservation of biodiversity. This also applies in Western Europe where, for example, faerie hills in contemporary Scotland have been noted as depositaries of indigenous lore and local taboos that contribute to the conservation of biodiversity within them (Laviolette and McIntosh 1997). In a major assessment edited for UNEP’s Global Biodiversity Assessment, Posey emphasised the spiritual basis of biodiversity amongst many indigenous peoples, surmising:

‘Although conservation and management practices are highly pragmatic, indigenous and traditional peoples generally view this knowledge as emanating from a spiritual base. All creation is sacred, and the sacred and secular are inseparable. Spirituality is the highest form of consciousness, and spiritual consciousness is the highest form of awareness. In this sense, a dimension of traditional knowledge is not local knowledge, but knowledge of the universal as expressed in the local. In indigenous and local cultures, experts exist who are peculiarly aware of nature’s organizing principles, sometimes described as entities, spirits or natural law. Thus, knowledge of the environment depends not only on the relationship between humans and nature, but also between the visible world and the invisible spirit world’. (Posey 1999: 4, his emphasis).
The word, sacred, has an etymology from Old Latin, *saceres*, that connects it to concepts of protection and of being ‘set aside’. The etymology of the word ‘holy’ derives from the Old English, *halig*, connected to *hal* meaning ‘health’. To return again to the medical analogy, we need such health-restoring set-aside if we are to seek regeneration of what is broken in the Earth and its peoples. This is biological but it is also cultural, for there is something about timeworn practice associated with particular sites that seems to be connected with their effect on consciousness. T.S. Elliot puts it thus in *Four Quartets* (1959: 50–51):

‘If you came this way,  
Taking any route, starting from anywhere,  
At any time or at any season,  
It would always be the same: you would have to put off  
Sense and notion. You are not here to verify,  
Instruct yourself, or inform curiosity  
Or carry report. You are here to kneel  
Where prayer has been valid’.  

**Static and dynamic concepts of sacred natural sites**

Thus far in this paper I have explored SNSs generally as phenomena that, through impacting on consciousness to varying degrees, connect natural nature to human nature. Here in Western Europe these links have become attenuated. Science is sometimes blamed for this, but I have tried to show that SNSs can potentially benefit from, and not be destroyed by critical empirical enquiry.

From this position I now want to suggest that SNSs should be understood not just as static entities that have long been recognised and often protected – albeit sometimes in a rather fossilised museum-piece manner. They should also be understood as dynamic processes. This allows for sites to be *reactivated* in cultural recognition, and even imaginatively *recreated* in consciousness. The following three case studies from Scotland illustrate these three positions of recognition, reactivation and recreation.

**Recognised sacred natural sites – Example: the Isle of Iona**

Iona is said to have been established as a monastic site by St Columba of Ireland in A.D. 563. To stand beside the
eighteenth century St Martin’s Cross at the Abbey entrance is to witness Biblical scenes carved in stone that have withstood nature’s elemental blast for nearly two-thirds of Christian history. The island is owned for the nation by the National Trust for Scotland. It is a well-established and highly protected SNS with 130,000 pilgrim and tourist visitors a year. We can therefore view it as ‘recognised’ and its status is secure.

George MacLeod who founded the Iona Community described Iona as a place where the boundary between the spiritual and the material worlds is ‘tissuesthe thin’. Writing just a century after Columba’s death in 597 Adomnán, the ninth abbot describes how Columba went to a knoll and prayed all night with his arms outspread towards the heavens. A monk witnessed a host of angels gather around the saint, ‘flying down with amazing speed, dressed in white robes’. The knoll is to this day known as Cnoc nan Aingeal, the Hill of the Angels. An interesting feature is Adomnán’s endorsement of empiricism. He says:

‘One should take notice of this story, and carefully think about the extent and nature of the sweet visits by angels that no one could know about but which, without doubt, were very frequent, for they generally came to him as he remained awake on winter nights or as he prayed in isolated places while others rested’. (Adomnán 1995: 218).

Reactivated sacred natural sites – Example: Mt Roineabhal, Isle of Harris

This site hosts the medieval church of St Clement on the lower slopes of Mt Roineabhal (Roin-e-val). Local tradition dates it back to the Culdees and the Druids. Although Roineabhal is only 460m in height, it rises directly out of the sea. With stunning views in all directions it has the awe-inspiring character of a much larger mountain. It is the highest in south Harris, a designated National Scenic Area.

Between 1991 and 2004 a battle raged to stop Roineabhal from being turned into a ‘superquarry’ to export roadstone (McIntosh 2001). One part of the protest involved my bringing Stone Eagle, the Mi’Kmaq war chief from Canada, and Donald Macleod, a Calvinist professor of theology, to testify at the government public inquiry. Our witness focussed on the ‘creation’ reflecting the majesty of the divine and this helped to reactivate local awareness of this. A wide-ranging campaign led to the quarry being stopped. Today visitors speak of their ‘pilgrimages’ to the mountain. As one native tradition bearer has said: ‘If it wasn’t a sacred mountain before, it is now.’
Today Presbyterian clergy on both Harris and the adjoining Isle of Lewis show a new openness to ecotheology. One leading conservative evangelical wrote in the local newspaper: ‘My theology tells me that the things that are seen declare the things that are unseen; that the details of the creation declare the grandeur of the Creator … without [whom] … I am at a loss to explain what I see of nature at close range’ (Campbell 2010).

Such re-activation of sensitivity to ‘creation’ and ‘providence’ helps to legitimise conservation consciousness in a community. It could serve as ongoing insurance policy for the mountain’s protection. Strikingly, in 2009 the island’s residents voted by a 2/3 majority to support exploring national park status for Harris with the Scottish Government.

Recreated sacred natural sites – Govan, City of Glasgow

Govan is an economically deprived area of Glasgow with high incidences of drug abuse and unemployment. Its Old Parish Church is the repository of a fine but little-known collection of ninth century carved stones. The pilgrimage guide, *Britain’s Holiest Places*, states that ‘Govan Old Church has no equal when it comes to telling the story of Scottish Christianity’ (Mayhew Smith 2011, 499). From here the Rev Dr George MacLeod, Lord MacLeod of Fuinary, led the rebuilding of Iona Abbey in the 1930s. His Iona Community became a platform that transformed the position of the Church of Scotland on urban poverty, ecumenism and nuclear weapons.

Today Govan Old Parish Church seeks to recover its history as an ancient site of pilgrimage, spurred by a new ferry link across the River Clyde to Glasgow’s new Riverside Museum of Transport, opened in 2011. There is a palpable sense amongst key segments of the community of a sacred natural site being not only revitalised, but also, imaginatively recreated. More than just a reactivation of the past such recreation of a wider sense of being an SNS speaks from today’s people to their present needs with one eye on the past and the other on the community’s future.

An example is the GalGael Trust. It draws inspiration from the Christian symbolic and nature imagery on the church’s carved stones in reconnect-
ing disaffected urban youth with their natural environment. In a programme called *Navigate Life*, young people work with retired shipyard workers. Activities include building traditional boats that are sailed down the river, both actually and symbolically reconnecting coastal communities while mending lives traumatised by violence, addictions and poverty.

GalGael’s trainees start with a block of wood, a hammer and a chisel, and are taught to see and express the beauty of nature in what could be seen as applied apocatastasis. It builds social conviviality and draws out the beauty of each human being. Participants describe the process as ‘a transformation’. Pride in people and place is rekindled in a triune expression of community with soil, soul and society (McIntosh 2008). A community garden project also produces local food, thereby widening dietary horizons and awareness of the carbon footprints. Most participants are not people who would go to church, yet a community consultation in October 2010 showed that a spiritual awareness drawing from the history of Govan manifests as a potent factor in the local sense of identity and belonging.

**Conclusion**

To be able to maintain its social function the spirituality of SNSs must be allowed to breathe. Scientific rigour can and should be paired with the motivational drivers of ethical vigour. To enter into a dynamic relationship with SNSs is to participate in the responsibility – *the ability to respond* – that can heal the world.

Based on the above examples the *Cycle of Belonging* (McIntosh 2008) posits community of place as the starting...
ninth century Scotland. The Gall is the stranger and the Gael are the heart-land indigenous people. Metaphorically there is something of both of these in most of us today and both must meld in recreating indigienity to care for the Earth.

The Cycle of Belonging

- **Place = nature + culture**
  - 1. Sense of Place (grounding)
  - 2. Sense of Identity (ego - 'head')
  - 3. Sense of Values (soul - 'heart')
  - 4. Sense of Responsibility (action - 'hand')

From here a sense of place informs a sense of identity, which carries with it a sense of values, which motivates the sense of responsibility. That, in completion of the cycle, reinforces sense of place. Community degeneration happens if this cycle is damaged at any point. Community regeneration is promoted when it is strengthened at any point.

A spiritual understanding, one that is predicated on love both immanent and transcendent, mandates that community of place should be inclusive rather than exclusive. There must be profound respect for the indigenous, for what is found there, but not xenophobia. In Celtic tradition such inclusiveness reflects in the twin sacred duties of hospitality for the short term, and fostership (or adoption) for permanence. This is reflected in the name ‘GalGael’ – a term that originated in
References


