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Loch Computer:
reflecting the meaning of remoteness and connectedness in the digital era

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7th September 2015 St Andrews

The poets in our research group have been asked to ‘compose a poem of not more than 20 lines, incorporating the words *loch* and *computer*, pondering the meaning of remoteness and connectedness in the digital era’. In my mind’s eye, I immediately saw a connection between the shiny blue surface of both a loch and a computer screen. I was afraid it was a bit obvious but it has remained my starting point.

This is my first attempt at practice-led research and I’ve found it interesting. I’ve written poems based on research before, but I haven’t set out to write a poem as part of an academic process. In one of our seminars, Peter MacKay described poems as ‘tools or machines for making connections’. I’ve gone back and forth between my poem and my talk, working on both by intuition and logic by turns.

Though not a native Gaelic speaker, I have taught Gaelic and composed poetry in it for over thirty years. I find Gaelic culture a useful starting point from which to interrogate the world. It has both very old aspects which can afford a glimpse of a Pre-Christian worldview and modern aspects about survival and identity. It has led me to become interested in the sort of knowledge the Ancient Greeks called *mythos* as opposed to the practical discourse of *logos*; tales which were symbolic of human psychology and set out a ‘programme of action’ for the individual.ⁱ I was talking to my mother about Dunscaith, an iron-age fort a mile or so from my house in Skye, which has long been identified as the place the Irish warrior Cú Chulainn came in *Táin Bó Cuailnge* (The Cattle Raid of Cooley) to learn the ultimate in martial arts from the female warrior, Scáthach.ⁱⁱ While my mother was dissatisfied with the lack of archaeological evidence that Dunscaith had ever been ruled by a female warrior, I was completely satisfied with my experience of the hero having to leave the familiar and go to the Other – in this case to Scotland and a woman – to reach his potential (though such an encounter with Otherness brings its own hazards). It seemed my mother and I represented these two ways of thinking, factual and mythic. It was by thinking mythically in the context

of this project that I came to draw a parallel in my poem between the Otherworld and the virtual world of the digital age.

The Otherworld – a translation of Lucan's *Orbis alius* - is remote from this world, if not spatially, then in every other way, for it is the realm of the dead and regeneration. It is often accessed through water, and may lie within a cave – an orifice of the earth, or on an island across the sea or under a hill or a tree. As it is another world, it has not been contaminated by original sin, so sex on Eilean nam Ban/ the Island of Women is not a sin. Its inhabitants – the living dead, the ancestors or the pre-Christian gods, euhemerised as heroes or fairies, belong to distant times: Fionn for example and his warrior band who were supposed to have lived in the 3rd century still hunt in the wilderness.

It is this very remoteness from our own times, from our Christian morality, and the contingencies of our place in society that give those who encounter the Otherworld a peculiar connectedness with their essential selves and it is that experience of Otherness that is often the key to creativity. The MacCrimmons are said to have received their musical gifts and first chanter from an Otherworld woman and poets when composing were said to be *anns a' chnoc* 'in the (fairy) mound'. In mythic terms we can see the Otherworld simultaneously releasing an individual from the social, temporal, spatial and moral strictures of his life while connecting him with nature in a continuous and cyclical present.

People would glimpse the Otherworld, typically at liminal times or in liminal zones - between the old and new year, at dusk, between land and water, waking and sleeping, etc. – and then return to the land of the living. Similarly we access the virtual world from the real world by password – a form of secret initiation – before entering a zone of liquid crystal and unseen and unlimited connections. It is our imagination and curiosity, not our circumstances, which define the range of our discoveries. We need not be trammelled by race or creed or culture. New rules can be made and old rules broken. It is a parallel universe, ripe for experimentation, playful, edifying or depraved according to inclination. The natural world is photographed and annotated in all its minutiae, yet the earth itself is not the boundary: images stream to us at our desks from Hubble, Philae Lander and New Horizons.

Both the Otherworld and the virtual world are interactive and can model the real world. For pre-scientific man, the world is characterised by unpredictability, and Gaelic prayers and customs and the medical MSS of the Beaton's make a constant effort to counteract the effect of the evil eye and to harness propitiousness. Computer Games likewise allow people control of the forces of good and evil. In the more serious world of scientific modelling, the computer can generate a possible evolutionary path *in silico* of hundreds of thousands more genetic and environmental pseudorandom variations than the human mind could ever imagine.ⁱⁱⁱ ENIAC (Electronic Numerical Integrator And Computer) was the first computer capable of working as a simulator rather than merely as a calculator. It ran the 'Monte Carlo simulations' of nuclear fission in bombs in 1948. Peter Galison said that these calculations had built 'an artificial world', and that physics paradoxically had been led away from reality to 'a netherland that was at once everywhere and nowhere'.^{iv} Haigh *et al* point out that 'using ENIAC was an adventure, a journey to an unfamiliar place, and often something of an ordeal', language which equates as much with the scientific expedition as with the Otherworld quest.^v

Despite the remoteness from our normal worlds afforded by the Otherworld and the digital age, the ability of the internet to connect us to one another is probably its principal attraction. Through e-mails it allows us to be connected spatially; through Skype it allows us to be connected visually (think of grandparents recognised by their toddler grandchildren on different continents); through social media it allows us to be connected simultaneously every member of a group and at almost no cost, and through family tree sites it allows us to discover our common ancestry. People meet in cyberspace whose paths would not have crossed in reality, and old friendships are rediscovered that otherwise would have been lost to time. My poem below is a love poem in this sort of context.

Loch Coimpiutair: Dàn Gaoil

'S e m' eudail Loch an Iomair, paisgte sa mhòintich,
gu h-àrd sna slèibhtean eadar gàirdeanan creige,
an t-uisge-meirgidh ga shàthadh le flùr an lochain –
agus thig thu fom aire, mar a thig thu,

chan ann air sgàth duinnead do shùilean,
no gilead a' chanaich air do lèintean-sgoile,
ach air sgàth guirm' an lochain is guirme m' iargain
agus guirm' a' choimpiutair nuair a chuireas mi air e
gus an tum mi gun fhios' dhan t-saoghal eile
far am bi an solas a' fiaradh air craiceann-circe
is algairimean a' chiad ghaoil a' builgeadh on ghrund
is a' plaosgadh air an uachdar nam fàinnean tearra is airgid.

and in translation:

Loch Computer: A Love Poem

Loch an Iomair's my treasure, cradled in sphagnum
high in the hills between arms of rock
with lobelia pricking its peaty waters –
and I think of you, as I do,
not for the brown of your eyes
nor the bog cotton white of your school shirts,
but for the blue of the loch and of my longing
and the blue of the computer when I turn it on
to plunge unobserved to that Otherworld
of refracted lights slanting on gooseflesh,
where love's first algorithms bubble from the mould
and burst on the surface in rings of pitch and silver.

I hope there is an echo of entering the Otherworld by water in accessing an old relationship, distant in space and time (suggested by the school-shirts), by e-mail. Ruskin said of the Picturesque, 'Nobody ever cared about blue mountains before'.^{vi} I think he was wrong about their novelty in Gaelic culture but right that blue is associated with longing, with the blue-end of the spectrum seen at long-range in the landscape, sky and sea. The blue of the XP start-up page came to have a Pavlovian effect on me of making me ache.

Loch an Iomair is a moorland loch in Sleat, and my tenderness for the distant lover is sublimated by my tenderness for this place that evokes him. Like e-mail access protected by password, the loch is out of sight in the hills, and what happens occurs in the Otherworld of memory and imagination below its surface. In the slanting light refracted by the water I hoped to suggest the bending of time: this relationship does not belong to the present. Unrealised lovers and unrealisable relationships can exist in a virtual world with the LCD keeping a hat on things. As the Episcopalian clergyman, Robert Kirk (1644-92) said, fairies – or the living dead – are as unknown to man as man is to fishes.^{vii} But sometimes an algorithm of that first formative love – essential and uncompromised by time – intrudes into the present world. The silver and pitch of the last line show that a reminder of early rapture is both welcome and unsettling. There is a suggestion of the wilful courtship of danger. People in Gaelic folklore tryst with fairies at their peril, as they make for alluring but anti-social liaisons. Cù Chulainn is fated to kill the son he fathered when learning his martial arts in Scotland; others return from a few days in the Otherworld to find the world of the living altered beyond recognition and all their contemporaries dead; and the MacCrimmon piper who went into the Cave of Gold never came out, though his dog re-emerged hairless.^{viii}

* * *

Our project has members from Australia and in Shetland and Skye, and has an interest in Iona, which would seem to demonstrate that remote places can be connected by internet. Indeed, my institution, the University of the Highlands and Islands, covering an area the size of Belgium from 13 colleges, would be impossible but for the digital age. But I think we have to be aware of the word ‘remoteness’ because it depends on what is perceived as the centre, which is a matter of politics. The group has discussed the remoteness of Iona but St Columba remained there because it was central to the *familia* of his church in Scotland and Ireland, and handy for the ocean pilgrimages that would take his monks to Iceland and Continental Europe at a time when travel by sea was far more convenient than travel by land. Indeed, Iona was so central that Columba had to retreat from the hubbub of the monastery to Hinba (probably Jura) to have his most profound experiences of connectedness, ‘three nights of unique and glorious visitation’, as Adomnan, his 7th century biographer reports.^{ix} Even with internet connections, people, a few miles from the city centres, can still be remote as the detritus of capitalism. Remoteness and connectedness are as much a function of politics and power as of space and digital connectivity.

Adomnan gives an example of another sort of pre-digital connectivity: tele-viewing. When Cormac Ua Liatháin and his companions had been blown north from Iona for fourteen days and nights ‘beyond the range of human exploration’ to a place ‘from which they might not be able to return’, Columba saw their distress from Iona and through Christ turned the winds southerly.^x Rather than seeing into the distance, the Second Sight, until recently, widespread in the Highlands, was a form of connectivity allowing people to see into the future. Even in the face of increased algorithmic sophistication, there may be forms of awareness based on quantum effects that we don’t yet understand.^{xi} Edgar Mitchell, the sixth man on the moon and founder of the Institute of Noetic Sciences for research into consciousness, felt an overwhelming sense of connectedness to all things when he viewed the earth from Outer Space and has since posited – along with other physicists – the Zero Point Field, a web of energies connecting everything throughout the universe.^{xii}

This Edinburgh festival I went to see the exhibition of M.C. Escher’s work and found my reaction to be quite different from my youthful assessment of him as a consummate but somewhat gimmicky draughtsman of visual conundrums. Now he strikes me as deeply philosophical in what he implies about epistemology, infinity and, most relevant to this talk, fractals, a term coined by Mandelbrot in 1975,^{xiii} three years after Escher’s death. Turing and Penrose are other names connected to the discovery of self-similar repeating designs at different scales giving evidence of the self-organising tendency in nature we see on animal hides, coastlines, sand-dunes, the vasculature of blood veins, plant growth and rivers, and the patterns of broccoli and pineapples. (The recurrence of the same sorts of patterns throughout nature has led people to talk of ‘God’s thumbprint’.) Escher’s tessellations suggest to me a rising of distinct and evolving forms out of a continuum that stretches from and into eternity. I think of the double helix of DNA connecting all life and of the growth of crystals. His tiling of the visual plane seems to work as a metaphor: while the forms are distinct they are also connected by patterns generated at the beginning by a simple mathematical formula which gains in complexity as the forms evolve.^{xiv}

Like Escher’s tessellations, the carpet pages of the Book of Kells are based on simple spirals which are repeated to form designs of vertiginous complexity. Celtic knot-work likewise

seems to speak of complexity and connectivity between species. It took Alan Turing (1912-54) to begin to identify the mathematical basis for the connectedness of matter, animate and non-animate, something which the mystic tradition had long spoken of – most famously in the Neo-Platonism of Plotinus in the 3rd century for whom the cosmos was an emanation of the One and so also a part of the One.

Sorley MacLean based his poem ‘Hallaig’ on an understanding of the interchangeability of the life-force of trees and people and speaks of the branching rising of the sap, ‘untutored and untaught’ in ‘The Woods of Raasay’. Robert Kirk, already mentioned in the context of fairies, speaks in the 17th century of the interconnectedness of life:

Nothing perisheth, but (as the Sun and Year) everie thing goes in a Circle, Lesser or Greater, and is renewed and refreshed in its revolutiones, as 'tis another, That Every Body in the Creatione, moves, (which is a sort of Life:) and that nothing moves but what has another Animall moving on itt and so on, to the utmost minutest corpuscle that's capable to be a receptacle of Lyfe.

The Secret Commonwealth (1692)

My starting point for this talk was the similarity of appearance of a loch in the hills and a computer screen, and the similarity of psychological function afforded by the Otherworld and the virtual world. Both are places of the imagination with a physical reality (soil and the internet) which can foster feelings of remoteness and connectedness. Probably every culture and age has addressed the psychological need to foster connectedness through social distance in various ways – religious, ecstatic, ritualistic, intellectual or chemical, and the internet is another portal to the same. Indeed remoteness and connectedness could be seen as opposite ends of the information highway, or of evolving DNA or of the emanation of the cosmos from the One.

I will close on another lead from Gaelic culture in considering the water of our project's title, Loch Computer, and the central Indo-European - and hence Gaelic - belief that water or *soma* was the conduit of regeneration, healing and the wisdom of the ancestors. It is no coincidence that all the rivers of Scotland and Ireland and a good many on the Continent too are named after earth goddesses, as the essence of the earth is brought to the surface in rivers. While Plotinus used the metaphor of light to describe the emanation of the universe from the One, it

is interesting that the 9th century Irish theologian, Johannes Scottus Eriugena, uses the metaphor of water to describe the resultant interconnectedness of all things:

For the whole river first flows forth from its source, and through its channel the water which first wells up in the source continues to flow always without any break to whatever distance it extends. So the Divine Goodness and Essence and Life and Wisdom and everything which is in the source of all things first flow down into the primordial causes and make them to be, then through the primordial causes they descend in an ineffable way through the orders of the universe that accommodate them, flowing forth continuously through the higher to the lower; and return back again to their source through the most secret channels of nature by a most hidden course. ^{xv}

Loch Computer then seems a thoroughly Gaelic image for the accumulation of man's knowledge, profane and sacred, that gives us the distance and the connectedness to contemplate our place in the universe.

ⁱ See Karen Armstrong (2009), *The Case for God*, pp. 2-4

ⁱⁱ The story has been retold in Janet Paisley's *Warrior Daughter* (2009)

ⁱⁱⁱ see Jim Al-Khalili's documentary film, 'The Secret Life of Chaos' (2010)

^{iv} Peter Galison, 1996, 'Computer Simulation and the Trading Zone' in *The Disunity of Science: Boundaries, Contexts and Power*, p.120 quoted in Haigh, T., M. Priestley and C. Rope, 'Los Alamos Bets on ENIAC: Nuclear Monte Carlo Simulations, 1947-1948', *IEEE Annals of the History of Computing*, the IEEE Computer Society 1058-6180/14, 2014, pp. 43 and 58

^v *ibid.* p. 54

^{vi} John Ruskin (1856), *Modern Painters*, Vol. 3, pp. 193-5

^{vii} Lang, A. ed. (1893), *The Secret Commonwealth of Elves, Fauns, & Fairies*. London: David Nutt

^{viii} 'Uamh an Óir', pp. 294 -315 in Sorley MacLean (2011), *Collected Poems*, ed. Whyte and Dymock, Edinburgh: Birlinn

^{ix} Adomnan of Iona, *Life of St Columba*, ed. Richard Sharpe, pp. 219-20, Penguin Books (1995)

^x *ibid.* pp. 197-8

^{xi} See for example Roger Penrose (1994), *Shadows of the Mind: A Search for the Missing Science of Consciousness*

^{xii} Lynne McTaggart (2003), Introduction, *The Field*, London: HarperCollins

^{xiii} Mandelbrot defined a fractal as 'a rough or fragmented geometric shape that can be subdivided in parts, each of which is (at least approximately) a reduced-size copy of the whole.'

^{xiv} See Escher's Italian landscapes where patterns are picked out and echoed in land, cloud and building forms, and his tessellations, 'Metamorphosis' I and II, 'Development', 'Smaller and Smaller' and 'Verbum'.

^{xv} O'Meara, J.J. (1988), *Periphyseon*, Liber III pp. 52-53, Dublin