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Terra Two: An Ark for Off-World Survival—A York St John University project on sustainability, spirituality, and science fiction

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Abstract: In Timothy Morton's eco-philosophical text *Hyperobjects* (2013), he dramatically announces that 'the end of the world has already occurred' (7), going on to suggest that the start of the Anthropocene coincided with the development of James Watt's blueprints for the steam engine in the eighteenth century, an act which led to the Industrial Revolution, and thus to swift and damaging environmental change on a geophysical scale. This paper introduces Terra Two: An Ark for Off-World Survival, a project which draws on the spiritual wisdom advanced by a range of science fiction novels, films and TV episodes in order to counter and overturn Morton's gloomy, apocalyptic prediction. Initially a web-based platform, the project invites contributors to distil messages found in sf texts in order to help shape the first off-world community, which NASA is hoping to settle on Mars over the next two decades. In building up an archive of material which critically and creatively reflects on key contemporary topics such as ecology, spirituality, gender, sexual identity and race, and by facilitating community and globally-based projects, Terra Two not only aims to influence the first off-world colony, but to impact generatively on planet Earth. The project specifically supports the key aims of Education for Sustainable Development, as it exposes staff and students in the School of Humanities, Religion and Philosophy at York St John University to a range of social and environmental approaches to contemporary science fiction. Staff and students are invited to attend outreach events related to Terra Two, to develop contributions to the online magazine, and to attend a series of extra-curricular workshops around science fiction and sustainability. The paper explores key science fictional influences, a working theory of secular spirituality, and project aims and outcomes.

Part 1) Terra Two: An Ark for Off-world Survival

The Terra Two project is a digital archive which gathers critical and creative responses to science fiction in order to influence the first off-world human settlement. Based at York St John University, Terra Two's aims are to contribute to the welfare and preservation of our species and the many species indigenous to the planet, to seed research and creative outputs, and to bring enjoyment and energy to readers, viewers and listeners. The Terra Two project facilitates creative/critical writing workshops for staff, students, and members of the public in order to advance research, outreach and employability; it runs an allotment in conjunction with the developers of the York St John Pollination Project, and it enhances the Level 5 Literature module 'Science Fiction for Survival' by offering students the chance to run creative writing workshops in schools, to develop work for the online magazine, and from September 2018, to liaise with university-level students in Rwanda through the charity We Are Limitless.

Following an introductory presentation about the project at the university's research conference in September 2016, the chief editor Dr Liesl King was joined by two co-editors, Dr Rob Edgar (YSJ Creative Writing) and Dr Adam Smith (YSJ English Literature), who both have expertise in science fiction studies. Over the last two years the editors have released three editions of the online magazine, facilitated creative writing workshops around Terra Two themes for The York Festival of Ideas, The Society of Friends in York, the research hub at Canterbury Christ Church University, two primary schools in North Yorkshire, and YSJ staff and students as well as members of the public during a series of six university-funded workshops entitled 'Terra Tuesdays'.

The project's editors aim to encourage a diverse range of contributors to consider what kind of human society the first settlers might build on Mars. Contributors are invited to submit short pieces of creative or critical writing as well as photographs, short videos, and musical compositions which include a brief critical commentary. A longer term goal is to make contact with the educational arms of NASA and the UK Space Agency; while our aim is somewhat ambitious in its reach, we hope that our archive, in however small a way, might help pollinate the thinking of those who settle the first human colony off-world.

Terra Two has a presence on social media, with a Twitter address of @YSJTerra2 and an Instagram address of @terra.two. The Terra Two: An Ark for Off-World Survival magazine can be located at <https://yorkstjohnterratwo.com>

The 'About' heading on the Terra Two Word Press site offers the following, for more information:

'Where my guides lead me in kindness, I follow, follow lightly...' (Le Guin, 2000:176)

Terra Two's key aim is to give shape to the first off-world settlement through the lens of science fiction. NASA is keen to settle the first group of colonists within the next two decades, and it is my own feeling that we simply cannot leave the development of the first colony to the scientists alone; instead, we in the Arts and Humanities, especially those who

are acutely aware of the warnings implicit in science fiction, must add our voices to this larger project in order to ensure that when we settle a new planet, we take an entirely new approach to our environment, to other species within our sphere of influence, and to one another. To simply transport contemporary western culture's attitudes and behaviours into deep space would be to create a mission doomed from its inception; when we go, we need to agree on a new set of principles, and we need to find a way to make them stick.

Contemporary science fiction, with its increasing focus on the environment as well as on cultural, ethnic and sexual diversity serves as a repository for the hopes and fears of this precarious age. For eco-philosopher Timothy Morton 'the end of the world has already occurred' (2013: 7); James Watt's blueprints for the steam engine marked the beginning of the industrial revolution, and so too, the beginning of geophysical disaster on a global scale—the beginning, potentially, of the end of days. Many scientists suggest that the 'tipping point', that window in time where we might have been able to reverse the adverse effects of technological advancement, has now passed. Whether this is the case or not, as I see it we have two choices—keep on partying, western-style, while the rest of the globe grows increasingly hungry and more miserable, OR make a plan for a radical new way of living, one we can use to transform contemporary reality here and now on Terra One, and one we can take with us when we move to our first new home among the stars.

Science fiction readers and critics, we invite you to distil the wisdom found in your favourite texts for this moveable ark. Creative writers, visual artists, gamers and musicians, we invite you to reflect on science fictional texts or themes in order to help us visualise a future played out light years away from Terra One, our beautiful planet Earth. Historians, law-makers, politicians—we invite you to think about how governance will work in the first off-world community; what do our wisest sf writers and film-makers suggest we will need to do in the future to keep the peace? Spiritual and religious thinkers, philosophers, ethicists—please comment on the way we might harness our best, most compassionate selves within the new space. Scientists—how will we get there? What will we need to do to survive in a new environment? Whatever we do—it is certain that we will need a diverse range of abilities in order to get us through—diversity, and resilience.

Good quality contributions to Terra Two are welcomed from YSJ academic staff and students and from guest contributors by invitation. The Terra Two editorial team will send out calls for contributions twice a year, and in addition, we will facilitate projects and collaborations to provide additional opportunities for submission. Our longer term aim is to share our Ark for Off-World Survival with NASA and the UK Space Agency.

This site is dedicated to science fiction writer Ursula K. Le Guin, whose deep understanding of human beings, and her faith in what we can achieve collectively, has influenced me profoundly all of my adult years.

Liesl E. King 7/18

Caretaker – Terra Two: An Ark for Off-World Survival

So far, following its 'soft launch' at the university's Research Reflections conference in September 2016, Terra Two has attracted submissions from twenty-five YSJ staff members, postgraduate students, and invited guests in the fields of Literature, Creative Writing, History, Media, Religious Studies, Theology, Illustration, and Music. The Bishop of Whitby, Paul Ferguson, was the first to submit a piece of work, and the youngest contributor to the site is ten year-old creative writer Meredith Edgar-Hunt, who attended the York Festival of Ideas workshop in June. In the recent response to July's call for submissions, ten YSJ staff members, postgraduate students, and invited guest contributors submitted creative and critical pieces, including poet and science fiction writer Luke Kennard, author of *The Transition* (2014). Luke visited York St John this September to read from his contribution to Terra Two and to officially launch the project. During the staff and student workshop series that will be running monthly from October to June we are planning to dig, plant, and write at the @YSJTerra2 allotment after reading extracts from apocalyptic sf; to offer Terra Two writing workshops to Park Grove Primary School, Joseph Rowntree Secondary School, the Kyra Women's Project, and the York Quakers; and to support students to develop a Terra Two Junior Word Press site for contributors sixteen years of age and under as well as to liaise with students in Rwanda through the charity We Are Limitless. We have recently secured an institutional bid to support this workshop series, and in 2018/19, in tandem with the York Environmental Humanities group, we aim to put in a larger external bid to support a weekend-long festival with Terra Incognito, a multi-modal, cross-disciplinary publication, and a one day symposium facilitated jointly between York St John and the UK Space Agency. Although many of the above plans are still in 'seed' form, the activities of Terra Two across 2016/17 have established a presence for the project both on and off campus, creating interest and enthusiasm in advance of upcoming events.

The Terra Two project encourages Humanities students at York St John studying Literature and Creative Writing, Media and Film Studies, Theology and Religious Studies, History and American Studies, and Human and Environmental Geography to reflect on the relationship between their subject areas and key principles behind sustainable living. In terms of advancing the values inherent in the concept 'Education for Sustainable Development', the Terra Two project 1) offers students a platform to engage critically and creatively with science fiction's social and environmental messages through its online magazine; 2) foregrounds the ark(ive)'s ethos of sustainability through its extra-curricular workshops; and 3) symbolises the importance of fostering communication between the humanities and the sciences through its publicised goal to share the ark(ive) with NASA and the UK Space Agency.

Although the online ark(ive)/magazine is free for all to enjoy, we ask individuals who have enjoyed the creative and critical work on the site to consider contributing a small sum to the charity We Are Limitless, which has so far supported 46 orphans through school and university: <http://www.wearelimitless.org>.

My own research interests lie in the relationship between science fiction and spirituality, and the reflective section which forms the second part of this paper has been written in direct response to the title of the upcoming Canterbury Christ Church University's conference 'Sustainability and Humanities: linking social values, theology and spirituality towards sustainability'. The Terra Two project invites submissions from practitioners of every faith and no-faith; it aims to include the work of contributors who have a relationship with the term 'spirituality', and equally, of those who have no relationship with this term at all. In the official launch of this project which took place at the university on the 29th of September, 2017, I explained that the project had two watchwords – diversity, and sustainability. T2's editors have welcomed contributions of a good standard that in some way address one or both of these terms. Although not all individuals conceive of themselves

as ‘spiritual’, spirituality is a term that, as Cornell Toit puts it, is ‘accessible to all’ (2006: 1252). Arguably, a desire to express and cultivate spirituality is synonymous with the promotion of diversity and sustainability. Secular spirituality sits *between* religious and non-religious approaches, and by foregrounding this term through research, my aim is to bridge the gap.

The Canterbury call for papers inspired me to flesh out the connection between secular spirituality and science fiction so that I could better articulate the ethos which shaped the development of Terra Two for readers, contributors, and for academics external to YSJ. The following section on ‘Secular Spirituality and Science Fiction’ will be uploaded to the ‘About’ section prior to the next call for submissions, and I will share these ideas when I visit Canterbury in November. Ideally, these reflections will contribute to the conversation that research professor Pauline Kollontai has begun with her recent contribution to the ark(ive), ‘Reflections from the Garden of Eden’, which includes the questions: ‘On Terra Two, what kinds of cultures need to be created to diminish our human ability to hurt and destroy one another? Will religions continue to exist and in what form?’ Ideally, the research which follows will provoke further engagement with the concept of ‘spirituality’ and related, practical applications for supporting sustainability on Earth as well as on the first off-world colony. The reflections, along with the many contributions to the site from other Humanities staff members, will ideally encourage students to see university degrees not only as a means through which they might gain economic success, but through which they might find opportunities to impact on local and global well-being.

Part 2: On Secular Spirituality and Science Fiction: A Provocation for Terra Two

Write, form a rhizome, increase your territory by deterritorialization, extend the line of flight to the point where it becomes an abstract machine covering the entire plane of consistency. (Deleuze and Guattari, 2013: 11)

Speak up about a third way—it is no longer about a particular religious tradition, or spiritual leader, or path to enlightenment; nor is it about turning one’s back on spirituality as a concept; instead we might explain that spiritual desire is as real and urgent for each of us as hunger, sexual desire, or the need to breathe. In fact, these desires are all one.

The Terra Two project has been developed with a working understanding of ‘secular spirituality’ in mind, and the remainder of this paper will attempt to tease out what this concept might embrace, and why it is valuable, drawing on a range of science fictional texts which have simultaneously inspired and given shape to the term. Additionally the section gives focus to the work of Gilles Deleuze’s and Felix Guattari’s visionary *A Thousand Plateaus* (1987), and most specifically to its generative, disorderly, ‘rhizomatic’ understanding of the way organic life in our multiverse functions, a model which arguably sheds light on human spirituality.

In the introduction to their concept of the rhizome, Deleuze and Guattari explain that ‘[i]t is not a question of this or that place on earth, or of a given moment in history, still less

of this or that category of thought. It is a question of a model that is perpetually in construction or collapsing, and of a process that is perpetually prolonging itself, breaking off and starting up again' (21). I might begin here by suggesting that human expressions of 'spirituality' are integral to a sustainable vision of the future; additionally, they are expressions in modes which in practical terms are 'perpetually [...] breaking off and starting up again'. Spirituality is an impulse which human beings have attempted to tame, capture, and house within religious paradigms since the beginning of culture as we know it. Spiritual expression finds a natural home in religious communities, as tribes, groups and nations seek to express ways of doing and being which connect with something larger themselves; however, spiritual energy sits at the core of every vibrating life form, and like Deleuze's rhizomes, it 'operates by variation, expansion, conquest, capture, offshoots' (22). In other words, as theologian Cornell Toit explains, although all religious communities engage in some form of spiritual practice, spirituality 'does not discriminate between religion and denomination, or between believers and unbelievers. It is a human capacity accessible to all' (2006). The impulse to experience and recognise deep connections between the self and other forms is as natural as breathing or sleeping; the spiritual impulse is at the heart of every ethical decision, every admiring response to nature, every act of love.

Yet how do we pin down a concept that may be a 'human capacity', but which means very little without context? Theorist Ernesto Laclau might call spirituality an 'empty signifier', as it has no direct referent (2006). However, to my mind, spirituality is one of the most valuable words in the English language; the process of understanding and working with this concept is identical to the process of living in a sustainable, open-hearted, and compassionate way. Considering the work of science fiction writers who have influenced my thinking, I would suggest that there are (at least) seven values practiced by individuals, communities, projects, institutions, and relationships which might be called spiritual, and these include the following: 1) connection 2) compassion 3) respect 4) vision 5) attention 6) evolution and 7) love. The importance of placing the term 'secular' beside the term 'spirituality' in this section's title cannot be overstated: at this point in history, when many religious communities are at odds both with one another and with secular groups, a number of human beings across the globe (secular and religious) are working to respond to sf writer Ursula Le Guin's invitation to philosophically 'move sideways' (1989: 95) in order to acknowledge common spiritual ground. It is my contention that we cannot move forward successfully, sustainably, as a global community until we consciously acknowledge that all human beings, no matter what their religious or non-religious beliefs may be, express spiritual desire on a daily basis. Until we understand and acknowledge that the impulse to connect spiritually comes first, and the impulse to join a particular religious institution, to study astrophysics, or to nurture a vegetable garden comes second, we will continue to judge some human beings as insiders and others as outsiders. Sf writer Ursula Le Guin's novels, short stories and essays imply that a culture's underpinning philosophy forms the basis for its future, and I would in turn suggest that a global, planetary culture which recognises, and appreciates, diverse expressions of spiritual desire will signal the next stage in our mutual evolution. When we settle a 'Terra Two', whether that be Mars or a planet outside our solar system, will it not be necessary to form new rituals, new, collaboratively-developed ways of recognising birth, death, commitment, sorrow and joy? These 'becomings' (Deleuze) will be innovative, rich in affective creativity. Our colonists will bring spiritual desire with them, and together they will find new ways to express it.

Theologian Robert Fuller in his book *Spiritual but not Religious: Understanding Unchurched America* (2001), makes the following assertions:

Up to 21 percent of all Americans are unaffiliated with a church, but should nonetheless be considered religious in some broad sense of the term. The largest group of the unchurched, then, is concerned with spiritual issues but choose to pursue them outside the context of a formal religious organization. These Americans can be described as “spiritual but not religious.” [...] They view their lives as spiritual journeys, hoping to make new discoveries and gain new insights on an almost daily basis. Religion isn’t a fixed thing for them.[...] Importantly, the terms they adopt in their effort to understand such things as the nature of God, the essence of the human soul, and the practices that promote spiritual growth are almost all drawn from spiritual philosophies outside dominant religious institutions. (Fuller, 2001: 4)

Fuller’s paragraph contains inconsistencies: he suggests that 21 percent of Americans who are not affiliated with a church ‘should nonetheless be considered religious’, but he also explains that they can be described as ‘spiritual but not religious’ (4). I would suggest that a common tendency in academic culture to collapse the two terms ‘spiritual’ and ‘religious’ creates confusion here. The two terms do not connote the same thing, although for many individuals they are deeply connected. Robert Fuller, although curious about and often generous towards the ‘unchurched Americans’ he describes, concludes finally that those he classes in this way can often be considered anti-social (178). In other words, from Fuller’s Christian-based perspective it is the term ‘religious’, with its associations to biblical scripture, traditional ritual and community worship which holds value, while to be ‘spiritual but not religious’ is to experience spirituality in a diminished form. To again create a parallel with Deleuze and Guattari’s description of rhizomes, I would suggest that spiritual desire works through ‘variation’, ‘expansion’, and ‘offshoots’: although many individuals immerse themselves within a single, dominant religious tradition, numerous others connect with spiritual concepts, behaviours, and experiences through alternative, and crucially non-religious sources.

One particular artistic genre is uniquely placed to offer perspectives on spirituality ‘outside dominant religious institutions’ (4), and that genre is science fiction. Science fiction, as critic Damien Broderick has pointed out, is ‘that species of storytelling native to a culture undergoing the epistemic changes implicated in the rise [. . .] of technical-industrial modes of production’ (1995:155). In other words, science fiction speaks specifically to those across the globe who are experiencing dramatic social transformations due to the advances of technology. Science fiction additionally has a history of asking the ‘bigger’ questions, such as ‘how did we get here?’, ‘what does it mean to be a human being?’ and ‘what can we do to make the world a fairer place?’, questions which a number of religious texts also explore. Writers such as Ursula Le Guin, Marge Piercy, Octavia Butler, Margaret Atwood, and Jeff VanderMeer draw on non-traditional modes of spiritual expression in order to advance warnings about environmental damage and social injustice. They and a range of other contemporary sf writers and film-makers focus our attention on issues of race, class, gender, sexual identity and dis/ability, creating parallels between our treatment of difference and our treatment of non-humans and the natural environment. In so doing, they express spiritual desires for alternative futures.

Seven spiritual values in science fiction

1) *Connection*

In Ursula Le Guin's short story 'Newton's Sleep' (1994), human beings have chosen to select a few people with exceptional intelligence scores to inhabit a satellite which will exit the Earth's atmosphere, leaving the destructive effects of pollution and over-population behind; when they leave the atmosphere they relegate 'rain, roaches and Spanish' to the stored memory of their catalogue file (38). But once the satellite is launched the inhabitants are haunted by collective, hallucinatory visions of the people, the wild animals and the growing things they have abandoned. In the story's narrative, elements of the past are superimposed upon the present, conveying the impression that time is merely a series of separated layers which can theoretically be pressed back together; and we come to understand that for Le Guin, time and space are ultimately irrelevant—what matters is that all of life is intrinsically intertwined. The character Susan sums up the experience thus: 'How did we, how could we have thought we could just leave? [...] All it is, is we brought ourselves with us [...] The horses and the whales and the old women and the sick babies. They're just us, we're them, they're here' (49).

In an article by scientists Carla Hustak and Natasha Myers, the two writers offer a non-utilitarian, 'involutionary' approach to biological studies of plant/insect relations: they explain that 'pullulating under the surface of chemical ecologists' neo-Darwinian accounts, we find the glimmerings of an affective ecology contoured by affinities and repulsions and teeming with articulate plants and other loquacious organisms' (79). They suggest that Darwin's 1862 treatise on orchid pollination exposes a 'glimpse of him involving himself in an "inextricable web of affinities"' (83), and they propose that plant/insect encounters are not simply 'conditioned by a calculating economy but by an affective ecology shaped by pleasure, play, and experimental propositions' (77-78). These writers' account of interspecies symbiosis is similar to that of Ursula Le Guin's short story 'Newton's Sleep': in both narratives the authors focus on foregrounding an 'inextricable web of affinities', stressing developmental interdependence and biological, affective interconnectivity. Hustak and Myers reference Deleuze and Guattari's *A Thousand Plateaus*, highlighting the celebrated passage which calls on readers to 'consider the wisdom of plants: even when they have roots, there is always an outside where they form a rhizome with something else—with the wind, an animal, human beings [...]' (10). These intersecting perspectives from literature, science and philosophy express a truth which vibrates at the very core of every function of the multiverse—that of continuous, interactive, transformative connectivity.

2) *Compassion*

In Ursula Le Guin's short story 'The Ones Who Walk Away From Omelas' (1975), the writer provides a metaphor of what it means to be compassionate by telling about a few characters who choose to walk away from a beautiful, fictional city, a city permitted to preserve its wealth and happiness as long as it keeps one miserable, hungry and lonely child in a filthy cellar. The rules of the city insist that such a child must always exist, and so the wealth and pleasure of the many are predicated on the poverty and misery of the one. Many inhabitants accept that the sacrifice is inevitable, and they come annually to stare at the child in order to acknowledge and internalise the sad truth. But a few refuse to accept it, and they walk away from the city and all that is known. This story, widely anthologised, distils in its representation of the filthy, motherless, starving child a truth that individual humans can either look at or turn away from—the fact that deep pain, torture, and misery occur regularly, daily, all across our globe. Susan in Le Guin's short story explains, 'The horses and the whales and the old women and the sick babies. They're just us, we're them, they're here'

(49). Awareness of the first value, connection, leads to an enhancement of the second, the value which most succinctly sums up what it means to be human—compassion. The latter is a truth illuminated by a range of landmark sf novels and films, from Mary Shelley's *Frankenstein* (1818) to Cormac McCarthy's *The Road* (2006).

3) *Respect*

Clara Sue Kidwell, Homer Noley and George Tinker's *A Native American Theology* (2001) explains that Native Americans cultivate planting ground so that it will yield crops for seven generations to come. Native Americans, they explain, see themselves as an intrinsic part of the larger web of life, which in turn inspires respectful behaviour towards the natural environment: [f]or Native Americans, their intimate relationship with the natural environment blurs the distinctions between human and non-human [...] (107). Historically, western European and North American (non-indigenous) approaches to the environment have been markedly different to this. The successes engendered by the Industrial Revolution created the impression that western humankind was in control of nature, that following nineteenth century advances in medicine, transport, architecture and food production, human beings had the ability to mould and shape the natural environment without experiencing adverse effects. An important text in terms of this topic, Timothy Morton's eco-philosophical treatise *Hyperobjects* (2013), dramatically flags the repercussions of unsustainable technological advancement. In order to express his argument, he dances around the term 'hyperobjects' until it appears to embody just about everything we are not: 'a hyperobject could be a black hole' (1); it could be the biosphere, or the solar system'; it 'could be the very long-lasting product of human manufacture, such as Styrofoam or plastic bags, or the sum of all the whirring machinery of capitalism' (1). In short, his treatise suggests that the world came to its end as the Industrial Revolution began. But ultimately *Hyperobjects* functions as an incitement to action rather than a prophecy: its extended polemic insists that unless we learn to acknowledge and to respect the hyperobjects all around us, our planet will soon fail to sustain its diverse range of species.

Science fiction offers us warnings about our treatment of the oceans, the atmosphere, the soil and all of the species on our planet, over and over again. In 1976, Marge Piercy's *Woman on the Edge of Time* offered two alternative futures, one in which human beings lived sustainably in 'ownfed' communities, and another, where all but the 'richies' lived as slaves or prostitutes, choked on pollution, and were 'ashed' at age 43. In 1999, the Wachowski siblings' *The Matrix* urged us to 'wake up' ('wake up, Neo'), by projecting a future in which artificial intelligence had taken over, following a war in which human beings had 'choked the sky'. In her *Maddaddam* trilogy (2003, 2009, 2013), Margaret Atwood imagines a future where young people spend their free time watching snuff movies and live executions, in which scientists have created 'rakunks' (a hybrid combination of racoons and skunks), and 'pigoons' (pigs implanted with human stem cells), and significantly, in which the haves and have-nots exist in wholly separate spheres. The lack of civilised behaviour in any strata of society leads one scientifically-talented zealot to create an innocent, humanoid species, the Crakers, and to release a pandemic in order to wipe the planet of human beings. Atwood's point is clear: the exaggerated, unsustainable, unhealthy behaviours of these fictional citizens have direct parallels to our own.

One of the key strategies of many science fiction texts is to demonstrate the way in which respectful attitudes can be harnessed to impact positively on a range of different bodies. In Marge Piercy's *Woman on the Edge of Time*, the futuristic American society in

the future uses non-gendered terms to undermine stereotypes, such as ‘per’ for person; it mixes genes prior to artificial fertilisation so that no single skin colour dominates; it is non-discriminatory in terms of sexual identity; and it treats mental health problems as part of an ordinary spectrum of experiences which any individual might encounter across a lifetime. Ursula Le Guin’s *The Left Hand of Darkness* (1969) similarly focuses on an imaginary landscape in which diversity is respected alongside environmental awareness. In terms of the environment, on Gethen it is always ‘Year One’, which is significant as the Gethenians practice ‘Presence over Progress’, constructing trucks that go no faster than 30 miles per hour, and building homes without heat, so that citizens can learn to withstand the wintry conditions outside. In terms of representing diversity, Le Guin’s protagonist Genly Ai is brown-skinned, a bit darker than the Gethenians he visits, and during his journey across the Gobrin Ice with the alien Estravan, he learns to love ‘a man who is a woman, a woman who is a man’ (202). Both of these influential novels suggest that respect is an attitude that, once cultivated, can then be channelled to extend in all directions—towards humans, non-humans, the earth, the sea, the atmosphere, and out beyond our planetary atmosphere too.

4) *Vision*

Writing has nothing to do with signifying. It has to do with surveying, mapping, even realms that are yet to come (Deleuze and Guattari, 3).

In a recent trip to a conference in San Diego I noticed that the word ‘generative’ seemed to appear everywhere—in a conversation with a man on the plane, in discussions around apocalypse at the conference, and in a conversation with my old friend in Los Angeles. I wonder if the urge to focus on that which is ‘generative’ is a symptom of the general state of global unease; perhaps if we can cultivate behaviours, projects, and attitudes which are ‘generative’, we can experience ourselves as part of the solution instead of part of the problem. Of course, not everything that is ‘generative’ generates positive outcomes for the planet and its diverse species. To successfully channel the urge to generate, one must first identify visions for and the parameters of projected spaces in which a variety of life-forms can thrive.

When Connie, the protagonist of *Woman on the Edge of Time* arrives in the future, she is most disappointed: she is expecting ‘gleaming machines’ and is instead faced with low-rise buildings, roaming chickens, and washing lines (68). Luciente explains to her that the cities in Connie’s age did not work, and so the people of her future replaced them with single storey living, featuring single rooms for each individual and communal eating space. Piercy’s vision of a better future is very different to what Connie expects, which leads the reader to consider for herself what she would like the future to look like. It is the opposition between specifically detailed utopian and dystopian versions of Mattapoisett which articulate Piercy’s vision: in order to move forward, she suggests, we need to first take a step back.

In *A Thousand Plateaus*, Deleuze and Guattari propose an ‘acentred’ system towards a macro-level, philosophical model of ‘becoming’: ‘To these centred systems, the authors contrast acentred systems, finite networks of automata in which communication runs from any neighbour to any other, the stems or channels do not pre-exist, and all individuals are interchangeable, defined only by their state at a given moment—such that the local operations are coordinated and the final, global result synchronized without a central agency (17). This explanation of the way life processes work suggests that individuals exist *in relation* to other

individuals or forms of life, an approach which brings to mind that of Martin Buber, who suggested in *I and Thou* (1923) that it is in the relationships between human beings that God exists. Perhaps provocatively replacing the word 'God' with that of the less culturally-located term 'spirituality', it is possible to propose that like Deleuze's rhizomes, spirituality exists in the in-between, in the interstices; it does not exist except within a relationship or connection with an other. The rules of generation are such that they are always relational to other forms: the seed can only flourish in the presence of nutrients, light, and water. One important aspect of Deleuze and Guattari's vision, then, is again about interconnectivity. Reading their work, I have the sensation of being not singular but one amongst many, bringing to mind the sentiment expressed within Le Guin's rendition of *Lao Tzu's Tao Te Ching*: 'The ten thousand things arise together, and in their arising is their return' (1997:22). If I imagine myself at molecular level, I can perceive myself as a consilience of infinitesimal points within the vastness of all that is, and it then makes sense to me that 'I' come into being only when a number of intersectional relationships take place.

The second visionary aspect of the above quotation from Deleuze and Guattari can be found in the phrase: 'such that the local operations are coordinated and the final, global result synchronized without a central agency'. To assert that human beings come into being, as all processes do, in the moment of connectivity with an other is to understand that there is no 'centralising General' as Deleuze explains (17); to grasp this is to experience a sense of trust in the on-going processes of organic life that occur generatively without the need for an overarching plan. Deleuze emphasises that the 'stems and channels do not pre-exist', and by extension, I would argue that human beings generate and coordinate transformative projects locally, which in their overarching sum, then come to form a 'global result'. Ursula Le Guin's short story 'Vaster than Empires and More Slow' (1971) describes an exploratory mission to a planet without human or animal inhabitants, though richly populated by diverse plant-forms. When one of the team is murdered, the rest move to investigate what has occurred: it transpires that one of the members of the team has killed another in the forest, and the fear and pain generated has been sensed and internalised by the plants. Significantly, even though the crew seek to fly as far away as they can from the forest space in which the murder occurs, they cannot escape the ominous presence of the plants, as even in the grasslands, far from the forests, the arboriforms are aware of the event. Simultaneously, the fear and pain has travelled across vast distances; the local has become global; and the impact has been 'synchronised'. The story comes to its conclusion when one of the party sacrifices his future to live with the plants, returning the planet to a state of equilibrium. Le Guin's story serves to fictionally illuminate Deleuze and Guattari's concept.

Both of these texts suggest that we can develop local, generative, visionary projects which benefit the planet without worrying that we have no comprehensive map or grand plan. We do not need to feel individually helpless, for solving global environmental damage and social injustice is not one person's responsibility. *However*, the two texts also suggest that we do need to work collaboratively, creatively and playfully if our aim is to effect change. When ideas are exchanged and repeated across the planet, the global result is one of synchronisation; conversely, it is then the lack of doing, and the lack of vision, which serves to maintain the status quo.

5) *Attention*

Arguably, western civilisation which Le Guin suggests pursues 'hot progress' (1989: 90) has focused specifically on the use of cerebral processes to advance culture from the beginning of the twentieth century, undermining physical and spiritual ways of knowing and

being. The result has been a de-emphasis on exercise, which has led to widespread obesity in America and the UK, and a concomitant preoccupation with technological forms of entertainment, which can lead to feelings of social isolation. In literary theory, the period before and after the millennium saw a return to the 'material', spearheaded by feminists such as Elizabeth Grosz (1994) and Rosi Braidotti (2011), a movement which insisted that feminism should consider the experiences of real bodies in a range of intersecting situations. In the twenty-first century, the increased take up of yoga and mindfulness amongst westerners, and the general turn towards 'experiences' rather than 'things' (see *The Guardian* 5/17), are other examples of a counter-balancing effort to access the full range of our senses. In order to appreciate and understand the world around us, we need to pay attention to it, and not simply through the lens of our thoughts.

In *The Left Hand of Darkness*, the Handdaran foretellers of Gethen practice 'the Handdara discipline of Presence, which is a kind of trance [...] involving self-loss (self augmentation?) through extreme sensual receptiveness and awareness' (169:1969). This summer I have made a conscious effort to practice 'sensual receptiveness' when I can. I have been weeding and planting in the @YSJTerra2 and @ysjpollinationproject1 allotment; I have experienced a 'gong relaxation song bath' with forty other women—a full immersion in the sounds of Himalayan singing bowls, percussion instruments and gongs; I have sat quietly, reading and writing with the windows open, listening to the warm wind rushing through my loft windows. I have soaked in the sight and smell of the wildflowers and roses we planted for the bees and insects on the allotment. I know that I am more than a person who analyses; I am a person who senses. I am related to plants, insects and animals who all respond to touch, and who all sense the vibrations of thunder.

6) *Evolution*

A range of science fiction texts including Octavia Butler's *Xenogenesis* trilogy (1987, 1988, 1989), Marge Piercy's *Body of Glass* (1991), and Jeff VanderMeer's *The Southern Reach* (2014) suggest that human beings in the future will evolve and shift so that we may become unrecognisable to our current selves. In Butler's *Xenogenesis* series, gene-trading aliens arrive on a post-apocalyptic Earth in order to reproduce with humans, creating a third race. In Piercy's *Body of Glass*, cyborgian, artificially and emotionally intelligent 'Yod' appears more human than many others in his human community. In VanderMeer's *The Southern Reach*, a mysterious alien force advances to cleanse the planet of technology, simultaneously facilitating strange, mutational synergies between humans, plant-forms, and other mammals. These novels examine the earlier theme of universal interconnectivity, but they also emphasise the concept of evolution, implying that we as a species are still in the midst of this process. They additionally highlight the fact that trauma, disease, aging, decay, and ultimately extinction are natural processes that we participate in alongside all other life forms. To deny the inevitability of these processes is to remain childlike, and to mature is to accept daily that we are 'assemblages' (Deleuze, 1987), and that the fabric and substance of contemporary humanity can never be permanent. To acknowledge this impermanence, perhaps, is to see ourselves as inextricably linked to the rest of the bio-sphere rather than separate from it. To become alive to this is to allow that our current behaviours can change and evolve. To act on this is to find ways to protect our planet from further, premature transformations.

7) *Love*

For it seemed to me, and I think to him, that it was from that sexual tension between us, admitted now and understood, but not assuaged, that the great and sudden assurance of friendship between us rose: a friendship so much needed by us both in our exile, and already so well proved in the days and nights of our bitter journey, that it might as well be called, now as later, love. But it was from the difference between us, not from the affinities and likenesses, but from the difference, that that love came: and it was itself the bridge, the only bridge, across what divided us.

The Left Hand of Darkness, Ursula K. Le Guin, 1969

And now these three remain: faith, hope and love. But the greatest of these is love.
(Corinthians 1:13)

Assemblages, readers, Terran brothers, sisters and non-binary siblings, I invite you to fill this final section in for yourselves, perhaps drawing on the science fictional texts that for you, best bring this concept to light.

The next submission date for Terra Two: An Ark for Off-World Survival is the 31st of January, 2018. <https://yorkstjohnterratwo.com>

Conclusion

The provocation above ideally conveys that science fiction is not just entertaining, but that it is, as Doris Lessing explained in 1979, a genre that examines ‘the sacred literatures of the world in the same bold way [sf writers] take scientific and social possibilities to their logical conclusions—so that we may examine them’ (1979: x). For the readers and contributors to Terra Two, the invitation to consider the way in which many of the writers in this genre introduce the concept of spirituality will ideally lead to future critical and creative responses around this theme. Introducing a ‘third way’—secular spirituality—one that sits ‘between’ secular and religious belief systems will always have its limitations, since to curate (or seek to expand) an alternative paradigm, one that moves to merge or aims to cross-fertilise deeply valued cultural perspectives will inevitably prove problematic and unappealing to some. However for others, thinking in terms of a secular spiritual approach may prove liberating and stimulating, as it has for me. Ultimately, there is no need for those who engage with the Terra Two project to reflect formally upon the term ‘spirituality’; it is more than enough to keep the two watchwords, diversity and sustainability, on either shoulder. Allowing that this is the case, however, it is worth acknowledging that for many communities on our planet, spiritual practice is fundamental to living, and understanding this is crucial to the success of efforts towards global peace and reconciliation and to future off-world settlements. In the spirit of advancing the next stage of our evolutionary project, each of us across the globe might begin by ‘walk[ing] a mile in [other] moccasins’ (Lathrap:1885), in the knowledge that in the space between ‘I’ and ‘Thou’, we are most likely to discover common ground.

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Biographical Note

Dr Liesl King is Deputy Head of School of Humanities, Religion and Philosophy at York St John University in York, England. She is additionally located in the English Literature programme, where she teaches contemporary science fiction to both undergraduates and MA students. Her PhD in English from the University of London, Queen Mary focuses on representations of gender and progressive spirituality in women's science fiction and fantasy in the late twentieth century, considering novels by Ursula K. Le Guin, Octavia Butler, and Marge Piercy. Liesl is particularly interested in exploring the way in which science fiction enables readers and viewers to access secular spiritual perspectives, drawing influence from Deleuze and Guattari's concept of the rhizome in *A Thousand Plateaus* (1987). September 2017 marked the official launch of Liesl's project Terra Two: An Ark for Off-World Survival, an online ark(ive) gathering critical and creative responses to science fiction in order to influence the first off-world colony. Her article 'On Secular Spirituality in the Duffer Brothers' Stranger Things, Series 1', is available at <http://rupkatha.com/v9n3.php>, and her book chapter 'Woman to Woman, Sister to Sister—Feminine Connections in Chitra Banerjee Divakaruni' will be published by Lexington Books in 2018. For more information about the Terra Two project, see <https://yorkstjohnterratwo.com>.

