
There may be differences between this version and the published version. You are advised to consult the publisher’s version if you wish to cite from it.

[http://eprints.gla.ac.uk/145170/](http://eprints.gla.ac.uk/145170/)

Deposited on: 03 August 2017

Enlighten – Research publications by members of the University of Glasgow
[http://eprints.gla.ac.uk](http://eprints.gla.ac.uk)
This chapter reviews publications in the field of ecocriticism published in 2016. The material considered takes varied approaches to the shared endeavour to assert the place of thinking ecologically in, about, and through, cultural forms as a contribution to wider debate regarding environmental crisis now and in the future. These works effectively describe and advocate for the work of ecocriticism itself as a discipline. The review covers single-author and edited volumes, including one journal special issue. Focusing on relationships between ecocriticism and literary production, cinema, philosophy and theology, the publications discussed pose questions not only about how we appraise cultural representations of ‘the environment’, but also about how we recognize ecology as paradigmatically staged in culture.

A note in Sam Mickey’s book, *Whole Earth Thinking and Planetary Coexistence*, makes for painful reading in early 2017: ‘the tension between dreams of mutually enhancing relationships and dreams of domination is increasing around the planet’ (p. 127). Mickey’s brief summary of ‘democratic clamor’ in the years 2011 and 2014 (ibid.) doesn’t read as though it was quite predicting 2016 though; just months after publication, this (absorbing, valuable) book reads like notes from a different age. As does Michael Mack’s confidence – in *Contaminations* – that ‘free markets have become increasingly associated in the public imagination as *orderly, proportional, “natural”*’ (p. 102, my emphasis) and Hubert Zapf’s hopeful feeling – in *Literature as Cultural Ecology* – that ‘some of the developments of the recent past have shown instead that it is worth dealing with environmental problems in a pragmatic-democratic way, and that the state, if democratically legitimized, is not necessarily always an opponent but rather a potential ally in such constructive ecological change’ (p. 56). ‘Post-truth’, and armed with ‘alternative facts’, the
notion that ‘the assumed objectivity of science seems to remain incompatible with the taken for granted subjectivity of the arts (the humanities, literature and cinema and so forth)’ (p. 52) wobbles on its axis; we can only say with certainty that nothing can be taken for granted about the public imagination at this point. It was in 1989 that Félix Guattari noted in *The Three Ecologies* that ‘men like Donald Trump are permitted to proliferate freely, like another species of algae’ (trans. by Ian Pinder and Paul Sutton, AthloneP [2000], p. 43) – never has rhizomatic unpredictability felt so apposite – and yet the sense that we stand in somehow swammier land now doesn’t necessarily diminish the potential of these ambitious, complex books, which are, in disciplinary and methodological approach, indebted to Guattari’s increasingly influential ‘multi-faceted movement’ of ‘ecosophy’ (ibid.: 67).

2016 characteristically saw the publication of ‘ecocritical’ writings that take varied approaches to the shared endeavour to assert the place of thinking ecologically in, about, and through, cultural forms as a contribution to wider debate regarding environmental crisis now and in the future; in an important sense, these works exist to describe and advocate for the work of ecocriticism itself as a discipline. Zapf essentially speaks for all the writers considered here when he states that ‘ecocritical scholarship must always be seen as part of an ongoing dialogue and cooperative form of work-in-progress between scholars rather than only an accumulation of singular isolated contributions of individual minds’ (p. 5).

Publications discussed below work to excavate the historical roots of environmentalism in relation to literary production, to encourage understanding of how literary forms in particular engage in ‘ecological thinking’ that might lead to particular types of ethical actions, to consider how ecological thinking engages with theological and philosophical study, to open up questions of religiosity as a response to environmental damage, and to think about the implications of ecology and environmentalism for the activity of labour, which Kate Stevens recently described as, in the end, ‘the process historically structuring human transformations of both nature and “man”’ (‘An Eco-Contrarian’, *New Left Review* 102 [2016], p. 138). I will discuss some of these intriguing interconnections here.

Michael Mack begins his study, *Contaminations: Beyond Dialectics in Modern Literature, Science and Film*, by introducing the ‘figure of contamination as an alternative to dialectics’. If ‘dialectics separates
two entities and traverses from one to the other (finally negating negation), contamination allows for the simultaneous interdependence of what has previously been conceived of as separate or opposed’ (p. 1). Thus Mack can make a claim for his book’s relevance to ‘contemporary social and environmental concerns such as climate change’ that have ‘made us aware of our interdependent, contaminated rather than pure or autonomous position within our environment’ (p. 9); further, ‘contamination’ is a key figure for literary study since ‘literary works confound stable and pure forms of categorisation’ (p. 3). And so a loose nexus builds up in which contamination destabilizes dialectics, which speaks to how we must now recognize our environmentally unstable world as interdependently produced and analysed and this is productively thought about through cultural forms. This is further made ecologically significant by Mack’s use of Dipesh Chakrabarty’s thesis of globalization as a ‘contaminated entity which gives rise to both the Anthropocene and to the democratization of prosperity’ (p. 10), a hybrid legacy that makes Mack’s figure of contamination stand for the condition of the earth in modernity. Mack’s contention is that we live in contaminated times, and therefore cultural forms – such as literature and cinema – that not only represent but enact contamination are politically and ecologically significant now. Mack’s claims are bold and arresting, if not always sustained by detailed structure or analysis. Admittedly, they are also a little perplexing. Seeking to frame literature’s distinctive relationship with his model of contamination, for example, Mack slightly oddly draws attention to separation: ‘literature’s independence from life paradoxically provides a new lease on life’ (p. 20). Nevertheless, this feeds into his larger principle that literature crucially enacts the ‘work of social and cognitive integration’ (p. 81), and so situates itself as a ‘space where we can operate outside the a priori framework of systematic and dialectical ways of thinking’ (p. 2) – a characterization that draws on Robert Musil’s notion of ‘Essayismus’ as a ‘discursive strategy that is ultimately productive of an alternative way of being in the world’ (ibid.). In summary, Mack’s book ‘examines literature’s capacity to confound categories (such as those of purity, order and visibility)’ (p. 4), addressing largely canonical British and American writers of the nineteenth and early-twentieth centuries and the work and influence of Alfred Hitchcock and Pier Paolo Pasolini.
Beginning with Freud’s reading of Spinoza, Mack uncovers a series of ‘contaminations’ between body and mind in Western thought since the eighteenth century, particularly in spaces often regarded as ‘pure’. In so doing, Mack tends to frame his intervention in terms of novelty, in which he discovers, for example, through Spinoza a ‘so far underappreciated bio-political dimension to Freud’s scientific work: his new science contaminates visible, organic life with the invisible and eternal forces of psychic life’ (p. 30), or finds that Moby Dick ‘helps us discover the illusions of purportedly modern conceptions of science’ (p. 76). These discoveries often transpire to operate as a retroactive teleology however, pointing inevitably towards the modern materialism of Antonio Damascio’s neuroscience. So reading Freud reading Spinoza ‘takes us to the precarious existence of the mind, according to contemporary neuroscience’ (p. 28); mid-nineteenth-century novels illustrate ‘how long before contemporary neuroscience that literature discovered the human mind as embodied and yet invisible’ (p. 58); and Pasolini’s cinematic use of close-ups ‘is backed up by new neuroscientific findings which show that the acquisition of knowledge never goes without interpretation’ (p. 159). Mack’s preference for bold listing of shimmering pairs of ideas as argument formation sometimes feels a little rhetorically excessive and his conclusions perhaps come across as overdetermined, but his methodology – through which Spinoza, for example, emerges less as a single isolated figure and more as a sign for an intellectual constellation of thinkers and writers who, ‘from Herder and Goethe to Darwin, have introduced various shifts in the way we see humanity, not as a quasi-divine representative on earth, but as contaminated by the environmental forces of nature’ (p. 36) – is absorbingly ecological in its aim of bringing intellectual traditions together and letting them mesh: ‘Darwin’s invisibly visible evolutionism, Rontgen’s X-rays, the invention of photography as well cinema [sic] and Freud’s new science of psychoanalysis share a peculiar fusion of the visible and the invisible, the measurable and immeasurable, the conscious and the unconscious, the factual and the fictive’ (p. 73). Further, Contaminations’ provocative intervention in the field of literature and science intimates productive relationships between scientific method and ‘novels that set out to persuade us to defer judgements in the face of various uncertainties’ (p. 113) or ‘the suspension of judgement […] in Hitchcock’s idiosyncratic notion
of suspense’ (p. 130), even if both of these strategies ultimately resemble well-recognized processes of critical tact that have shaped literary studies since the nineteenth century. Although Mack insists on literature’s distinctive method of ‘contaminating’ epistemology, his readings of British and American novels (no other literary forms are addressed; Melville, Henry James and H. G. Wells are each addressed more than once) are nimble but recognizable interrogations of characterization and narrative organization; these readings aren’t formally disruptive and they are determined by the trope of contamination rather than the detailed recovery of the historical conditions of production or reception. In execution, the issues of climate crisis and environmental discourse retreat across the book as it takes up its leading interest in contamination broadly defined in Western thinking. Yet, it is worth pausing to consider Mack’s second chapter’s commentary on Hannah Arendt in so far as it speaks to a clear ecological concern: how do we regard the world?

Situating Arendt within a larger conversation mapped around Latour’s identification of ‘modernity’s purification project’ that ‘posit[ed] an order of nature in terms of visibility and predictability’ for various politically and socially pernicious ends (p. 47), Mack asserts that ‘it is Arendt’s thesis of the secular as contaminated by its supposed opposite, the other-worldly, which offers an alternative to secularization theories which, even though they develop contrasting arguments, share a structural preoccupation with pure entities’ (p. 64). In her reading of modernity’s drive towards ‘full possession’ of the globe, Arendt noted that ‘modernity paradoxically loses the world’ since ‘it is the nature of the human surveying capacity that it can function only if man disentangles himself from all involvement in and concern with the close at hand and withdraws himself to a distance from everything near him’ (Arendt, qtd. p. 68). Secularization thus partakes in a process of quasi-theological dematerialisation that sees modernity in an oscillating relationship with the invisible: ‘the visibility and measurement of matter – what Arendt calls the world – eventuates in a loss of sight and experience’ (p. 68). As Mack summarises, ‘for Arendt modernity goes further than simply translating or tracing a theological distance to and demotion of embodiment and matter: it empties our corporeal world from any remainder of worldliness by precisely reducing the space for a contamination of various supposedly
opposed entities’ (p. 69, my emphasis). The phenomenon that Mack describes through Arendt is ecologically significant in that it illustrates the paradoxical and violent alienation from earthiness that is brought about by fanatical measurement of data: modernity is depriving us of experience of the earth through its insistence on measuring it. Although the connections aren’t quite forged in Mack’s text, his assertion that ‘the term contamination, by contrast, awakens to consciousness various mediations which the modern purification project has relegated to unconsciousness’ (p. 60), together with his recognition that ‘the religious does not necessarily denote belief in god or gods but it also refers to a sphere beyond full empirical proof (i.e., full measurability and visibility)’ (p. 61) opens the door to recognizing the ‘more than secular’ as a perhaps painfully ironic form of ecological resistance to the alienating environmental damage done by neo-liberal metrics and capitalist value.

The question of religion’s relationship with ecological crisis has animated several ‘ecocritical’ publications in the last year, variously exploring its controversial legacy and potential future. For Todd LeVasseur and Anna Peterson it is an essay by historian Lynn White Jr. that has, whether damagingly or beneficially, determined how Christianity’s relationship with the environment has been framed in academic discourse. In their introduction to a collection of essays they designed to produce ‘an honest reflection about and appraisal of White’s foundational article and the ways it has helped to shape the academic trajectories of leading scholars from a variety of disciplines’ (p. 11), the editors remind us of how White’s (‘lurid and cavalier’ (p. 12)) article, ‘The Historical Roots of Our Ecological Crisis’ (1967) constitutes a foundational text for ecocriticism as a discipline by ‘privileging religion and culture as root causes of environmental crisis’, a move that challenged the ‘then-dominant approaches that identified technology, overpopulation, and other material conditions as the source of the problem’ (p. 2). Here White falls in with figures such as Rachel Carson as early demanders for the arts and humanities to be included in ecological debate by asserting that ‘material changes’ are ‘driven by ideological and cultural factors, and especially by changing attitudes about the proper human relationship to nature’ (ibid.). That this point still needs to be explored in 2016 is striking in itself, but White (and others’) approach inaugurated a discipline that all the publications discussed in this article are predicated upon – that
ecocriticism is about attitudes, and therefore about ethics, and since a worldwide study published by the Pew Research Center’s Forum on Religion & Public Life in 2012 found that more than eight in ten people identify with a religious group, ecocriticism needs to pay attention to theology. The essays in the collection, Religion and Ecological Crisis: The ‘Lynn White Thesis’ at Fifty, each tussle with White’s provocation that ‘especially in its Western form, Christianity is the most anthropocentric religion the world has seen’ (qtd. p. 3) and from there bears considerable responsibility for ecological damage wrought by human activity.

This quite lively, sometimes irreverent, collection of brief essays comes at White from several provocative angles, often seeking to provide more nuanced accounts of Christianity’s historical evolution in ecological terms than White was either inclined or able to provide – in Paul Waldau’s attractive formulation, they gently release more subtle accounts of the ‘ever-dynamic and fissioning tradition popularly named “Christianity”’ (158). Mark R. Stoll’s angry and condemnatory essay, accusing White of lacking ‘careful scholarship’ and thereby ‘describing the wrong theological mechanism driving the environmental crisis’ (p. 49), offers a corrective history of Christianity’s relationship with the development of environmentalism in America that emphasizes Presbyterian, Calvinist and later Reformed Protestant traditions of conservationist models of stewardship – but also ‘moral indignation’ and ‘preaching’ (p. 58). More disturbing than White’s accusation, for Stoll, ‘ideals of social justice and stewardship, and not doctrines of dominion, anthropocentrism, arrogance, or a Weberian disenchantment of nature, led Calvinists to so efficiently exploit natural resources and pollute air and water’ (p. 50). Stoll’s account looks back at twentieth-century exploitative practices undertaken by Calvinists who ‘spearheaded the Industrial Revolution in both Britain and America’ (p. 49), but also at the countercultural tradition brought forth by ‘the greener side of Calvinism’ whose activists ‘rose up like prophets to call the nation to ecological righteousness’ (p. 50), thus sketching a fractious, tense ecocultural milieu that Stoll insists created White himself, as well as Rachel Carson and others. Stoll’s skeptical assessment of the considerable volume of religious responses to White’s ‘moralistic and censorious admonitions’, delivered as a ‘sermon’ rather than a scholarly argument (p. 47), is both
absorbing and striking for its picture of Christian discourse as argumentative, petulant and defensive – although more productive, sensitive and sophisticated developments in Christian thought are to be glimpsed between Stoll’s impatient lines. But the essay perturbs the ‘conviction […] that any solution to the environmental crisis must include religion, or even proceed from religion’ (p. 52). Stoll’s essay, in both style and content, feels discomfortingly more apposite to 2016’s fractious, disagreeable, divided public discourse than other perhaps more conceptually ambitious pieces featured in this review; I found it an uneasy, if illuminating, read.

Michael Northcott also chastises White for not being distinctive about Protestantism’s relationship with benevolent stewardship (White had packaged Protestantism with all Latinate Christianity) that has led to ‘legal protection of animals and habitats from cruelty and destruction’ (p. 73). Yet, perhaps more arresting is Northcott’s secondary strand, in which he sketches the Latinate church’s diminishment of the ‘influence of the humility, simplicity, and earthiness of the teaching and example of the Jesus of Palestine’ (p. 64) through gradual ‘abandonment of most sacred times and seasons other than the observance of the Lord’s Day’ (p. 66). Continuing the corrective work of this essay collection, Paul Waldau points out that to identify White as the originator of critique of Christian attitudes towards the earth is a distortion in any case (he notes that Christian views had been critiqued from Hindu and Buddhist perspectives well before White (p. 157)). He, and several others including Leslie Sponsel in his account of White’s work as a ‘Catalyst in the Historical Development of Spiritual Ecology’ (pp. 89-102), is instead concerned to look at White’s intervention more holistically, particularly taking up White’s 1978 follow up essay, ‘The Future of Compassion’, which outlined compassion as a salve, and enlarged on White’s earlier identification of a ‘recessive gene’ of ecological significance in the Christian code signified by Saint Francis of Assisi’s canticle that enjoins all creatures to praise and magnify God forever. For Waldau this crucial seam of compassionate humility in White’s thinking ‘beckons us to journey back to our own animality’ (p. 161), although he settles for a less radical model of shared DNA with other primates than is seen in other iterations of posthumanist thinking. Yet Waldau’s concern is still to highlight the ecological principle of interconnectedness, which he links
to Thomas Berry’s notion of a ‘greater self’, as constituting an ethical position: ‘it is, then, the early, *eminently animal* steps we take as we journey along this continuum of nested communities that help us see the importance of our shared animality and, further, justify the claim that in crucial ways “we are in some respects like all other animals”’ (p. 162, emphasis in original).

Of the other essays included here, perhaps just Baumann’s is close to this more comprehensive rethinking of theological humanism. Indeed, Baumann’s essay is in tighter dialogue with commonplaces of ecocritical perspectives in the last decade as it takes its cue from Timothy Morton to pursue a ‘queer/new materialist approach’ (p. 174) to account for how it is not:

possible to say clearly what is ‘Christian’ or ‘Buddhist,’ etc. These traditions, and our categories for thinking about the world in which we live, have reached a new mode of complexity to such a degree that they are now beginning to shift: religion and science, religion and ecology/nature, environmental humanities, philosophy of biology, queer studies, and many other fields are beginning to redefine our categories of analyses for this much more complex, planetary community that we now find ourselves in (p. 174).

In keeping with the brief, suggestive rather than exhaustive nature of the essays within *Religion and Ecological Crisis*, Baumann frames his approach heuristically – ‘we need […] to begin to live differently toward possibilities that understand other earth-creatures as partners in this process of world-making. We can’t possibly know what this will look like until we start doing it,’ (p. 175). Instituting a form of what might be called gentle demolition (‘we should do a bit of monkey-wrenching’, ibid.) Baumann’s aim is inclusive reconstruction: ‘I am arguing that like every movement (feminist, civil rights, gay rights, or other) the environmental movement, and religion and ecology/nature within that movement, settles into narratives and sediment builds up around those narratives that constantly need to be sifted through’ (pp. 166-7). Baumann’s concern that theological discourse should attend to Morton and others’ models of interaction between human and other-than-human is aimed at opening up a field of
eco-theology that would include non-white, non-Christian and non-academic voices and, importantly, put ‘what counts as “religion” and what does not […] at least in part in question’ (p. 174). The collection thus intimates a potentially productive route to understanding not only how religion contributes to environmentalism, but how ecological thinking necessitates reconsideration of the divine.

Such questions animate Sam Mickey’s broad ranging, extensively referenced and acutely literate ‘manifesto’, *Whole Earth Thinking and Planetary Coexistence: Ecological Wisdom at the Intersection of Religion, Ecology, and Philosophy*. Tonally the book is towards the introductory end, but this doesn’t preclude detailed and precise thinking; indeed, committing to starting at the beginning is valuable and brave, and demonstrates an urgent response to its attested ecological context that is elusive, for example, in Mack’s work. Rather than presenting original research findings this work is a commitment to ecological methodology as an undertaking to read across disciplines to find convergences and mutually enhancing conversations, a proposition to be enacted through empathetic reading. It is ecocritically provocative in terms of how it demands us to consider how we regard the world we mutually inhabit, and in terms of how it behoves humanity to pursue ecological wisdom as an interdisciplinary endeavor. Thus Mickey lays out little provocations to inclusivity that seek to disrupt ring-fencing of ecological or environmental knowledge – ‘ecology may be found anywhere there are words (logoi) about the places, life, water, air and land that constitute one’s home (oikos)’ (p. 19) – which means that ecology is ‘philosophical’ and ‘also religious’ (ibid.) and that ‘the humanities can facilitate a deeper understanding of the ways in which subjectivity and culture shape and are shaped by the relations humans have with the natural world’ (p. 28). Mickey’s writing is sensitive and inclusive, but there is a gently staged land grab of environmental territory evident here.

Although the book ranges enormously widely across several traditions and many writers, discussion circulates particularly around recognized ‘eco pioneers’, Gilles Deleuze and Félix Guattari, and ‘geologian’, Thomas Berry. Mickey’s aim is to mobilise postmodernism as having ecological – and ethical – potential and significance; in putting Deleuze and Guattari into dialogue with Berry, his
concern is to tease out how all ‘are concerned with the development of planetary thinking’ (p. 32), which is to address how they are focused on how to regard the Earth itself. Mickey’s chapter patiently elucidates how these thinkers’ distinctive European and American cultural contexts ostensibly put them at odds, and yet for Mickey there are ‘opportunities [here] for a creative cross-fertilization of ideas’ (p. 33) through postmodernism’s diverse rubric, together with these particular figures’ figuration of belief. So, Mickey explains:

Berry, Deleuze, and Guattari do not impose their planetary vision upon others like a metanarrative, but they do not thereby fall into relativism and give up their ability to resist the cruelty and cynicism destroying life on Earth. Indeed, precisely by becoming planetary, they avoid any system that would cruelly impose itself upon planetary coexistence (e.g., war, consumerism, metanarratives of progress, etc.), and they also avoid the cynicism of relativism, for which it is impossible to trust anyone or believe in anything. To be planetary is to restore “belief in the world”. (p. 38)

In some ways, Mickey’s ambitious desire to read counterintuitively echoes work by bell hooks and Cornel West to force ethical debate out of the plurality of postmodernism, but this text lacks their acerbic bite. Mickey forges rhetorical links that anticipate, but don’t meticulously track, more sustained interrelations that might negotiate plurality in an ethical context:

If this is postmodern, it is not a post-modern relativism. It is a restorative postmodernism, a postmodernism that recuperates biodiversity and cultural diversity, carefully integrating the finely textured differences that make up a vibrant Earth community (p. 38-39).

Deleuze and Guattari’s schizoanalysis then emerges in partnership with Berry’s ‘Great Work’ as a call to ‘build [] networks which resist the systems that are currently turning the whole world into a pile of
property and resources which are worth nothing more than their monetary value’ (p. 43) and a demand for ‘a reorientation of humans to their entanglement in the dynamic processes of Earth and the cosmos’ (p. 43). For Mickey, this seeps into theological terrain since it requires shifting towards ‘the non-conceptual ways of knowing grounded in religious symbols and experiences’ (p. 45). If some of Mickey’s readings of postmodernism feel a little simplistic, his reading of theology, importantly determined by feminist theologian Catherine Keller, is more intricate, sophisticated and suggestive.

Like Northcott, for Mickey, the Christ figure is key to Christianity’s ecological potential too, but he is cautious: ‘it seems that these traditions have severe limitations for ecological wisdom: their patriarchy, their suppression of animism, their detachment from place through literacy, and their detachment from community through a focus on paradigmatic individuals’ (p. 76). Although not directly stated as such by Mickey, the point emerges that recovery of ‘these traditions’ – and Christ – as ecological requires careful meditation on and understanding of incarnation itself. Here Mickey regularly returns to writings by Berry – once a ‘Catholic priest in the order of Passionists’ (p. 39) – and Keller to release a provocative model of materialism that could generate ecological thinking. Reading Berry through the French Jesuit thinker and paleontologist Pierre Teilhard de Chardin (1881-1955), Mickey works to bring together evolutionary and theological models for the earth, partly through the imaginative power of lexical sharing. He notes, ‘the evolving universe is sacred. The universe hosts the ongoing incarnation of the divine’ (p. 41). For Teilhard and later Berry, ‘folded into one another, the spiritual and the physical are not collapsed into one another but neither are they separate’ (p. 41), a relationship that allows for ecological/theological dialogue, but which also parallels recognition of ecological crisis as a material symptom of ideological violence. Mickey recognizes that ecological thinking requires a reconceptualization of this theological materialism that replaces domination with protean creativity – and here Keller’s exegetical discernment provides one such rethinking. Recovering the feminine element tehom (‘deep’) from the Hebrew Bible, Keller understands God’s act of creation as ex profundis (‘out of the deep’) rather than ex nihilo (‘out of nothing’), and thus, as Mickey summarises, ‘creating out of the deep, God does not impose order and suppress chaotic conditions whereby beings
organize themselves. Less dominating and more loving, God creates by unfolding the uncertain and complex capacities of chaos’ (p. 116). In this dynamic picture, in Keller’s terms, ‘the Son is explicatio’ (qtd. p. 116), meaning that Christ’s incarnation is not an entry point for autocratic individualism, but names an ongoing process of formation: ‘represented as Christ – the Word (logos) or wisdom (sophia) of God – explicatio refers to the unfolding (explicating) of the different structures of the universe’ (p. 116) and ‘the Word of God resonates in the evolutionary emergence of different centers, different self-organizing systems’ (ibid.). With Christ representing ‘the unfolding of multiplicities of different centers’ and spirit ‘not just a personal connection with God but […] the relationality and mutuality whereby all centers relate to one another and to the creative depths of the chaosmos’ (ibid.), Mickey, via Keller and postmodern plurality, begins to articulate a model of planetary thinking that is paradigmatically theological, but which I felt offered a convincing sketch of the Earth’s mutability in this historical moment of climate crisis, globalization and local formations of resistance. I was less convinced by the residual teleology in Mickey’s turn to ‘how capacities for stories, images, dreams and songs are distributed across the universe’ (p. 122), since here narrative becomes channeling medium rather than material constituent in ways that are reminiscent of the damaging Christian focus on a dematerialized afterlife: ‘one must find an entrancing vision that can be communicated to others’ (p. 121) in which ‘the universe story reorients humans to their ecological and evolutionary contexts […] by communicating a vision – a sense of the whole Earth community unfolding in a cosmic journey. The universe story communicates a dream’ (p. 126). But Mickey’s careful tracing of a theological materialism that might ‘resituate the human amidst a communion of subjects’ (p. 118) does generate one final striking reframing of traditionally scientific concerns in newly ecological terms in its model of energy as cultural. By ‘moving beyond the definition of energy in terms of disorganization and heat loss’ (p. 137), Mickey ends his text with an invigorated model of sustainability that resonates with the philosophical and theological principles he has interrogated throughout Whole Earth Thinking, and which overlaps with Hubert Zapf’s Literature as Cultural Ecology: Sustainable Texts.
Zapf responds to recent European discussion of ‘cultural ecology’, which he treats as a ‘paradigm in the sense [of] an explorative perspective’ (p. 3), thereby also emphasizing both literature and ecocriticism as heuristic. As Zapf explains, ‘a cultural ecology of literature proposes a transdisciplinary approach to literary texts, in which the interaction and mutual interdependence between culture and nature is posited as a fundamental dimension of literary production and creativity’ (ibid.) Crucially for Zapf’s subtitle, literature is regarded here as a ‘site of critical self-reflection of modern civilization as well as a source of creative cultural self-renewal’ (ibid.). Both analytical and generative, literariness is ‘a transformative force of language and discourse, which combines civilizational critique with cultural self-renewal in ways that turn literary texts into forms of sustainable textuality’ (p. 4). Zapf’s text thus contributes to a wider conversation and ongoing enthusiasm in ecocriticism for considering literature not only as a cultural form that addresses human/nature relationships thematically, but as a mode of ecological thinking itself by virtue of its modus operandi:

a guiding assumption of this approach is that imaginative literature deals with the basic relation between culture and nature in particularly multifaceted, self-reflexive, and transformative ways and that it produces an “ecological” dimension of discourse precisely on account of its semantic openness, imaginative intensity, and aesthetic complexity (ibid.).

The book consists of twenty quite short chapters that move between theorizing and historicizing literature and ecology and undertaking brief close readings of select, mainly American, writings that seek ‘interactivity of mind and life[,] which is staged in literary texts as a liminal phenomenon on the boundary between culture and nature, self and other, anthropocentric and biocentric dimensions of existence’ (p. 91). In terms he derives from Charles Sanders Peirce, Zapf admits this involves ‘intuitive guesses and methodological leaps’ that allow the book to proceed ‘in such a way that theory is related to texts and texts to theory in evolving feedback loops and spirals of reflexivity, in which the aim of new knowledge is successively validated by the mutually illuminating evidence of discursive argument and aesthetic concretization’ (p. 6). In this endeavor, Zapf firmly
places his work within ‘art and the aesthetic’ as a ‘metadiscursive space’ that he sees as having been overlooked by ecocritical studies’ focus on ‘tracing and identifying environmental issues in texts’ (p. 11). Although he doesn’t name it as such, Zapf’s approach here interestingly gestures at how ecocriticism might meet with new formalism as he echoes critical engagement with the aesthetic around the turn of the twentieth century: ‘while converging in this point with new-historical and discourse-analytical assumptions about the inextricable interdependency of the literary discourse with other discourses of its time and culture, a cultural-ecological account of the functional potential of literature simultaneously insists on the generic difference of aesthetic texts’ (p. 103). Zapf suggests that ‘theory has struggled with the double status of the aesthetic as both an experience and form of knowledge’ (p. 91), but finds this dual quality enabling precisely because it allows ‘cultural ecology’ to identify the membranous structures that facilitate exchange between literature ‘on the one hand [as] a sensorium for what goes wrong in a society, for the biophobic, life-paralyzing implications of one-sided forms of consciousness and civilizational uniformity’ and ‘on the other hand, a medium of constant cultural self-renewal, in which neglected biophilic energies can find a symbolic space of expression and of (re-)integration into the larger ecology of cultural discourses’ (ibid.). This happens because of literature’s special capacity to generate not only ‘linear narrated worlds and story lines’ but also ‘alternating rhythms of intensity, of expansion and contraction, acceleration and deceleration, emergence and disappearance, absence and presence, opening and closure, endings and new beginnings’ (p. 28).

From here Zapf makes the case for regarding literature as ‘sustainable’, thereby drawing the aesthetic into a discursive space more usually designated for materialist science and processes. Deriving his model of sustainability from theorists Rosi Braidotti, Sascha Kagan and, particularly, systems-theorist Gregory Bateson – whom Zapf describes as having had ‘the mind of a poet’ that ‘follows a metaphorical rather than a classical-logical principle’ (p. 162) – Zapf notes its biological association with ‘the ways in which living systems remain alive and productive over time’ (p. 4). This generative vitality becomes then Zapf’s key object of pursuit, and one that he finds most convincingly recovered through literary study that ‘points to a dimension in texts which includes, but also goes beyond, the
conditions of their historical-cultural emergence, turning them into a transhistorically effective site of knowledge and aesthetic experience that can be activated in ever new historical situations and cultural contexts by ever new generations of readers’ (p. 13). This (unacknowledged) Shelleyan model of imaginative formations with ongoing resonances captures the necessary presentism of ecocritical study and determines Zapf’s characterization of literary texts as protean – ‘literary texts are open semiotic systems, which depend on the active participation of their readers in the creation of their meanings’ (p. 14) – and, he claims since the eighteenth century, counter-cultural: ‘literature became a cultural medium which developed a special sensibility for cultural pathologies, for the ecopsychological and ecocultural impoverishment caused by conformist, standardized structures of a one-sided economic and technocentric modernization’ (pp. 90-1). Specifically, it facilitates his identification of literature as crucially non-instrumental: ‘aesthetic forms of communication represent a special potential as a sustainable cultural practice’ because they ‘can tap into deeper, unconscious realms of mind and life, activating them as alternative forms of dealing with the contemporary ecological crisis within longer-term perspectives of evolution and survival beyond short-term economic interests’ (p. 20).

Although Zapf suggests that his ‘examples are diverse in terms of period, genre, and aesthetic conceptions’ (pp. 12), in execution the book focuses mainly on well-recognized, nineteenth- and twentieth-century American writing, meditating particularly on Thoreau, Hawthorne, Melville, Poe, Chopin, Faulkner, Emily Dickinson, Whitman, Frost, Allen Ginsberg, Linda Hogan, Toni Morrison, Simon Ortiz and A. R. Ammons. This exemplifies Zapf’s preference for ‘literary’ writers who consciously employ and experiment with occlusion, idiosyncrasy, dispersed narration, kaleidoscopic perspective, irony and reticence, making inevitable his argument that, as he strikingly expresses in a discussion of Dickinson, ‘it is precisely this de pragmatized and defamiliarizing mode of aesthetic discourse that provides the imaginative space for the ecopoetic and eco-ethical force of the text’ (p. 30). Contrasting Kagan’s model of ethical writing, indeed, Zapf advocates literariness that is a form of ‘ecological knowledge and communication in its own right, which can never be fully transparent to and translated into other forms of discourse’ (p. 21), an absorbing proposition, even if it teeters towards an
obscurantism that is hazardous in current ecological conditions. For Zapf, these writers’ imaginative complexity, however, opens up space for radical, risky thinking predicated on horizons that reach beyond immediate gratification – ‘literature keeps alive its productivity by reconnecting, in ever new forms, the cultural memory to the biophilic memory of the human species’ (p. 121) – and he elegantly pivots between gestures at structural reconceptualising and sensitivity to local dynamics of figuration, trope, rhythm, arrangement and expression. While his use of flickering pairs of ideas recall Mack’s ‘contaminated’ discourse, Zapf’s attention to literariness in particular affords his discussion welcome precision, as in his view of Chopin’s *The Awakening* as a novel that:

reintegrates what is culturally separated: the enlightenment idea of personal self-determination with an ecopoetic sense of existential wholeness; mind and body; reflection and emotion; medium and meaning; art and life. This also affects the form of the novel in its sophisticated intertextual and intermedial composition and multiple stylistic coding between naturalist, realist, romantic, and modernist registers (p. 118).

Writing beautifully about an A. R. Ammons poem, Zapf describes how:

in a playful defamiliarization of conventional perceptions, the text becomes an ecological force within discourse by reconnecting the minimalist symbol of wild nature with the cultural symbol of human self-reflection in a fractal ecology of weed, in which the interconnection of what is culturally separated becomes the focus of the poem’s process (p. 35).

And yet, this does discomfortingly touch on anthropocentrism: ‘literature functions as an ecological force in cultural discourse by translating, in both radically unsettling and regenerative ways, elemental images and energies of nonhuman life – snake, water, weed – into manifold contexts of human life, history, and knowledge’ (ibid.).
As the book progresses, Zapf takes more methodological risks, emblematized finally in Part IV: ‘Transdisciplinary Contexts of a Cultural Ecology of Literature’, which includes chapters on ‘Text and Life’, ‘Order and Chaos’, ‘Solid and Fluid’, ‘Wound and Voice’ and, necessarily for a work of ecocriticism, ‘Local and Global’. The approach is striking, and ecologically suggestive as it organizes works horizontally through trope and topoi, tracing the dynamic presence of elemental features such as fish, water, birds, fire, earth, air, and beaches as they emerge across its key American texts, arguing that ‘these elemental metaphors of literary ecology are both culture-specific and transcultural. They [...] provide an ecosemiotic code of literary productivity that extends across the boundaries of cultures and links them in the awareness of their shared existence as part of a larger connectivity of all life on the planet’ (p. 184). And yet here I felt the careful the book’s careful weaving loosening. Partly, it struggles with laudable ambition – ecological thinking requires brave experiment – but by the end Literature as Cultural Ecology reads as though there are several books between its covers, jostling for space; interconnections lose their precision, links become a little tenuous (the chapter on trauma, whilst engaging on its own terms, felt ecologically unmoored). This can be attributed to Zapf’s telescopic approach – ‘I zoom in again on the work of a single writer and explore the interplay between connecting patterns and creative energies in a cultural-ecological interpretation’ (p. 169). These are broad-brush, quick engagements with suggestive ideas, but they aren’t patient, exhaustive studies of the ecological dynamics of text and context. And finally, while Zapf’s enthusiasm for the aesthetic as a mode of ecological thinking is important, and richly welcome, literature’s other implication in anthropocentric (rapacious) attitudes towards the non-human natural world regrettably lies beyond its scope. I would have liked literariness itself to have come under a little more pressure.

This territory has, perhaps most visibly, been contested around the figure of English Romantic poet, William Wordsworth and forms the ground for Lisa Ottum and Seth Reno’s edited essay collection, Wordsworth and the Green Romantics: Affect and Ecology in the Nineteenth Century. Situating themselves as ‘third-wave’ eco-critics, whose ‘scholarship aims to recover scientific, medical, and philosophical discourses of nature during the nineteenth century and to present new readings of literary
texts within those broader discourses’ (p. 5), this collection does engage the materialist principles that initially shaped eco-critical approaches to literary texts. Coming after Scott Hess’s *William Wordsworth and the Ecology of Authorship* (UVirginiaP [2012]), the volume is also alert to the ideological and ecological problems of conjoining environmentalism with aesthetics, especially as focused through paradigmatic lyric poetry; responding intelligently and sensitively to these dual contexts is the work of the strongest elements within this engaging and informative collection. Ottum and Reno are precise in articulating their rationale for using affect to think about Wordsworth’s ecological significance: ‘no other Romantic writer is so vital […] to environmentalism’ (p. 10) and by viewing affect as a subjective experience available to scientific analysis and understanding (drawing on William Reddy’s cultural anthropology) they allow ‘interrelated acts of thinking, feeling, and expressing’ to be ‘seen as part of a complex ecological sensibility that registers at both scientific and aesthetic levels’ (p. 5). Further, they propose affective experience as a modifier of historicism, as an ethical agent: ‘it has become clear that environmentalism is not strictly the product of abstract historical forces: affective experience plays a vital role in shaping the actions of individuals and collectives’ (p. 3). While several of the essays here are methodologically determined by historicist literary study, the collection distinctively asserts its political intentions as Ottum and Reno are upfront about the ecological drive behind their careful historical recovery: they are interested to ask, ‘what kinds of literary expressions of emotion actually move readers to feel greater attachment to nature, or to environmentalist causes? What expressions of emotion misfire?’ (p. 15).

The editors frame the work they introduce as efforts to ‘recover the emotion of Romantic environmentalism – to consider love of nature not as hopelessly naïve or escapist but as generative of ecological thinking’ (p. 2) and begin that work themselves by characterizing Wordsworth’s ‘I wandered lonely as a cloud’ as ‘a metaphor or simile of the natural world, grounded in science, that figures as an affective state compatible with an ecological sensibility’ (p. 1). Reno’s opening essay proper then addresses parts of *The Prelude* and *Lyrical Ballads* in similar terms, using a combined approach of integrating Wordsworth’s environmentalism with contemporary writing by Erasmus Darwin (who
appears in several essays) and drawing on current work in neuroscience that draws on cultural and materialist models, in particular by Richard Davidson. Thus ‘Tintern Abbey’ is ‘not meant as a vague, feel-good image of ecological interconnectedness; rather, it reflects the poet’s effort to discover a material basis for his affective experience(s) of nature and, in turn, to translate this experience into a consciously practiced ethic’ (pp. 10-11). By recovering Wordsworth as, in fact, a reader of contemporary science, Reno finds the poet to be ‘more […] radical than we think’ (p. 47). This paves the way for Kurt Fosso’s nice essay on animals in *Peter Bell*, which uses Darwin’s *Zoonomia* to scrutinize the material basis of shared feeling between animals, including humans, in its ethical purview. Other highlights include Sarah Weiger’s “‘A route of evanescence’: Phenomenophilia and Romantic Natural History’, which takes a deliberately sideways look at Dorothy and William’s oblique engagement with inter-oscillating scales of time and locality to recover Romantic natural history ‘that is neither coercive nor constructivist but that nevertheless opens the subject up to spaces and times that, though different from our own, nevertheless intersect with them’ (p. 122). Weiger’s delicate conceptualizing richly contributes to a view of Romantic-period environmentalism not as the occasion for aestheticized individualism, but as a ‘bottom up’ realization of the human as entwined with the more-than-human. By emphasizing half views and obscurities Weiger alludes to the ontological challenge of shared nature, rightly avoiding any eco-complacency of settled integration.

The following essay, Allison Dushane’s ‘Fostered By Fear: Affect and Environment in Romantic Nature Writing’, is similarly sensitive in its delineation of the vitalism debate as it was engaged through reverie: ‘an affective stance that collapsing the distinction between the subjective and the objective, the vital and the material’ (p. 128). Drawing on Rousseau and again on Darwin, Dushane, like Zapf, is concerned to identify non-instrumental modes of ecopractice, such as Rousseau identifies in botany’s ‘lack of reliance on technology and industry to practice’ (p. 134). This contributes to Dushane’s revisioning of the Reveries through Bergsonian intuition, which releases ‘a posthumanist ethical stance rather than comprising a series of narcissistic retreats into nature’ (p. 135). Weaving her reading of Romantic-period nature writing with contemporary ontological thought by Denise Gigante,
Timothy Lenoir and Jane Bennet, Dushane identifies ‘Romantic-era scientists and philosophers [who] fundamentally undermine the foundations of the stable, knowing subject of modernity from both sides’ (p. 129); from here she determines, ‘it is possible to imagine forms of subjectivity that work simultaneously through and against the radical contingency of the materiality at work within and between human and nonhuman life’ (p. 143). These processes of embedded humanness are interestingly implied in Ottum’s closing essay on ‘real life’ scenarios. Ottum’s purpose is to scrutinize and complicate eco-thinking’s problematic orthodoxy, often derived from readings of Wordsworth, of prioritizing direct engagements with the natural world and thereby becoming suspicious of mediation per se. Focusing on educational models that respond both to eco-crisis and televsual media saturation with ‘total immersion’ in outdoor nurseries, Ottum historicises the anxieties therein by tracing nineteenth-century responses to reading matter as a damaging intervention between man and experience. Through engaging Wordsworth’s scenes of reading in The Prelude, however, Ottum offers an alternative history and a more sophisticated model of ethical mediated practice. Here the conditions of present ecological action are foregrounded, providing welcome focus on praxis. Indeed, this engagement with material and ethical practice resonates throughout the essays, but emerges most challengingly in an excellent essay by Amanpal Garcha.

Garcha’s ‘Choosing Nature: Affect and Economics in Wordsworth’s The Prelude’ provocatively and importantly goes further in its querying, probing mode, this time putting academic eco-orthodoxy under scrutiny in his intelligent, precise interrogation of the ethics of decision-making. Examining how ‘in its most antihumanist moments, ecocriticism emphasizes the ego’s subordination to natural ecosystems’ when ‘as [Jonathan] Bate puts it […] the “reciprocal relations” between nature and humans, not humans’ independent egoistic choices, determine our ecological future’ (p. 201), Garcha turns to ‘what is characteristically modern and innovative about Wordsworth’s representations of choice’ (p. 188). This involves challenging two critical commonplaces: firstly, that Wordsworth’s discomfort with ‘excessive freedom’ registers as conservative. Rather, Garcha asks that ‘one might, instead, view [Wordsworth’s] expression of a cognitive, affective problem that arises directly from […]
modernity [...] the problem of how to decide what to do within a socioeconomic ideology that promotes the idea of expansive choice and pressures subjects to evaluate those choices according to criteria that remain elusive’ (p. 204). Secondly, Garcha identifies that such criteria are obscured by ‘the ecological thought’ itself as he discerns a disarming and disempowering vacuum within Timothy Morton’s hugely influential (and, Garcha agrees, important) figure of ‘radical openness’ as mandatory’ in ‘ecological thinking’. If ‘choice becomes conceptually difficult if not impossible while thinking the ecological thought’ (p. 202), Garcha asserts the value of retracing a ‘productive’ Wordsworthian agony of indecision as a means to feel for how we might ‘choose nature’ in our own historical moment. Recognising the anthropocentrism of insisting on ethical action, Garcha nevertheless contends that, ‘the payoff such an analysis, though, is that it helps us understand some of the problems twentieth- and twenty-first-century subjects face – problems that have to do with the affects that decision making provokes – when they are asked to make a choice to value the earth’s ecosystems’ (p. 201). Garcha’s important essay speaks directly to ecological thinking as more than conceptual; indeed, it speaks to the practical ethical imperatives that shape, but aren’t necessarily acknowledged by, all the writing here discussed. At its strongest, *Wordsworth and the Green Romantics* is valuable for its determination to use historical recovery, close reading and Wordsworthian affect as entry points into eco-critical work now. It is appropriate, then, that (in acknowledgement of ecocriticism’s own institutional origins), James McKusick provides the afterword here. Admittedly, some of McKusick’s refutations of consumer culture – ‘there is no room for “nature” in this self-perpetuating materialist worldview’ (p. 237) – suggest ecocritical commonplaces that had been sophisticatedly complicated earlier on. And the echoes of a protestant work ethic in his exhortation that ‘what’s needed next is an ethos of commitment to the hard work that will be required to revolutionize human consciousness and thereby save the planet’ (p. 239) are not without concern in the light of Stoll’s searing critique. But it is work that we all engage in, as Martin Ryle and Kate Soper have identified so illuminatingly, and I will end here with some consideration of what constitutes ‘work’ itself in the light of eco-critical thinking.
That the second issue of the 2016 volume of *Green Letters*, edited by Ryle and Soper, is dedicated specifically and entirely to working culture testifies to how, ultimately, ‘a successful environmental politics’ not only demands ‘an enhanced sensibility to and aesthetic appreciation of nature’ but also ‘transformation of the socio-economic structures and technological instruments through which human societies relate to nature’ — and this requires ‘revised ideas and cultural representations of progress, prosperity and human well-being’ (p. 119). If ecocriticism needs to engage with theology, then it also needs ‘a range of cultural representations of alternatives to a work-dominated existence’ (p. 121) since ‘it is utterly implausible to suppose that we can, either environmentally or socially, continue with current rates of expansion of production, work and consumption over the coming century, let alone into the distant future’ (ibid.).

The volume features articles by Francoise Gollian, Jennifer Mae Hamilton, Emily McGiffin, Chris Campbell and David Frayne that track literary representations of labour, collective action, resource exploitation and property – and begin to imagine oppositional models of time use through shorter hours and free time (responding to Ryle and Soper’s recognition of ‘our collective subordination to an ethos which posits free time as a threat to prosperity rather than a form in which it can be realised’ (p. 120)). But I will focus here on Garry MacKenzie’s article, ‘Poetry, Ecocriticism and Labour: The Work of Writing and Reading’ since it invokes the academic workplace that hosts all of the writing discussed here — and this review itself. Working through John Ruskin, MacKenzie identifies how ‘the work of a Gothic craftsman is an organic process, responding to external nature, reacting with flair and intuition to the constraints of their context and materials’ (p. 187). Like Ruskin, he suggests that ‘artistic work in this model is not an instrumental use of nature as subject and source material, but rather a creative interaction with it’ (ibid.), and from here asserts that ‘the formally complex, emergent work of art created from this interactive process resists easy hermeneusis and is valued for reasons other than utility’ (ibid.). Mackenzie thus begins to shine an ecological light on the instrumental drive of hermeneutics itself, effectively putting into doubt all models that parallel resource-extraction as value-determinant in appraisals of human activity, including those by eco-critics: ‘in general, ecocritical study
of nature in poetry tends towards a hermeneutic approach and the temptation remains to highlight poetic content that can constitute a politically useful message’ (pp. 187-8). MacKenzie uses Susan Stewart’s The Poet’s Freedom (2011) to reconsider this exegetical process, and to read poems by W. S. Graham and Alice Oswald, claiming that Stewart’s ‘emphasis on the emergent nature of a poem’ begins to ‘resist instrumental treatment of the art form by critics keen to evaluate the usefulness of a text for environmental or other politics’ (p. 193). Like Mack and Zapf, MacKenzie is convinced that literature’s generic properties themselves refuse exploitative reading practices, even reaching beyond the writer’s own ideological allegiances: ‘poets not generally considered experimental nevertheless engage in a process that could be described as an experiment, in which formal and other poetic constraints contribute to the poem’s creation and mean that it is not a stable, unitary statement under the complete control and authority of the poet’ (p. 188). This plastic quality, and MacKenzie’s larger model of literature that resists conventional use value, begins to intimate a materialist poetics that adds nuance to Mack and Zapf’s reading practice as Mackenzie points to the reader’s corporeality as discerning medium: ‘the value of a poem lies beyond its use to a reader – instead the reader navigates the text with the senses as well as attempting to understand its semantic content, which may also open up a realm of multiple interpretations and uncertainties’ (p. 194). This occult, unknowingness feels temperamentally suited to our particular ecological moment – even more so than the supple, but still certain, readings provided by Zapf – that requires, in Kathleen Stewart’s exquisite phrasing, ‘a mode of attunement, a continuous responding to something not quite already given and yet somehow happening’ (Ordinary Affects [DukeUP, 2007], p. 127). But this is importantly also a source of pleasure, engagement and stimulation: ‘writing and reading are creative, and possibly organic, acts’ (p. 185). Coming full circle, MacKenzie, like Mack, draws on Arendt in his final consideration of what this might mean for how we regard our world and the work we do within it: ‘the idea of work as a creative and self-fulfilling human activity doesn’t necessarily run counter to the imperatives of addressing environmental problems. Indeed, self-fulfillment through work, if Hannah Arendt is correct, could result in less commodity production: if people find pleasure in work rather than in things, unsustainable consumption becomes
less desirable’ (p. 195). And here we reach a model for how ecocriticism might look forward in 2017. Posing questions not only about how we appraise cultural representations of ‘the environment’, but also about how we recognize ecology as paradigmatically staged in culture, these ecocritical texts, in the end, should cause us to ask questions of academic ecocriticism itself, the work it involves, how it is measured and appraised, what resource-extraction models it might, even unwittingly, ape, and how we might make ethical interventions in its future processes, seeking not just sustainability, but modest pleasure.

Books Reviewed


Journal Reviewed