

*Human Language-Making
as Environmental Praxis*

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Turning and turning in the widening gyre

The falcon cannot hear the falconer;

Things fall apart; the centre cannot hold;

W. B. Yeats, "The Second Coming" (91)

In "Towards a Natural History of Reading", published over ten years ago, John Tallmadge asks: "where are our [literary] methods to match our mountains?" (283). Ten years on, his question still stands. The Winter 2014 special issue of ISLE explicitly calls readers and writers to creatively and critically engage with global warming. Kathleen Moore and Scott Slovic's "Call to Writers" promotes a range of forms in which writers might respond. What is conspicuous within this call, and throughout the issue, is the relative inattention paid to the environmental impact of compositional method in contrast to the importance attributed to form and subject matter. This blindspot with regards to compositional method is symptomatic of what Christina Haas has identified as a "gap" in our understanding of "the murky, always-assumed but never specified relationship between writing as cognitive process and writing as cultural practice, and the relation of both to the material world" (37). This paper develops upon the work of a growing tradition of writers and thinkers who

understand the emergence of the human, writing and environment as a process of enmeshed mutual influence, in order to emphasise that how we write is as much part of the process of environment formation as *what* we write. There is a continuing need for the development of environmentally-engaged compositional methods in order to better diversify literary production as a "making of the self and a making of the world" (Bate 282).

In *Process: Landscape and Text* Catherine Brace and Adeline Johns-Putra set out to examine "the means by which the creative dimension of human existence as a way of experiencing the world takes shape" (29). The particular focus of their book is "the literary creative process, which, though it is a crucial aspect of creativity and the creative impulse, has seemingly remained elusive to writers and critics alike" (30). Brace and Johns-Putra draw on the phrasing of Malcolm Lowry's *Selected Letters* to emphasise that "what actually happens in the novelist's mind when he conceives what he conceives" is "the true drama" of this investigation (208). However, rather than emphasising the continuity and mutual influence between form and process in the drama of literary creation, this assertion subtly shifts the focus of the investigation from the mutual

interface of form and process to a particular pole: “the novelist’s mind” (208). Indeed, Brace and Johns-Putra explicitly encourage a “de-coupling” of “the moments of creative endeavour from the forms of what is produced” in an effort to better “delineate the creative process” (29). Whilst this effort is understandable, their atomic approach to analysis re-enacts the split that they appear to be trying to resolve. Writing in Dobrin and Weiser’s investigation into *Ecocomposition*, two years prior to Tallmadge’s call, Marilyn M. Cooper very clearly states that “there are no boundaries between writing and the other interlocked, cycling systems of our world” (xiv). Cooper suggests that one of the primary reasons that we may have trouble coming to terms with this sense of continuity - and what I suggest may trouble Brace and John-Putra’s account - is, what Fritjof Capra has referred to as, “[t]he great shock of twentieth century science [...] that systems cannot be understood by analysis” (29) i.e. that the treasured perspective of the objective observer, that is somehow entirely uninvolved with the elements with which they are perceptually engaged in analyzing - a vision that underpins the popular understanding and authority of scientific knowledge production: that we can arrive at a position untainted by human error - is in fact a myth. There can

be no analysis of something with which you have no perceptual interchange because it would quite simply never have existed for you in the first place. But again, this is nothing new. Gregory Bateson, Humberto Maturana, Francisco Varela and Tim Ingold have all contributed to the growing tradition of thought that champions the mutual influence between the formation of the human and the formation of the world through the process by which we, as humans, emerge in, by, with and through our engagement (voluntary or involuntary) with this world and vice versa. It is not just that we are bound up with the forms and the processes that we are attempting to analyse; it is *only* by virtue of this being bound up with the world that this analysis is made possible in the first place (Hayles 48). And so we find ourselves (in a Western tradition of thinking) negotiating the tricky divide, or “gap”, between a mechanistic view where “the world is a collection of objects” that “interact with one another” but in which “the relations are secondary”, and a systems view, where “we realise that the objects themselves are networks of relationships, embedded in larger networks” in which “the relationships are primary” (Fritjof 29). It is this perceived gap upon which this paper focusses in order to affirm and uphold Tallmadge’s critical emphasis on the world-changing potential

of literary praxis. The approach of this paper is not, however, to pursue the linear image of a bridge straddling a divide between two separate entities, but rather to attempt a reweaving or renetworking of these, at times, contradictory and occasionally incompatible concepts. Like Yeats' falcon, his paper enacts a circling among, through and between these divergent and overlapping conceptions of writing and environment in an effort to hybridise, destabilise and reweave our understanding of their relation. Sarah Whatmore reworks Ansell-Pearson's words to further support this emergent perspective: "hybridity compels us to acknowledge that not only does "humanity" always already "dwell among badly analysed composites [like "nature" or the non-human] but that "we" ourselves [the human-all-too-human] are badly analysed composites"(7)" (165 [Whatmore's own insertions]). And so it is that this paper progresses, analysing the process of language formation in relation to the world by way of forming language by, with and from the world, and acknowledging our complicity and implication in this working through and with the fabric of our world. And so it is that, having outlined the impossibility of being other than or outside of that with which we are conceptually and perceptually involved, this paper proceeds to offer a model of involvement, observing

as it does so that this act of modeling is a distancing not to be misconstrued for the fantasy of objectivity or total remove that it aims to contravene.

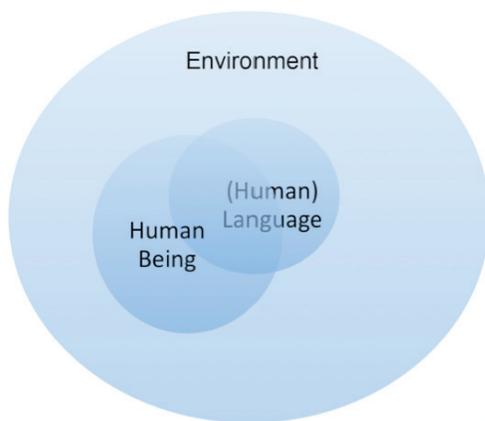


Figure 1

For reference, and by way of further introduction, Figure 1 outlines the way in which this paper conceives of the relation between human, language and environment. These terms are considered throughout this paper as "markers" or "place-holders" (Nelson 29). As I have indicated elsewhere, the macro linguistic concept of "human being", for example, should be "understood as a place-holder, marker or umbrella term, for a collection of micro-concepts [...]. These micro-concepts coincide with the micro-concepts gathered within other macro-

concepts” (Nelson 29), such as “environment” and “(human) language” or writing, so that “each of these concepts” can be considered “as a “weave” of ideas or micro-concepts [...] rather than as discrete, self-grounding conceptual entities. This understanding echoes the dense weave of perceptual and conceptual interconnection that Timothy Morton has called “the mesh” (2009; 2010)” (Nelson 32). According to this model there are no gaps between concepts, only interweave and overlay. In this paper, each of these concepts – human being, (human) language and environment - has an axiom associated with it. As with all models, this diagram presents a vastly oversimplified abstraction. For ease, “Environment” is presented as a continuous amorphous entity but this model gestures towards an umbrella understanding of “Environment” that is constituted by varying and various more concretely articulated environments. The same can be said of “(Human) Language” and “Human Being”. This paper presents the thinking that informs each of these three axioms before describing the conclusions that arise from their combination.

Environment

Axiom 1: Environment is the sum total of material entities that make up this world and their ongoing, mutually transformative, interaction.

What Noel Castree has argued to be true of our use of “nature” might usefully be considered in relation to our usage of “environment” since both terms continue “to be understood in a multitude of ways, many of them incompatible” (xvii). This paper reweaves the overlap and interrelation of these concepts. The first recorded use of “environment” denoting “nature” or the “conditions in which a person or thing lives” is rendered in Carlyle’s use of the German term *Umgebung*, in 1827 (Harper, “environment”). The first use of the term in a specialised ecological sense was recorded in 1956. “Environment” (noun) is currently defined as “the surroundings or conditions in which a person, animal, or plant lives or operates” and / or “the setting or conditions in which a particular activity is carried on” (OED, “environment”). An understanding of “the environment” - “the natural world, as a whole or in a particular geographical area, especially as affected by human activity” (OED, “environment”) - arises out of this more general definition. And so we begin to see the splinters that trouble this term: an

opposition between human activity and the natural world inherent in the term and the conceptual divide between the “conditions in which a person, animal, or plant lives or operates” and the “plant, animal or person” itself (*OED*, “environment”). If “environment” is contaminated in its very heart with an ideology we are attempting to dispel, how useful is this term? If we are in search of an uncontaminated phrase or one free from unwanted contextual relations the case might plausibly be made to discard it altogether. Timothy Morton has suggested doing exactly this with “nature”. In *Ecology Without Nature*, Morton is concerned about nature’s implicit opposition to culture. He regards this opposition as dangerous because it suggests that there is another side, an outside, to the term, which, he reminds us, is impossible:

[...] there is nowhere outside a signifying system from which to pronounce upon it; further [...] this is one of the illusions that the signifying system enables and sustains. Virtual reality and the ecological emergency point out the hard truth that we never had this position in the first place. (26-27)

If nature’s oppositionally emergent lineage implies another side to or an outside of itself,

environment is just as problematic. Ecology, as a term, is more decentred, more web- or network-based, than nature or environment. This is not to say that understandings of these terms cannot be and are not increasingly influenced by the rhizomatic infusion of ecology. However, to suggest that any term is “pure” or free from undesirable inference or that a term can be contained in such a way would be to misunderstand how it is that language evolves in the first place. In “Thinking Ecology” Morton reforms nature through writing. Rather than replacing one term with another he attempts to write through the complicated historical and cultural inflections of nature, in an effort to erode and reform it:

Nature dissolves when we look directly at it, into assemblages of behaviours, congeries of organs without bodies [...] Beyond concept, Nature is, a Nature for which there are no words. But we are already using words to describe this wordless Nature. (215-216)

Morton’s essay goes some way to illustrate the network of relations with which words are always already involved and the multiple and, to return to Castree, sometimes incompatible (xvii) meanings and usages that

cluster in and around, and come to define the plurality or hybridity of, any given term. Words are inadequate: they communicate both more and less than what they are being used to communicate. But it is precisely through our use of words that the porous and plastic potential of language, as an agent of change, is revealed. Sarah Whatmore reminds us that the “everyday practices” of language-making “have been argued to be performative rather than cognitive, such that “talk” itself is better understood as action rather than as communication” (6). But this would be to understand cognition and action as separate processes. In *The Tree of Knowledge* Maturana and Varela argued that “all cognitive experience involves the knower in a personal way, rooted in his biological structure” (18). As previously acknowledged, the work of Bateson and Ingold support a continuity between performance and cognition: “the art of inquiry, the conduct of thought goes along with, and continually answers to, the fluxes and flows of the materials with which we work. These materials think in us, as we think through them” (6). In other words, as Maturana and Varela have previously stated, doing is a form of knowing and thus “every act of knowing brings forth a world” (26). The practice or performance of language is transformative: what and how we work with and write through things alters what is said.

Nature’s cultural inflections are not resolved but merely set aside, and the properties of change inherent in language use and formation are obscured, in Morton’s urge to use another term. But we cannot disappear these understandings through compelling argument. They exist, and in order to alter them we must work through and beyond them, to rewrite or reword them. This paper aims to contribute to this rewriting of our understanding of environment.

Since the seventeenth century, *environment* has designated a ‘state of being environed’ or environing, i.e. encircling or being encircled or surrounded by (something) (Harper, “environment”). The verb to *environ* is derived from the Old French seventeenth-century term *environer*, meaning “to surround, enclose, encircle” (Harper, “environ”). *Environ* (“round about”) is composed of the prefix *en-* “in” and the noun *viron*, “circle, circuit,” from *virer* “to turn” (Harper, “environ”). The plural noun, *environs*, meaning “outskirts”, comes from the 1660’s French term, *environs*, plural of Old French *environ*, meaning “compass, circuit”, derived from the adverb *environ*, “around, round about” (Harper, “environs”). The current usage of “environment” composites these terms, whilst retaining a sense of circling. However, importantly, that which is encircled remains absent, awaiting

reference and identification. To return to the image of Yeats' falcon, "environment" (understood according to these definitions) turns and turns around a present absence at its centre; a centre that defines it always as peripheral. Contemporary western theory has progressively been decentralised and distributed (Latour; Deleuze; Guattari). Within a theoretical climate that insists with growing urgency that we must regard the other-than-human either as a centre in itself or as a series of networked nodes that destabilize the notion of a centre altogether, the centralised structure of environment is at odds with the overlapping principles of network, system and ecology: the centre cannot hold. Environment overlaps, interweaves and is infused by the currency of these more plural terms, forming afresh from its rich etymological compost. This paper furthers the motion to reform. Rather than considering language as something that happens *in* environment, this paper considers language as environment, like air or amniotic fluid. Environment is not simply surroundings, or perhaps better, surroundings are not always or only peripheral - that which surrounds us becomes us and vice versa. Environment in this sense has no inside or outside, or is both. Environment is plural and singular: it is both global and local. Assemblages and congeries abound. At this point it is worth

noting the danger, observed by Timothy Clark, that this "term 'the environment' has often seemed too vague—for it means, ultimately, 'everything' [...]" (no page) in an effort to guard against the collapse of the term altogether. This paper advocates for a plural understanding of "environment" in the firm belief that there is a great need to keep trying "to think "everything at once"" (Clark) in an effort to approach an underlying logic, or practice, of how this everything-at-once model might work. Porosity is not incompatible with homeostasis: it is a term that can retain stability whilst in flux. It is this plastic and uneven vision of environment, free from any simple, centralised slavery to an etymological past, full of the potential to fall apart, and still vaguely circling, which infuses this paper.

Human Being

Axiom 2: The 'specific form of incarnation" (Johnson ix), that is every human being, takes the form it does as a direct result of its relation to environment.

The structure of "human being", as developed within the remit of this paper, has much in common with a plastic and uneven vision of environment outlined previously. Rather than presenting the human self as a discrete centre, the human is understood as dispersed

and interwoven with the other-than human in the ongoing articulation of past, present and future selves:

There is no “I”, no single, unified executive system that co-ordinates all of the necessary bodily changes. Instead, there are numerous systems simultaneously “communicating” with one another in a vast dance of ongoing co-ordination and readjustment. (Johnson 59)

This gathering of systems under the umbrella term “I” provides another model of the way in which this paper conceives of terms such as environment operating as “markers” or place-holders” that include a series or system of interrelating micro-concepts involved in just such a “dance of ongoing co-ordination and readjustment” (59). As with the understanding of environment outlined above, it would be wrong to mistake this assertion of a porous, hybrid and responsive articulation of the self for an assertion that who or what “I” am is entirely unrecognisable from one day to the next. As with every organism, or indeed any system, human being is governed by a biological drive towards homeostasis, which, as Damasio helpfully paraphrases, “is convenient shorthand for the ensembles of regulations

and the resulting state of regulated life” (30). We can sustain movement between and within these multitudes and still remain largely ourselves.

Although Johnson does not use the term posthuman in this book, his understanding of the human as emergent and distributed allies his theory with the posthumanism of Katherine N. Hayles. Hayles’ posthumanism states that “the age of the human is drawing to a close” (283). What this means, Hayles qualifies, is not that humans as a species are approaching annihilation (although this might also be true), but that the age of one specific understanding of the human is drawing to a close:

the posthuman does not really mean the end of humanity. It signals instead the end of a certain conception of the human, a conception that may have been applied, at best, to that fraction of humanity who had the wealth, power and leisure to conceptualise themselves as autonomous beings exercising their will through individual agency and choice. (Hayles 286)

An understanding of “the subject as an autonomous self independent of the

environment” (290) is, as Francis Fukuyama¹ notes, “invalid in the posthuman era and, therefore, needs revision” (20). The conception that takes its place is akin to Johnson’s (as expressed above), except (as in Hayles’ account) there is normally more of an emphasis on humanity’s relationship with machines:

In this account, emergence replaces teleology; reflexive epistemology replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a body seen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist subject’s manifest destiny to dominate and control nature. Of course, this is not necessarily what the posthuman *will* mean – only what it can mean. (Hayles 288)

As has previously been stated, this paper understands the human as distributed, or as Robert Pepperell² terms it, “fuzzy-edged” (20), placing more emphasis on human relation to the other-than human environment

in general – whether plant, machine or otherwise – rather than emphasising human coupling with machine life or addressing accompanying issues regarding artificial intelligence. So what does this distributed understanding of the human with the other-than-human mean for human cognition in general?

The chaotic, unpredictable nature of complex dynamics implies that subjectivity is emergent rather than given, distributed rather than located solely in consciousness, emerging from and integrated into a chaotic world rather than occupying a position of mastery and control removed from it. (Hayles 136)

Hayles produces another model by which we can understand the way in which our enmeshedness in the world means that our thinking and doing, our action and / as cognition, emerges with and through the world. As with any single understanding of environment, a centralised conception of the self is unstable but not anarchic. By virtue of the pace at which change occurs in relation to our perception of this change and the

¹ Despite being fearful of what posthumanism might mean in terms of expanding the human capacity to alter our “nature”, and the political ramifications of this, Francis Fukuyama does at least agree on this, that our conception of what it means to be human needs to be readdressed and revised, if not expanded.

² Robert Pepperell’s practical experience as a painter and a draftsman informs his philosophy of consciousness and perception.

feedback loops that have evolved to govern and enable this exchange, change is both evident and evidently forgettable. It is always, to return to the writing of Timothy Clark, a question of scale, pace and perspective. Both conceptual and actual entities are sustained by virtue of homeostasis or a settled (and regulated, to some degree) set of processes.

This paper maintains that the “I” that I call myself is not only not a “single, unified executive system”, it is constituted by “numerous systems simultaneously “communicating” with one another in a vast dance of ongoing co-ordination and readjustment” (Johnson 59), within the body, between body and brain, but also between body (including brain) and environment. I am in process: within, without and in between. My periphery is a haze of organism-environment interaction. I am a “fuzzy-edged” entity, a distributed system emerging in relation with other distributed and emergent systems. Things fall apart, are rewoven and continue to exist, by virtue of being altered, through this interweaving, othering process. Judith Butler³ has observed that no individual is “self-grounding” (19).

Dirk Baecker’s earlier writing lends further support to this argument:

one can never start anything at all from scratch, neither one’s own life nor a relationship to whatever phenomenon. Systems, regarded as non-self-evident sets of possibilities, are already there; they emerge, they enable and they constrain what is to happen [...]. (2001:68)

Systems are environments that are inhabited and / or constrained by other environments. Systems are environments that exist between and among other environments, that effect each other, that vie for priority, that emerge and decay, that are absorbed in part or in entirety into others. No system, either physical or conceptual, is self-grounding. As D. N. Lee writes, “[l]ike all animals, we exist by virtue of coupling our bodies to the environment through action [...] Action in the environment is the root of the ecological self [...] We are what we do” (34). In other words, how we behave (culture / phenotype) affects what we are, or what

³ In *Giving an Account of Oneself* (2005) Judith Butler acknowledges the limitations of self-constitution and self-knowledge, arguing for a more dispersed account of the human self and its formation. Given her interest in the distinction between sex and gender and the extent to which gender is environmentally, or culturally, constructed and / or performed (*Gender Trouble*, 1990) perhaps this development is unsurprising. In *Giving an Account of Oneself* (2005), Butler recognises the contingency of the human self upon its “external” environment. Parts of this account complement Hayles’ assertion of the foundational importance of human and other-than-human organism and environment interaction in the formation of entity, organism and environment.

we become (ontology / genetics) or produce, most notably through the incorporation of alterity within the self of the organism, for example, through food consumption or sexual reproduction:

human functionality expands because the parameters of the cognitive system it inhabits expands. In this model, it is not a question of leaving the body behind but rather of extending embodied awareness in highly specific, local, and material ways that would be impossible without electronic prosthesis. (Hayles 291)

But electronic prosthesis is not the only, nor perhaps the simplest or most obvious, method of expanding human functionality. Johnson presents a simpler, more general argument for the expansion of human physical and cognitive functioning: “Change your brain, your body or your environment in nontrivial ways, and you will change how you experience your world, what things are meaningful to you, and even who you are” (2). But this too obfuscates the issue since it is not only a question of effecting change in order to alter the environment. We are involved in effecting environment all the time through the constant environmental interchange that we call life. Our lives occur in relation. As writers, our lives occur in

relationship with words, very often written words. Reading and writing, as practices and as industries that both use and produce and large quantities of material (ink, dye, paper, trees, glue, transport lorries, internet connections, computer programmes, hardware, software etc.) that constitutes and generates our environment, must not be forgotten or remain unexamined in our review of how we continue to effect ourselves and our environment by way of language production. *I am what was and what will be my environment, linguistically, literally.*

Language

Axiom 3: Language is both a material entity and a process by which material entities interact and transform each other.

And so it is that I, this deceptively simple linguistic signifier, acts as a marker, or a placeholder, for the “gobbly-dumped turkery” of a system that is “moving and changing every part of the time” (Joyce 118: 22-23). And so it is that we come to language and the unsurprising affirmation that human language is no more self-grounding than human being, not only in the Wittgensteinian sense that no human possesses a private language, but beyond this to the blurred edge of the human realm where human and other-than-human interweave. In its

various ideological and material formations, the human mind - or what it is to be human, according to Johnson's expanded view - arises through our ongoing coupling with language. Language, as both varying degrees of verbal discourse, and the more general and multi-modal activity of communication, is a fundamental operation of mind. Language, as such, is part of, without being in any way reducible to, being human. Language is always in excess of itself. I mark my name into an apple, the flesh bruises and scars. This act of marking intends to signify my meaning, the marking of my self in language for other humans to read. However, the bruising of the apple in response to these marks, signify that my self does not signify in a vacuum, it is articulated in relation. Here it is articulated in relation with an apple. The processing of this apple interacts with my mark-making. The apple's bruises and scars mean in excess of my intention. The marks that occur in other apples as a result of insect or avian interference, and the parallels set up between the two, are not of my making and yet they affect its meaning by the proximate or paratactical association. Language does not communicate only (or even) that which it intends to communicate. By virtue of the fact that language occurs between the human and the other-than-human it is always operating in excess of

human intention and / or human control. Language is "wild inside" (Woods); it has the permanent potential to other itself because it is other than us, even as we inscribe ourselves with and through words. This understanding "contests the status of language as a bearer of uncontaminated meaning" (McCaffery qtd. in Perloff 129). McCaffery's words bring us back to the affirmation of the impurity of any term or concept (stated earlier in this piece) that, whether micro- or macro-, the contradictions and incompatibilities that exist within our understanding evidences the multiform, ongoing infusion of meanings that is language-making. This paper recognises that language is "hopelessly compromised, contaminated with [...] alienness in the very heart" (Hayles 288) and that it is by virtue of this contamination, by virtue of operating in relation, of relating with this "otherness", that language operates as communication. An important aspect of this conception of language is an understanding of the materiality inherent on word-making both as product and process. Language has no purity of existence. Words exist by virtue of human or machine marks made on paper, by the tapping of keys on a keyboard, by the utterance of letter forms in relation to teeth, tongue, lips, throat, voicebox, body, lungs. All of these things colour language, make every utterance particular. It is in this way that

thingness irrupts in language.⁴ *Language* is part of the material world that exists beyond the human, and expresses as much of this material, other-than human world as it does of humanity. To borrow Robert Sheppard's phrasing yet again, language is "the irruption of material historical occasion, of making, validation, and performance of the text, that will unsettle linguistic system, and declare its rooted but excessive presence" (Sheppard qtd. in Cobbing 1998). It is at the juncture of language, where human and other-than human combine in order to communicate, that the relation of human with other-than human is most obviously expressed and revealed. The intent of human language-making may be to communicate between humans, but the audience and impact of our language-making practices reach far further than our intentions are able to acknowledge. Language-making is a process by which human and other-than human environments come together to combine, resist and transform. As suggested in the work of Maturana and Varela, language-making is a practice of organism-environment coupling, decoupling (Brace and Johns-Putra) and recoupling. A material study of how it is that language emerges in relation

to the other-than-human world is crucial to the development of a more joined-up, or systemic understanding of word's interaction and ongoing infusion with world. The study of the compositional methodologies of language creation is an important and hitherto neglected enterprise in the understanding of our linguistic organisation and inscription of environment. This paper offers the necessary complement to Moore and Slovic's call. Understanding how human and other-than human environments emerge by virtue of their interaction in language-making is key not only to recognising the role language-making plays in human and other-than human environment formation but understanding how this process occurs. Andy Clark's neuroscientific findings that support theories of extended mind (how human *being* extends its environment by way of other-than human entities) provide an occasion for Johnson to evidence the inherently environmental nature of mind: "we tend to offload much of our cognition onto the environments we create [...] we make cognitive artifacts to help us engage in complex actions (Clark 1998) [...] Thus, mind emerges" (Johnson 150-151). Johnson claims that "[o]ur 'minds' are processes

⁴ Robert Sheppard understands the enterprise of *Writers Forum* as an "irruption of thingness in language" (Sheppard in Cobbing 1998). The understanding of language expressed in this paper is heavily influenced by the practices and theories of *Writers Forum*, among other material- and performance-based practices, where word formation is explored in its "thingness" as a substantial, multi-dimensional and multi-sensory engagement with, and expression of, the human body's interaction with the other-than-human world.

that arise through our ongoing coupling with our environment” (130). Crucial to Johnson’s theory of how human mind emerges in relation to the other-than human environment is the part language plays in this process of organism-environment coupling. According to Johnson, conceptual metaphors develop as a result of “the neural connections between the sensorimotor areas of the brain and other areas that are involved in thinking” (167). Johnson draws upon the findings of cognitive neuroscience to support the suggestion that we use our sensorimotor neural circuitry for abstract reasoning by way of metaphorical mapping. Our concepts “piggyback”, to use McCrone’s account of the same phenomenon, “on a processing hierarchy designed first and foremost for the business of perception” (158). For example, the activity of grasping, its neural connections and associated sensations, “can be recruited for abstract conceptualization and reasoning” (Johnson 170-171). Abstract concepts emerge from embodied experience: we think, according to Johnson, not just *with* but *through* our bodies. How we think about environment depends upon how we use, interact with, or inhabit our other-than human environment. We understand environment, as percept and

concept, through practice and performance. How we form language, both materially and conceptually, plays a crucial role in this. Haas’ work argues for:

a link – via bodily interactions – between the material tools and artifacts of text production and the mental processes and representation of writers. That is, through their physical interactions with the material tools and texts of literacy, writers’ thinking is shaped by culturally-made technologies. (Haas 133)

The step that Haas does not explicitly develop but that her work suggests, especially in her acknowledgement of Engels’ work, over half a century earlier,⁵ is that the evolution of writing practices likewise shape writing technologies and in doing so alters the other-than human entities and environments that constitute these technologies. Thus, human writing practices alter, affect and inform the evolution of other-than human entities and environments. Language-formation is a crucible of human and other-than human environment formation. And yet we continue to act as if the human is separable from environment, as if the body is separable

⁵ “Engels postulated that, in labour, humans interact with nature via material tools. These material tools mediate human encounters with the environment, and, in so doing, transform not only the environment but the humans who use them as well” (Haas 14).

from mind, and as if language is other than all of these. Our attitudes to writing, and its relationship with and as environment, is troubled by the inconsistencies, internal contradictions, and cognitively dissonant practices that are representative of our state of practical and ideological transition between systems. My proposed response to these inconsistencies, Slovic and Moore's call and John Tallmadge's question, is *practice reflectively* – use practice as a process of reflection and reflect upon your practice of word-making, whether vocal or literal. To echo Mark Johnson's phrasing, if we want to alter the connections within our brain, our body and environment, if we want to change our world, what things are meaningful to us, and even who we are in relation to the other-than human, the reflection, revision, and revolution of our writing practices present a significant method of achieving this. Environment is everywhere both centre and periphery, circling in different directions and eddying in pools. Environment is human, is other-than human, is language. Things fall apart in language to reform. Environment is the point at which human becomes other-than human and vice versa, in language. The more radical the change effected in our language practices the more radical the change effected in our relationship with the other-than human world, and in the other-than human world itself as it exists and is

impacted by our word-making, because it is in language-making that we alter and are infused by the other-than human world in turn. Understanding how it is that language alters and infuses the world (and vice versa) should be fundamental to any environmental literary enterprise.

To review, this paper is informed by three axioms:

- 1) Environment is the sum total of material entities that make up this world and their ongoing, mutually transformative, interaction.
- 2) The “specific form of incarnation” (Johnson ix), that is every human being, takes the form it does as a direct result of its relation to environment.
- 3) Language is *both* a material entity *and* a process by which material entities interact and transform each other.

From these three axioms the argument runs, as follows:

- If environment is the sum total of material entities that make up this world and their ongoing, mutually transformative, interaction and language is a material entity *and* a process by which material entities interact and transform each other then language, both as a material entity *and* as a process by which material

entities interact and transform each other, is environment.

radical the shift in language practice the more radical the alteration in environment.

- And, if this “specific form of incarnation” [the human individual] takes the form it does as a direct result of its relation to environment then this “specific form of incarnation” [the human individual] takes the form it does as a direct result of its relation to language, both as a material entity *and* as a process by which material entities interact and transform each other.
- And, if this “specific form of incarnation” [the human individual] can, as language, be identified as a material entity then this “specific form of incarnation” [the human individual], similar to language, must also be recognised as environment.
- Therefore we can say that our “specific form of incarnation” affects both language as environment and that language as environment affects the ‘specific form of incarnation’ that is, and the processes that constitute, the human individual, and vice versa, because both human language and human being are mutually constitutive of and constituted by, because they *are*, environment.
- Therefore, effecting change in our language practices effects change across human and other-than human environments; the more

In conclusion, human language-making is environmental praxis and language-making methods, as environmental praxis, matter.

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