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Material writing: Towards Hybrid-making

Abstract:

Writing operates in an expanding field of intersections between symbol, inflection and further meaning. The materiality of writing, its embodied action, situated context and myriad substantive expressions, requires an interdisciplinary approach best advanced by collaborative teams and fuelled by collective concerns. At a recent design conference, Doha 2013: Hybrid Making, our team of creative arts researchers (Jondi Keane, Patrick West and Valerie Jeremijenko) conducted a workshop based on the idea of reverse engineering the notion of a souvenir, by starting with the sensation rather than the iconic image. The approaches explored by the group focused on the ways in which a sensation, emotion and/or idea attach to an object and how an object offers itself as an attractor for memory and indicate that when experience, sensation and place are emphasized, the materiality of writing comes to the fore. We assert that material writing allows or even requires a fluid movement between conceptual and perceptual modes of creative practice. In this paper we will unpack different methods of material writing: the materiality of the act of writing with substances, site-specific/site-conditioned writing and 3D printing. Through the particularity of each mode of material writing our discussions will examine the points of attachment that we, as symbolizing creatures, produce in order to orient and reconstruct a world on the fly. Material writing constantly brings us back to earth, anchoring us to the expanded processes integral to hybrid-making.

Biographical notes:

Dr Jondi Keane is an arts practitioner, critical thinker and senior lecturer at Deakin University. Over the last three decades he has exhibited, performed and published in the USA, UK, Europe and Australia (<http://jondikeane.com/>). His research interests include Contemporary Arts practice (installation-performance), Contemporary Theory (art history, philosophy, cultural theory, cognitive science), Embodiment (embodied cognition and the philosophy of perception), Experimental Architecture, built environment, cultural space and the theory-practice nexus, research design and practice-led research.

Dr Patrick West is a Senior Lecturer in Professional and Creative Writing in the School of Communication and Creative Arts at Deakin University. He is author of *The world swimmers* (2011), and wrote the script for *Sisters of the sun* (2012), a fictional-documentary film arising from Deakin's *Flows & Catchments* project. He has published widely, including 'Zones of practice: embodiment and creative arts research' (with

Drummond and Keane, in *M/C Journal*, 2012) and ‘The bird watcher’ (in *Landscapes*, 2010). His Ph.D is from The University of Melbourne.

Valerie Jeremijenko is the Assistant Dean of Student Affairs at Virginia Commonwealth University in Qatar, the Director of Yama Yoga studios, a center for yoga, dance and well-being in Doha, Qatar and a writer. Her current academic research explores embodied approaches to writing, the link between creative arts practices and research, affect and the cultural anthology of the senses. She is the editor of *How we live our yoga* (Beacon 2002) a collection of literary essays on yoga, has had numerous short stories published, been recognized by a Fellowship from the Virginia Commission of the Arts and is at work on a novel. Her work in Student Affairs focuses on the enrichment of learning environments and the development of students in an intercultural environment. She holds an MFA in Creative Writing and is currently completing her Ph.D in the School of Communication and Creative Arts of Deakin University, Australia.

Keywords:

Multi-modal writing – Embodiment – Site-conditioned writing – 3D printing

Towards Hybrid-making

The materiality of writing, its embodied action, its situated context and myriad substantive expressions, requires an interdisciplinary approach best advanced by collaborative teams and fuelled by collective concerns. This paper will argue that creative manoeuvres involved in *material writing* are embodied engagements that emphasize movement from conceptual to perceptual writing approaches through affective regions of experience. This movement aims to complicate the way writing inflects in place-making. That is to say, material writing creates situations in which language becomes a prompt in order to intensify the relationships between thought, feeling and perception. Material writing, understood in this way, affords an insight into methodologies by which to enact¹ hybrid approaches to making.

In March of 2103, the co-authors of this paper, designed, led and participated in a workshop and an exhibition in Qatar for an international conference *Doha 2013: Hybrid Making*. The premise of the workshop focused on the idea of reverse engineering souvenirs as a way of addressing how an object sets up a dialogue with place. In contrast to the way souvenir objects typically fix an experience to an existing icon, we began by writing our way into the sensory engagements with place and extracting from our experience forms that might link memory and place through the adhesive power of sensation. The aim of this approach was to make sights, smells, sounds, tastes, touch mingle with sites.

This paper will focus on material writing as an approach to hybrid making, particularly useful when confronting the challenges of place-making. The co-authors have also written on the process involved in the cross-artwork platform of the Doha workshop and on issues concerning the role of creative practice in regional and global contexts (see West, Keane, Jeremijenko 2013a, 2013b).

Reflecting upon the events in Doha, we have come to realize that as writing moves towards other fabrication practices and as it focuses on the senses as modalities to attach oneself to ‘place’, writing becomes a material writing that prompts a more varied interaction between conceptual and perceptual processes. Rather than prioritize one (embodied) process over another, we suggest that materials—their specific qualities and context—offer writing new avenues into place-making and performative modes of making. In this way, material writing signals an openness to the types of hybrid outcomes that may arise from attuned-to embodied responses, cultural perspectives and situated understandings.

During the Doha workshop, we gathered objects, wrote about our experience and talked through our perspectives. The writing we used to orient ourselves in the surroundings seemed to pull the horizons towards the objects we collected, wrapping around and clinging to them. As the workshop progressed and the brief for making works loomed, the prototypes of our ‘souvenir-ing’ began to incorporate the words used to understand place. The words began to take part in the shaping of the materials that adhered to sensations. The sense of place for each of the participants emerged from the triggers and attractors that made bodily positionings, dispositions and orientations the most palpable. Material writing became a way of inverting the way we remember a place allowing words to intersect with and, to some extent, constitute the objects that encapsulate the process of re-collecting.

These considerations led our team to increasingly place emphasis on the ongoing material processes outside of writing but on which writing draws. The material tethers of writing have as much in common with other creative manoeuvres such as installation and performance (from spoken word, art, theatre and dance performance to flaneurship and practices of the everyday) as they do to literary forms of writing. What interested us was how material writing permits the image-text relationship, as a conceptual mode of linking, to be inverted and enter the writing process through sensory perception.

Before we discuss three modes of material writing and provide some examples that emerged from our engagements with hybrid making, we would like to offer personal anecdotes and examples that may provide insight into the sensibilities and formative inclinations that each member of our research team has nurtured, and that have informed the ‘Souvenirs of the Senses’ workshop and exhibition.

How affects become approaches to material writing

In this section, we will offer some personal starting points and sensibilities that inform our individual approaches to material writing. Anecdotes and examples of works from the Doha exhibition will offer instances where an orientation to sensation is suited to hybrid forms of making and congeals into material writing through 3D printing.

Speaking as one of the co-authors (Jondi Keane), I can remember for as long as I have been able to make marks, that my impulse to write and draw was conflated. I vividly recall writing so as to produce the moving, feeling and tonal images and drawing so as to tell a story and link events and spaces that were not linear but no less a series of sequences. In fact this conflation of writing and drawing and the feeling of doing and the experience of making has informed the history of my creative arts practice.



Jondi Keane: *Handdunes*—photo of clay imprint, clay form and 3D print

Keane’s *Handdunes*, exhibited in Doha, explored the ways in which a person presses him/herself into a place as the place imprints itself onto/into the person. The works consisted of hand molding local clay resulting in 5 clay forms. The uniqueness of the clay forms was complicated when they were scanned and 3D printed in durable plastic. The relationship of the clay and printed objects complicated notion so what affects are transmitted and subsequently printed in other locations through this complex mode of material writing.

Speaking as another of the co-authors (Patrick West), I also have memories of early orientations to writing that have proved influential later on. In fact, making in Qatar was preceded for me by something I made when I must have been about nine or ten years old. It was a sort of wind-vane with a pencil attached to the shaft of the machine and a piece of paper underneath. The tip of the pencil contacted the paper with the sort of pressure a writing hand might apply. Overnight, out on the verandah in a storm, the paper captured the marks made by the pencil. I can still remember they were heavier on one side of the circle than the other; indicating the fluctuation of the prevailing winds. The paper was written on with a lop-sided 'O', as if writing were being shaped by the weather like trees on an ocean-side cliff-face buffeted by trade winds.



Patrick West: *Qasmonauts* -- photos, 3D composite print and falcon's cap

West's *Qasmonauts* combined the symbols of the local (a falcon's cap) and the more-than-global (the rocket ship). The constellation of photos, videos, objects and 3D prints was infused with the Arabic script he perceived in the dust scrolls and the cracked earth of Qatar. West's fascination with the appearance of written script in the landscape and the importing of fictional horizons is evident in the flights of fancy merged together in the 3D print.

Speaking as the third co-author (Valerie Jeremijenko), I have had similar experiences and can define different types of writing in terms of the actual practice of writing. For example when I write a story, I first write by hand into a book, and relive this writing as I walk around during the day, with sentences being enacted into the rhythm of a walk. Rereading and editing of this work is done in zones of comfort. Other types of writing are carefully outlined using a computer, at a desk and with a bright light overhead where the time of day, measure of light, consumption of coffee to just that point of slight hysteria—are all a part of the bodily enactment of writing. It does seem that one constant is the quietness before dawn is best.



Valerie Jeremijenko's *Acoustascope*: 3D print

Jeremijenko's *Acoustascope* is built on a scaffold of her site-writing in Qatar during the workshop. Hers is the most transportable 3D print in that it, wherever it is printed, will alter the sound of the wind (the windsong) that passes through it, shaped by the form of her Qatari memories. This intensifies the aspects of writing as a shaping of awareness as well as the potential of material writing to amplify the affects of place.

These anecdotes and examples suggest the range of personal embodied approaches to the conditions of writing and the way they are enfolded into our ways of becoming and engaging with the world. In the following section, we will survey several material-writing techniques or modes of material writing and suggest ways in which they operate across art-forms, across body-environment interactions and across identity boundaries of object-agency domains.

Modes of Material Writing:

The particularity of each mode of material writing stimulated discussions concerning the points of attachment that we, as symbolizing creatures, produce in order to orient and reconstruct a world on the fly. One might say that material writing is less about the (transmedia) forms and artifacts, and more about finding a methodology, an enactive process, to bring the production of concepts and the registering of affects into close proximity.



Foraging for sensations and instances of material writing (photo P West)

Writing with substances

In order to access new relationships one might look to change the materials with which one writes or that inflect the way one writes as part of a material process already moving with, within and against other material processes. This latter approach shows how material writing can dissolve the identity boundaries by which we persist as humans and traverse the embodied (material) conditions of encounter with new places and people.

Site-writing

Site-writing is a way of discussing the site-specific and site-conditioned aspects of ‘linguaging’ a place or being promoted by language. Place-making churns the affects that emerge from situated interaction, recognizing the embeddedness of living systems. The making of place is an affective process that experiments with the boundaries of the body-environment divide. Writing from a site, and becoming attuned to a site’s specificity, requires coordination of thought, feeling and interaction that rides the confluence of a site’s concurrent specificities.



Preliminary investigations for site-writing, Doha (photos by P. West and V. Jeremijenko)

3D printing

The concept of printing objects neatly captures an increasingly influential way in which words, data, bodies, the senses and the world are being mixed up in their relationships. Because it is a new technology and not an embodied approach 3D printing has an intense political dimension. The media release for a 3D Printing lab at the Australian Centre for Design resulting from a collaboration between *[CTRL] [P]: Objects on Demand* and *Courtesy of the Artist (COTA)* indicates the way 3D printing has captured the social imagination:

3D printing is a much talked about technology. If the hype is to be believed, in the not-so distant future it could revolutionize how we manufacture just about everything. The future predictions span printing household items in an appliance beside the toaster, to printing new organs and bones, to printing food to address global food shortages. Will 3D printing radically change the world, or will it fall short of our expectations? (Australian Centre for Design, Media release²)

Of the three modes of material writing discussed, 3D printing is the one that pushes on all the boundaries where activities, bodies, environments and materials substrates, and the information that binds them, collide. The hype around 3D focuses either on printing guns or biological components. A team of Australian researchers at Woolongong have developed a hand held 3D BioPen that surgeons use to repair bone by adding layer of tissue cells to damaged bones.³

In a not-too-distant future it will be possible to 3-D print living cells in complex structures such as blood vessels, skin tissue and replacement organs bespoke to an individual, because the organs would be based on the cells and genetic make-up in that individual. In this scenario, the use of the structures is produced through an additive process. The material used are live cells and operate as a semi-living systems. That is to say they will behave in ways that make the question of agency moot.

Pushing this even further, and in a different direction from the biological or the arsenal, is the emergence of 4D printing (Tibbits 2013). In 4D printing multi-material 3D prints are combined with the ability to transform themselves, that is, the materials themselves are programmed. Programmable materials are the basis of what Tibbits calls self-assembly (the name of a new lab he is opening at Massachusetts Institute of Technology) which 'is a process by which disordered parts build ordered structures through only local interactions' (Tibbits 2013). The video on YouTube shows a string of programmed materials put into water that self-assemble in time to form a shape.



Tibbits: The emergence of 4D printing - end of a sequence that represents the transformation of the 4D printed living cells into a pre-programmed structure.)

It is curious the first structure to take shape as a function of 4D printing and self assembly ends up as a shape, or more accurately the word, that the video demonstration of programmable materials ends up forming the letters: 'MIT'. This self-promotion is not only an exercise in branding and product placement on the new frontier of intellectual property development, it also demonstrates how quickly the frontier is colonised by the old habits of thought. Even on the 4D plane, which acts as a nano-horizon of material writing, the concept can be given priority. As with any form of writing, one must be vigilant not to be co-opted and bend living cells to the will of the corporate program.

The new kind of plasticity promised by 3-D and 4D printing allows objects to behave like information *and* matter. Katherine Hayles identifies this double feature as the 'materiality of informatics,' which resist the disembodied tendencies of cybernetics, observing, '[W]hen information loses its body, equating humans and computers becomes especially easy, for the materiality in which the thinking mind is instantiated appears incidental...' (1999: 9).

When printing—historically bound to notions of writing— is brought into contact with machine fabrication—typically associated with industrial mass production and commodification—it becomes increasingly complex to sort out what is symbol, what is prompt, what is functional material and what is the marker of events. Thus writing opens itself to other art practices and to a new field of affects that material writing is well positioned to explore.

In *Makers: The New Industrial Revolution*, Chris Anderson analyzes this development on the global scale with 3D printing in mind and, in his own way, points towards an environment within which objects move closer to becoming events:

We talk a lot about the 'weightless economy,' the trade in intangible information, services, and intellectual property rather than physical goods (the weightless economy consists of anything that doesn't hurt your foot if dropped upon it). Yet as big as the economy of bits may be, that dematerialized world of information trade is a small fraction of the manufacturing economy. So anything that can transform the process of making stuff has tremendous leverage in moving the global economy. That's the making of a real revolution (2012: 41).

The dematerialization of which Anderson speaks applies to the thematics of the Doha project—addressing both ‘Made in Qatar’ and ‘Hybrid Making’. It should be noted that Anderson is using the terms ‘dematerialization’ in a more colloquial fashion, exploiting the notion of weightlessness that changes in mediation amplify. Travelling something like data themselves (like words, like bits of information), Keane and West could not help but become involved with new orientations to words and to the senses as they travelled to Qatar as makers orbiting the planet.

The ability to print structures/objects that are not models or symbols of things or prototypes yet to be developed changes the way we think about the materiality of information. Approaching the time when the two collapse into each other, from the perspective of human production, has far-reaching implications for the accessibility of products, shared ideas and platforms of production, and the economics of demand and distribution. 3D printing helps to realize the age of the pro-sumers (who produce and ‘organize both spaces and languages’ through consumption practices) that de Certeau anticipated (1984: 48) and complicates our relationship to objects.

The contested space of objects: speculative realism and speculative pragmatism

3D printing problematizes notions of reproduction, materiality and place. Printing technology offers a new form of making closely aligned to distribution and requires that objects (their properties and capacities) are reconsidered and repositioned, yet again. We feel that it would be remiss of us not to at least point to the current debates pertaining to objects and objecthood before making some provisional conclusion regarding the process of material writing.

This contested space of objects has focused on differing views regarding the benefits, detriments and implications of a world constituted by autonomous objects or by self-organizing relational flows. We will focus on two approaches to the way the world is constituted as object and/or relationships. Object Oriented Ontology (OOO) or speculative realism⁴ represents one side of the discussion, and Process Philosophy or theories of relationality⁵ will represent the opposing view.

There is not the space in this essay to do justice to the debate or to represent the argument of OOO in full. Suffice it to say that OOO is promoted as a flat ontology that sets objects on equal footing, asserting that real objects exist and are irreducible and inaccessible, or as the speculative realists say, autonomous and profoundly withdrawn from each other and from us.⁶ The implications of OOO and the “speculative realism” from which it stems (Harman 2010, title of book) outline a set of practices designating what counts as fact, what counts as knowledge and hence what constitutes the world. Graham Harman, one of the strongest advocates of Speculative Realism, is concerned that a relational philosophy—in which a thing might transform or carry the seeds of other things to be both connected and unconnected (2011: 9,12)—will exhaust an object’s intrinsic reality. He identifies ‘materialism as the hereditary enemy of OOO,’ because it ‘both undermines and overmines objects by treating them as ultimate elements that are actually nothing but a set of qualities’ (2011: 14). He sums up his position by stating that philosophies of the pre-individual ‘completely skip the intermediate layer of autonomous objects that are both actually individual and also autonomous from all perception’ (2011: 15).

The other side of the argument might be approached through ‘speculative pragmatism,’ a term Brian Massumi deploys in order to never separate the concept of the virtual from the ‘in-act’ (2011: 18). This aligns with an emphasis on the ongoing and complex interactions between the symbolizing capacities and their affects, which is described as ‘technologies of lived abstraction’ (title of MIT book series, Manning & Massumi, editors). Both speculation and lived abstraction suggest that changes our relationships to others, human and non-human. Manning and Massumi advocate the benefits of moving away from a closed and autonomous world to the embedded co-selective collaborations that shape the (shared) world. In contrast to speculative realism (OOO), a speculative pragmatism would position formal systems of thought as modes of engagement rather than as adequate descriptions of the world. This process represents an embedded approach to encounter and engagement consistent with our experience of material writing.

What might be gleaned from this discursive border dispute over the status of objects is an understanding that the desire to enact possible worlds is driven by a mixture of provisional facts and speculative futures. The advent of 3D printing technology problematizes the interactions of existing conceptual and perceptual ways of understanding objects and their relationship to place.

Conclusion

The creative manoeuvres involved in material writing foreground the connection between modes of engagement rather than modes of expression, since it is our assertion that the expressions always contain bundles and traits of other expression through the body’s contact with the materiality of its environment. When material writing can prompt a movement between conceptual processes of capture and recognition and move towards perceptual exploration and sensory engagement, then writer and printers become hybrid-makers who collaborate to reach into the materials of the world and recompose experience.

In our discussions we have attempted to position material writing as an emphasis within writing that comes to the fore when dealing with specificity of sites, aspects of place and place-making and approaches to hybrid making. Through our formative experiences as artists and our approaches to the recent workshop, we suggest that the material writing begins to dissolve conceptual and perceptual domains. This emphasis would serve to recognize the complexity and multi-modality of the perceptual system and to incorporate technologies such as 3D printing that suspend our well-worn habits of assigning meaning, fixing identity, and designating value. By attending to the pathways afforded by writing’s materiality—its formal expressions and its embodied affects—a range of multimodal events and new ways of engaging with value and meaning unfold.

From our point of view as practitioners, as travellers, as hybrid makers and as persons caught between the local, the regional and the global, we have come to understand the flow across things to be the most conducive to encountering new people, objects and processes. As practitioners we strive to cultivate the ability to get drunk on water⁷ or to use the differences within sameness to ride the infrathin⁸ connections between things.



Jorge Di Silva: experiments with horizons at Doha workshop (photo J. Keane)

In Qatar, where our team of writer-practitioners delivered a platform of relations partly focused through the notion of material writing, the group focused on the ways in which a sensation, emotion and/or idea attaches to an object and how an object offers itself as an attractor (or node) for memory. Perhaps it is the blurring between memory and imagination, concepts of space and sensation of place, and audience and author, that artworks (we suggest that in some cases they may be called souvenirs), whether in SW Victoria or Qatar, bring into focus. Each member of our team has produced work that provides an example of this accentuation of blurring. It is the foregrounding of materials that allow one to consider the sand in Qatar differently from the sand on the Gold Coast of Australia or in the white sands outside Los Alamos, New Mexico. The materiality of the sand resonates across its global partnerships but is captured only when running through our fingers. The texture becomes indelibly imprinted on the context. The text emerges like volcanic eruptions with thousands of years of silt from the encroaching and receding Gulf.

Ferdinand de Saussure notes that language is never fully abstract (thought, ideas) and never fully embodied in any given moment or instance of materiality (sounds):

What takes place, is a somewhat mysterious process by which “thought-sound” evolves divisions, and a language takes shape with its linguistic units in between those two amorphous masses. One might think of it as being like air in contact with water: changes in atmospheric pressure break up the surface of the water into series of divisions, i.e. waves. The correlation between thought and sound, and the union of the two, is like that (1983: 111).

Any abstraction is also always material. The signified does not slide over the signifier (as Saussure, contra Lacan, put this relation). Rather, it catches on it, is interrupted by it, exerts and receives pressures at their intersection. Different methods of material

writing offered an array of modalities that enable us to understand the materials that flow through us and to catch-as-we-can the materiality of any given situation.

Written on the body now extends to written across the substrate of the semi-living. While the co-opting of materiality as a formative and generative force is alarming, the potential to write/make at the nano-levels of interaction challenges creative practitioners to engage with, critique and develop the potential of a world that is increasingly sampled, recombined, bespoke and able to be easily made and widely distributed. The materiality of writing does not diminish our ability to work on the virtual, the imaginative, the ideological but suggests that we need to develop and add to the repertoire of creative manoeuvres a set of material writing techniques to initiate hybrid processes of engagement.

Endnotes

1. Enaction is a notion used by researchers in cognitive science to describe the way in which embodied, situated and distributed cognition interact with, bring about or more accurately co-select the shared environment. See Stewart, Gapenne and Di Paolo (eds.), 2011.
2. In addition to the 3D printing lab, there is a [CTRL] [P] website for 3D printing and a program of events and public forum.
3. For more information on the BioPen prototype and to read the full article on 3D printing of living tissue cells see Daily Mail online: <<http://www.dailymail.co.uk/sciencetech/article-2520759/The-pen-lets-doctors-DRAW-new-bone-tissues-Device-filled-live-cells-seaweed-new-tissue-surgery.html>>
4. For discussions of Object Oriented Ontology see Harman (2010, 2011); Bryant, Srnicek and Harman (2011); Bryant (2011); Bogost (2012).
5. See Series foreword in Manning, Erin. *Relationescapes: Movement Art, Philosophy*. Cambridge MA: MIT Press, 2009, p ix-x.
6. Harman defines OOO through De Landa's notion of flat ontology. Harman states, "A flat ontology is one that allows countless layers of larger and smaller structures to have equal ontological dignity" (2008:12-13). However, Harman's ontology is not flat, unlike De Landa's and Latour's ontologies, because it includes two types of objects (real and sensual). However, Harman's ontology is flat in another sense, as it declares natural and unnatural (i.e. cultural and imaginary) objects to be real (Harman 2009: 215).
7. In *A Thousand Plateaus*, Deleuze and Guattari propose that things are connected in their potentiality and through immanence by advocating that one begin in the middle. Getting drunk on water (Henry Miller) indicates that it is not at the level of models but at the molecular level where indiscernibility and becoming indiscernible allows the means to change without starting over from zero. (Deleuze, G and Guattari, F (1987) *A Thousand Plateaus: Capitalism and Schizophrenia*. Brian Massumi (trans.) Minneapolis and London: University of Minnesota Press: 286.)
8. The term "infrathin" was coined by Marcel Duchamp to indicate the break the identity boundaries between objects. By proposing there are imperceptible differences between what seemed to be identical things, this distinction that both separates things from each other and allows for one thing to pass into another (Oblak 2000, n.p.).

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