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Intermingled Bodies

Distributed Agency in an Expanded Appreciation of Making

Abstract

This article offers an expanded view of making and, concomitantly, an understanding that through making we constitute the way we are in the world. The article begins with the idea that making produces a 'surrogate' of the body, which extends the body into the world, reforming the body and the world and their relationship. The ideas the article offers run counter to certain currents of thought that reduce making to a narrowcast anthropocentric crafting. Instead of this reduction, where making is merely understood and fixated as a close in embodied handicraft, the article advances: first, that all that we produce is making – not just that which is crafted by the immediacy of a hand; and, second, and linked to this expanded view of making, that all making works through a distributed agency that includes human and non-human actors and actants in meshworks that extend across space – synchronous - and across time – diachronous. In other words, the body is extended into the world through what is made and this made world acts ineluctably on, and in, making. The paper references the practices of three makers to make the case for the need, both ethical and poetic, to think about making as an expanded term and to consider an intentionality of making that works through distributed agency doubly constituted as material and narrative.

Keywords: agency, material, narrative, tact, apparatus, network, meshwork

Introduction

There is no longer a world beyond that which we have made. The world is produced, again and again, through our artifice. We are ineluctably constituted in the artificial; in and by what we have made. Whether into a technically advanced or technically primitive society, we are born into a world that is made. From our coming into the world, swaddling, crib, etc., to all subsequent experience, we are made by what is made. The made envelops all that we are and all that we may experience, including what we try to differentiate as the natural. The natural is experienced in what is made, e.g. clothes, cars, homes. It is mediated through both what is made, i.e. equipment and tools, and our making, i.e. paths, routes, maps. Finally, the very idea of nature is produced in the artifice of language, in the differentials of signs where the natural exists as contrast to the artificial. Since we homo sapiens first made, we became, in a sense, unnatural – our artifice cannot be shed. The made shapes and scripts the very, and every, contour of our existence. The made provides constraints on and freedoms for our being and becoming in the world.

As Tony Fry has pointed out, our derelictions in not directing critical attention to the artificial, or the made that is the compass of our contemporary existence amounts to a “gross deficiency of knowledge” (Fry, 1997, pp. 53-54). The occultation of the impact and potential of human action upon, as he writes, the “making and unmaking of the material, symbolic and natural worlds” (Ibid., pp. 53-54) is not only regrettable in the lack it leaves in our knowledge, but it is also an abnegation of our responsibilities not to question our actions in making in light of the impact that the made has had on shaping ontology; what we make alters, in small or large measure, the world around us and our being-in-the world.

It behoves us, therefore, to reflect not only on what we make, and how we are with what we make, which are increasingly important spheres of research in philosophy, e.g. object oriented ontology: O.O.O., and the social sciences, e.g. the ‘material culture’ turn, but also, and perhaps more importantly, both why we make and the way we make.

In the next section, referencing Elaine Scarry (1985), I advance the idea that early making was prompted by the body's awkwardness and fragility, and that what was made was a translation of the body that extended and made it easier for the body to be in the world. We make anything from medical equipment to implements of torture and non-material things, like democratic governance and, also of course, laws that support dictatorships. So the intentions that work through making are not always obvious, nor innocent, nor necessarily a panacea for our body's awkwardness or fragility. Yet, a trace of the body can still be detected in how we make, what we make and why we make, albeit very faintly. In these faint traces we may consider a way to conceive an ethics and poetics of making.

Making and the Body

In her book, *The Body in Pain: The Making and Unmaking of the World* (1985), Elaine Scarry uses the body as a locus to think through the essence of the made. The artefact, or made object, is in Scarry's view a "projection of the live body that itself reciprocates the live body" (Scarry, 1985, p. 280). The made thing is thus, for Scarry, mediation, and, in some ways, an extension of the body into the world that re-forms the world and the body and their relationship. A chair allows the body to sit, providing alternative legs that afford the seated position of the body, and the body's anatomy is adapted and becomes accustomed to sitting. A further example, the origin of the pot was to provide a super-extension to the cupped hands, which then affords the body the ability to carry water and other matter more efficiently.

The made thing is in Scarry's words "an altered surrogate of the body that resides in the material artefact" (Scarry, 1985, p. 280). It in some way extends and completes the body, allaying its discomfort and extending its capabilities into the world – extending the corporeal body, e.g. furniture, clothing, pots, extending the senses, e.g. viewing and hearing devices, such as telescopes, microscopes, cameras, telephones, radios, TV, and extending the mind, e.g. books, computers. The made thing, as in the aforementioned examples, shapes the world to the body, but in this, returns the world to the body to shape it as well.

Evident in the past, less so now, the 'altered surrogate' was produced to overcome the awkwardness of the body in the world; the altered surrogate being a transcription and prosthetic of the body. However, the altered surrogate that is the made object is produced and encountered in intricate relationships – between subjects, as bodies, other made-objects/things or surrogates, natural-phenomena and the various spaces of these relationships. There is increasing complexity in these relationships.

The next section, referencing Serres, presents these relationships as an "intermingling of bodies" (Serres quoted in Connor, 1999), and, making, haunted by unmaking, as an act that is ultimately moved to alleviate pain in this intermingling; pain considered in the broadest possible sense.

Intermingled Bodies

So even if we are inclined to think the body as the grounds of making, it is a body that both touches and is in touch with the extended touch of bodies and materials and the body's surrogates. In a concatenation of entities that touch, making and its concerns extend through the body's senses and surrogates into the world, and commutatively, making is touched by this extension; making happens in the jumble of the stuff of the world and in turn effects it.

Michel Serres writes:

... in the skin, through the skin, the world and the body touch, defining their common border. Contingency means mutual touching: world and body meet and caress in the skin. I do not like to speak of the place where my body exists as a milieu, preferring rather to say that things mingle among themselves and that I am no exception to this, that I mingle with the world,

which mingles itself in me. The skin intervenes in the things of the world and brings about their mingling (Serres quoted in Connor, 1999, p. 157).

However, not only making, but also unmaking is enacted in the inter-mingling of bodies. For Scarry the world, or part of it, is unmade in pain, and it is the internality of the body that is the site of pain. Pain, Scarry notes, is sensation, pure sensation without object. In torture, the tortured person experiences pain but has no way of objectifying it; – there is no object to which it is attached and it does not engender an object. Pain is detached from an external world – it is profoundly internalised. Although the actions of the world on the body are, in general, the cause of pain, pain is without object.

... physical pain is exceptional in the whole fabric of psychic, somatic, and perceptual states for being the only one that has no object. Though the capacity to experience physical pain is as primal a fact about the human being as is the capacity to hear, to touch, to desire, to fear, to hunger, it differs from these events, and from every other bodily and psychic event, by not having an object in the external world. Hearing and touch are of objects outside the boundaries of the body, as desire is desire of x, fear is fear of y, hunger is hunger for z; but pain is not ‘of’ or ‘for’ anything – it is itself alone (Scarry, 1985, p. 162).

With pain the world is detached from the subject; additionally, it is in pain that the person has the desire to move out and away from the body – to detach from the body and become removed from the world. The body hurt and in pain is an unmaking that unhitches the body from the world, but as a corollary, an injury to other bodies and harm to other entities is not felt in the nerve endings of the body, and so there is again a disconnection where pain undoes the intermingling of bodies. We do not feel the pain of others, nor can we feel, as pain, the harm done to matter and things that are not our bodies. It is precisely this impossibility that needs to be bridged in making. Although pain in other bodies and other entities is not perhaps immediately registered in the synapses, it is important that there is still an understanding of it, sympathetically or empathetically, in making.

In any real understanding of making there needs to be an appreciation of the unmaking that shadows it; an appreciation of the pain or harm that may be inflicted to not only a body, but also to the intermingling of bodies, – matter, things and environments. Pain in other bodies and other matter in the course of making, for example, on a small scale in the bruising that occurs in mishandling wood, and on a large scale in the scarification of the earth through deforestation, although not sensate nevertheless has implications for the body in its being in the world, – in its intermingling. This pain to others is a deferral and diversion of pain, which will return pain to some ‘body’ at some time. Deforestation caused by making practices unmakes future practices and, in so doing, causes pain for future generations, albeit immediately unfelt. One of Scarry’s examples of the altered surrogate is a bandage. It performs as a substitute for skin and acts to assuage pain in protecting a wound. This is a clear and persuasive, if somewhat weighted, example of the way making allays pain; but she makes a good case for all making having this motivation.

What follows, develops an idea of what may, or rather should, constitute the touch that connects bodies, practices, ideas and matter in the intermingling of bodies. The intermingling of bodies, in the processes in which we make, equate with what will be referred to later as distributed agency. I use ‘intermingled bodies’ here, rather than ‘distributed agency’ to emphasise a teleology that connects distributed agency to the body.

Tactful Engagement

It is in the appreciation of the way making and its shadow, unmaking, both allay and inflict pain that a maker is brought up to what Bakhtin calls the “non-alibi of the event” (Bakhtin,

1993); in other words, the ethical imperatives in making, there being no excuse for what making enacts. The ‘non-alibi’ produces the ‘ought’ of making, i.e. what makers, empathetic to other people, animals, matter and environments, should do in order to allay pain, be it actual corporeal, or reified trans-corporeal pain. I use the term trans-corporeal pain to index the idea of pain beyond the sensation of pain – the idea of pain experienced in empathy or imagined in sympathy – our only way of attaching pain to the object, whether body or world.

The touch in making is not only the touch that is developed in sensitive contact with tools and materials, but is also in line with Serres’s idea of intermingled bodies, the contact with and between contingent practices, environments and other constructs. It is in a consideration of touch that the ought of making can be addressed. Makers need to be concerned and aware of the touch of making close in, for example, bruising wood, and further out, and a longer way off, de-forestation. Touch, in the intermingling of bodies, provides a rubric for making in which one can consider how making dispels or causes pain, e.g. a sensitive and delicate touch as opposed to an insensitive and bruising touch. We may consider touch that has sensitivity, delicacy, and diplomacy, and seeks to produce harmony, as being ‘tactful’.

For, Michel de Certeau, tact is “. . . the apprehension and creation of a ‘harmony’ among particular practices, the ethical and poetic gesture of *religere* [...]. . . tying together through an indefinite series of concrete acts” (de Certeau, 1984, p. 74). In de Certeau’s definition, tact is both ethical and poetic. The ethical dimension of making is the non-alibi or ought, which I have above, shamelessly using Scarry, tried to frame around the notion of pain. It is through tact as impossible sensitivity to the pain distributed in the intermingling of bodies, objects and environments that the ought of practice ought *to* be developed. Makers have a duty of care in the production of surrogates that extends from the body and the immediate situation of making – the hand touching clay, wood, pen, paper, etc. – in a dynamic spiral out into the world beyond, along threads of actors and actants on which making depends, from wood to forest and, in the example that follows later, from shell appliqué to the ocean shore, and through a further cobweb of actors and actants, which making affects and influences from the moment of first engaging in use to eventual disposal or update.

The second aspect of tact is poetic; here, the poetic may be understood as the organisation of forms, materials and practices so that they resonate with, and produce a resonance in us, in being. What resonates does so in the surprise of connection, and at the same time, somewhat paradoxically, in striking a familiar chord in the complex arrangements of our lives. The poetic is rhizomatic in nature; it sets out roots and shoots that break and reform, reproduce and transform across the possibilities in the intermingling of things, matter and ideas. The poetic *religere* engages with the notion of complexity, weaving together disparate elements in a complex and evolving structure, making connections across time and space, not in rational but rather in surrational ways. The surrational does not stand in opposition to a rational programme in making, but rather enriches and revitalises it with an abandoned interplay across material and non-material practices – from material manipulation to discourse. The poetic places making in political, economic, social and cultural contexts, in which, and for which, making takes place and it plays in these spaces.

We can roughly equate de Certeau’s ‘poetic’ with Scarry’s determination of the ‘imagination’. Scarry places the imagination as a framing event that defines one limit of human experience, and pain at the other; between pain and the imagination “all other perceptual, somatic, and emotional events occur” (Scarry, 1985, p. 165). For her, both framing events are disassociations from the body. She writes: “While pain is a state remarkable for being wholly without objects, the imagination is remarkable for being a state that is wholly its objects” (Ibid., p. 162). There is no felt occurrence, no sensation in

imagining. In imagining, the imaginary objects appear in (to) the mind without sentience. The phenomena of creating or making, Scarry says, resides in and arises out of the “framing of intentional relations between physical pain on the one hand and imagined objects on the other, a framing relation that as it enters the visible world from the privacy of the human interior becomes work and its worked objects” (Ibid., p. 280). Pain and the imagination, in extending out and beyond the body, become the ethical and poetic in de Certeau’s *religare* or tact.

In the next section, I will consider the thinking that is needed in tactful making.

Making and Thinking

Most theorisation of thinking and of knowledge that goes into making in design and craft practices starts with the body. Most of it ends there, too, or at least at the point of immediate contact, where the body is in contact with tools and materials. In this limitation, the thinking/knowledge of, in and for making, – thinking that is necessary for making, – is embodied, tacit, working through a hardwiring of brain, bones, sinews, muscles and flesh. This is what Michael Polanyi in his book *Personal Knowledge* (1974) calls ‘tacit thinking’ and/or ‘tacit knowledge’. In explanations of the thinking of making since, tacit thinking/knowledge has become a default theory.

In fairness, there is no doubt that making at hand, as hand crafting, is dependent on unconscious skills and knowledge which are ingrained in the body through repetition – simply Polanyi’s tacit knowledge. Tacit knowledge is passed down through linear history from expert to acolyte. It is knowledge secured in unchanging actions and mimesis. The glassblower learns in emulating the practice of a master glassblower. He/she gains practical knowledge through regular and frequent practice and the use of blow-pipes, punties, paddles, parchoffi sticks, puffers, tweezers, footing tools and so on. The glassblower also develops an adeptness in techniques in which the mouth is shaped and the lungs are used to control the delivery of air down the blow-pipe to give form to a formless wodge of molten glass. The glassblower also develops the ability in eyes, ears, hands and so on to be familiar with signs that indicate the way material is behaving in processes of transformation. To illustrate: in the past I worked with a glassblower on an art piece that required the spinning of two different colours of glass to produce cased glass. He, a master at his craft, knew which colour was cooling down faster and exactly when and where to apply heat. He told me he could hear the movement of the expansion of different coloured glasses and his actions were a response to their conversation with him. Even though he held the blow-pipe to my ear I couldn’t hear a thing. Unlike him, I wasn’t practiced in this.

Tacit knowledge moves “work and its worked objects” back into the body, into “the privacy of the human interior” (Scarry, 1985, p. 280) hidden from explication and disengaged from anything beyond the immediacy of an embodied practice. Hubert Dreyfus, following Polanyi’s line, holds that practical expertise, or phronesis, and indeed all thinking, exceeds knowledge ruled by discrete symbols and representations, i.e. languaged or explicit knowing (Dreyfus quoted in Sutton, 2008, p. 49). The gaining of expertise in practical skills for Dreyfus is a movement away from explicit thinking towards tacit thinking. Dreyfus does grant that explicit thinking is a factor in practical expertise, albeit “epiphenomenal” (Dreyfus quoted in Sutton, 2008, p. 49). Primary phenomena are, for Dreyfus, the practico-technical skills of the practitioner, which, for him, are predominantly tacit – as know-how, savvy (*savoir faire* in de Certeau, 1984) or nous.

Making where explicit thinking is occulted or merely epiphenomenal is one where the practice has a highly determined set of processes and techniques and its aims and outcomes are circumscribed – the *causa finalis* is delimited. The *causa finalis* is the final cause or purpose in a classical model of causality (see Aristotle’s four causes [Aristotle, 1966]). The skilled potter, weaver, joiner, plasterer, glassblower, as well as the golfer, tennis player and so

on, for the most part, have no need to explicate knowledge or deploy explicit knowledge in making; as what they do and why they do what they do ultimately is fixed by custom and expectation. A teacher, master craftsman or coach may be able to see from the outside where things may be improved and relay this through language and/or demonstration. However, in the final analysis, it is the inarticulate, language-free body of the practitioner in communion with tools, equipment and materials that is the constructor of know-how in making anything from a pot to a topspin backhand. These examples are highly motivated forms of making, however – relevance in the *causa finalis*, in these examples is, arguably, mostly prescribed. There is no questioning of typology, effect, trade or game. For instance, the making of pots is, for the most part, significantly secured by heritage – the context of production and consumption delimited by the history of pottery. To elaborate, the potter works with determined materials, viz. clay and porcelain (*causa materialis*), a few limited options of constructing, viz. throwing, coiling and slabbing (*causa efficiens*) and a variety of forms bracketed by the determination of a prescribed typology, viz. a pot (*causa formalis*) (Aristotle, 1966). The very limitations of pottery, when the *causa finalis* is pre-determined, are what make the know-how of the potter phenomenal; practical skill, or phronesis, is fetishized and explicit thinking occulted. However, when the skill is un-tethered from the regular motivations of the craft – that which produces the *causa finalis* – there is a need to question and re-conceive practice in light of other critical motivations. Arguably too, the most inventive craftsmen intentionally reconfigure and stretch their practices in light of new motivations, whether practical, conceptual or both. In this pass, there is need for an urgent engagement in the worldliness of the practice, with the physico-practical inter-connections and the socio-cultural significance of the practice.

Therefore, to sum up this section, I am in accord with Dreyfus in his appreciation that tacit knowledge exceeds any explanation of it, but I do hold that tacit knowledge is an incomplete theory of thinking of making, and tacking explicit thinking onto tacit thinking as something epi-phenomenal avoids the problematic thinking in tactful making. I do accept that for some making explicit thinking is epi-phenomenal and in some making occulted, but this is when the causes – materials, processes, forms and outcomes – are determined. For making that is concerned with being ‘tactful’, the thinking of making is an inter-ventilation of tacit and explicit thinking. In tactful making, embodied practices need to be held up to account – doing and critical reflection must work with each other. What thinking in tactful making needs is a relationship, in cognition and engagement, between material practice and the world of ideas – an intertwining of doing, “*savoir faire*”, and saying, “*savoir dire*” (de Certeau, 1984). This is illustrated in the examples later on in the article, but next I would like to consider intentionality and the knowledge that drives two distinct approaches to making, viz. craft-based and design-based making.

Intentionality and Making: Craft-based and Design-based

There are numerous definitions of design, and adding one more to a list is not particularly useful. However, it is important in an expanded idea of making to appreciate the interconnectedness of design and making. Design, perhaps, may be thought of in terms of ‘intentionality’ that figures, draws making out of or elevates making to its significance and resonance in the world. In Herbert Dreyfus’s phenomenology of everyday experience he proposes “two distinct kinds of intentional behaviour: deliberative planned action and spontaneous, transparent coping” (Dreyfus, 2002, p. 417 quoted in Sutton, 2008, p. 49). To some extent design-based making can be seen as dependent on the former whereas craft-based making is essentially the latter. In craft there is a tactical response to opportunities and ideas that present themselves in material engagement. Design-based making, although at points in the making process responding to what is presented in material engagement, is to some degree

strategically motivated. Design-based making is, in contrast to craft-based making, not tied to and motivated by the practical skills of a maker; not intrinsically dependent on the know-how of a maker. I suppose one may make a distinction between a ‘know-how’ driven practice, craft, and a ‘know-why’ driven practice, i.e. design. The distinction is not absolute and, as will be seen in what follows, I believe that know-how needs a critical dimension that connects it to the know-why in craft based making. Equally there is always a know-how that subtends design-based making and this too needs to be acknowledged.

In design-based making, know-how courses through the practice; in designing one thinks through materialization. Drawings, diagrams, models, material experimentation and so on – viz. material thinking – underpins design-based making. Yet, what is conceived and ultimately made is not of necessity motivated by the practical ken of a maker. A designer circumscribed by a network of exigencies will conceive and detail the making of anything from a building, to a toaster, to a pair of spectacles, without necessarily having the practical skills to complete the making of it. They will know whom to ask and what to ask to get it made and have to engage a wider network of actors and actants, human and non-human, than perhaps a craftsman will.

Thomas Thwaites’s “Toaster Project”

Thomas Thwaites’s “Toaster Project” (Thwaites, 2011) is his attempt to craft a basic electronic device that is essentially a design-based make, to wit, a toaster. Thwaites’s project took up the challenge implicit in a quote of Douglas Adams, “. . . left to his own devices he couldn’t build a toaster. He could just about make a sandwich and that was it” (Adams quoted in Thwaites, 2010). Thwaites’s project was an attempt to make a toaster from scratch; thus, trying to turn what is designed and made by many into what is only crafted by his own hand. I also read it as an attempt to make making transparent. It is usually opaque because it is distributed across the time and space of different expertise, materials and equipment. Thwaites had access to a number of experts on the way to building the toaster, but only to divulge information to help him make. The making skills of others and an existing manufacturing infrastructure of others he consciously tried not to access. He made his own plastic, mined the mica and other elements of the toaster, and generally set out to make the thing from first principles – gathering raw materials, refining them and working them into what he hoped would be a workable toaster which he modelled on an inexpensive toaster in the Argos store. The result of his quixotic enterprise was a valiant but ultimately pathetic device (see Fig. 1). He claimed it worked once but then gave up the ghost (see Thwaites, 2010, 2011).

It is clear in Thwaites’s witty illustration that his making skills were inadequate to the task of crafting with any sophistication even the simplest of electronic objects. The project ultimately registers the impossibility of a sole maker making something that is essentially made “by an entire civilization” (taken from a blurb about the Tedtalk, Thwaites, 2010).

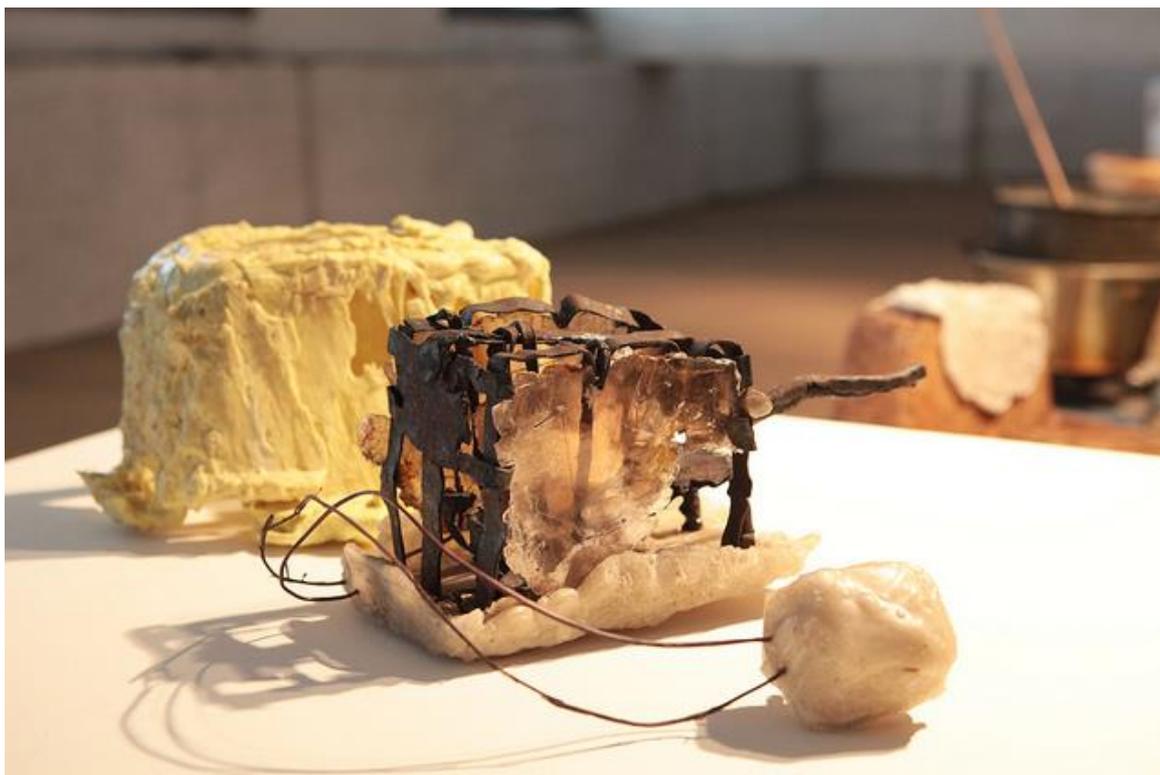


Fig. 1 Thwaites's Toaster ~ Photo by Rubra: Ars Electronica (accessed August 2012 at: <http://www.flickr.com/photos/arselectronica/4951407508/>)

The Inevitability of Distributed Agency

Thwaites's project illustrates that design-based making is necessarily distributed and that the know-how of a single maker is insufficient to the task of making the simplest technological object. I would argue that all making, not only design-based making, is implicated, folded into an extended and distributed agency – enfolded in the agency of intermingled bodies – where the only distinction between craft and design-based making is in the primary motivation; craft motivated by know-how and design, know-why. Craft and design necessarily interpenetrate each other, but in different ways, through the two types of making.

The potter is reliant on a wheel and on tools that are produced by other actors and actants; perhaps even factory produced. A weaver will work on a Jacquard loom that is built by others, using cotton thread, picked, treated and produced in another nexus of actors and actants – equipment, spaces and people – and brought to the studio through yet another nexus of actors and actants involved in distribution and retail. It is consequently hard to see how any making can be regarded as a pure and authentic engagement where a “delimited agent, the ‘self’ ... perform(s) a delimited ‘purposive’ action upon a delimited object” (Bateson quoted in Malafouris, 2008, p. 21), which is how some are wont to figure it. It is, for me, self-evident that all making, craft-based and design-based, works in agencies multiply constituted, distributed across both time and space. It is not possible to delimit making wholly to the maker's hand and what is at hand for the maker, i.e. craft-based making – and, consequently, it is also not possible to rest exclusively on a description of thinking in making as exclusively tacit.

An agent is defined as “any element which bends space around itself, makes other elements dependent on itself and translates their will into a language of its own” (Callon and Latour, 1981 quoted in Malafouris, 2008, p. 33). In his essay “At the Potter's Wheel” (Malafouris, 2008, pp. 19–37), Lambros Malafouris explores making pots as a process, or act,

carried out in a “distributed assembly bound by synchronisation of neurons, fingers and clay” (Ibid. p. 27). A very crude approximation of Malafouris’s well-crafted argument is that potting, as an example of a voluntary act, collapses the boundary between the mental and physical; the plasticity of clay and plasticity of mind are inseparable in the thinking and action of making a pot. Malafouris is interested in looking between rather than within persons and things in constructing an agency of making. Cognition, and intentionality, is therefore in this mindset, in the action of brain in connection with the body and, by extension, with the clay and the tools. Clay and tools, thus, Malafouris argues, are not just passive objects that are moved by the potter’s intentions but active elements of agency. Malafouris writes,

...while agency and intentionality may not be properties of things, they are not properties of humans either: they are the properties of material engagement that is of the grey zone where brain, body and culture conflate” (Ibid. p. 22).

I concur that cognition in the action of throwing a pot is constituted in the distributed assembly of mind, body, tools and materials. In Malafouris’s chrono-architecture of potting, the dynamic of agency and intentionality shifts through phases of time from the potter directing the contours of the pot, and thus the activity, to the wheel and/or the clay taking over and guiding the hand and mind of the potter; intentionality shifts in the process of potting so that a different dynamic of connected entities directs the action.

Malafouris, in a post-human gesture, gives equal value to all entities, animate and inanimate, in the intentionality produced in the shifting dynamics of structuring agency. Although I am seduced by this for all sorts of reasons, including the dream of a trans-anthropocentric ethics of making, I am not absolutely convinced. I agree that

... as with many other dimensions of the human mind, intentionality should be understood as a distributed, emergent and interactive phenomenon rather than as a subjective mental state . . . [and that] . . . agency is not a property but the emergent product of ‘irreducible tension of mediated activity . . . [in which] . . . material or human predications of agency make sense only from the perspective of dynamic spatio-temporal relations (Wertsch quoted in Malafouris, 2008, p. 33).

Malafouris’s idea of agency is, for me, partial; perhaps because of the limitations of the practice on which he builds his case. The particular potting practice he describes being set in the prescription of a semi- and pre-determined causal bracketing across all four of Aristotle’s causes – *causa formalis (pot)*, *materialis (clay)*, *efficiens (throwing)* and *finalis (pottery/vessel)* as I have described above. However, even in a highly motivated practice of potting I believe there is still a need to figure the volition to and, even more importantly, responsibility for the act in a conceptualisation of the agency of making. His account of agency is too insular. It needs to engage with what is outside the material agency that is immediate to pot-making so that the practice connects to its cultural history and social responsibility. Malafouris’s practice may well do this, but if it does, he fails to mention it in his account. See how the works of potters from Bernard Leach to Magdalene Odundo, from Grayson Perry to the Ardmore ceramicists are thus connected to a social and/or cultural context.

Agency as Meshwork

Malafouris’s idea of material agency presents within it an even distribution of intentionality. There are difficulties sustaining this idea when one questions how the complex of agency is motivated. There is surely an intention of a maker brought to the wheel and clay. Responsibility is impossible to question of an even network; the ought of the act is dissolved

in the equality of influence – everything or nothing shoulders blame and credit. There are surely different weights to the forces of influence in the compass of “dynamic spatio-temporal relationships” of material agency in the potting that Malafouris articulates. All entities are active but some are activated in (actants), and others activate (actors) the flow of activity, exerting different forces in the dynamics working through the chrono-architecture of making.

I find support for a less rigid architecture of agency in Tim Ingold’s paper, “When ANT meets SPIDER: Social theory for arthropods” (Ingold, 2008). The capitalization is intended – ANT is Actor Network Theory and SPIDER stands for Skilled Practice Involves Developmentally Embodied Responsiveness. Ingold argues that agency is not a network in the way Actor Network Theory (ANT) describes it: a network in which all actors have equal influence and are determined in their relationships. Ingold asserts that the action of an organism, including the actions of makers, produces a mesh of a kind, but agency is not distributed evenly in the mesh. The mesh is a “fluid medium with its pressure gradients and lines of force. It is not an assemblage of discrete material objects” (Ingold, 2008, p. 212).

An extract from his paper further illuminates the assertion. In this, a SPIDER is conversing with an ANT. The SPIDER is making a case for ‘meshworks’ to explain agency, which his web is an example of, rather than a ‘network’, which the ANT’s nest and trails exemplify. The SPIDER speaks:

It is as though my body were formed through knotting together threads of life that run out through my many legs into the web and thence to the wider environment. The world, for me, is not an assemblage of heterogeneous bits and pieces but a tangle of threads and pathways. Let us call it a meshwork, so as to distinguish it from your network. My claim, then, is that action is not so much the result of an agency that is distributed around the network, but emerges from the interplay of forces that are conducted along the lines of the meshwork (Ingold, 2007, p. 212).

The meshwork is produced in action and the entities that make up the mesh of agency “enact each other . . . [and as consequence] . . . agency becomes ubiquitous, endlessly extended through webs of materialized relations” (Clark, 2008, p. 11). The endless extension of these ‘materialized relations’ doesn’t mean that it is impossible to engage with any of these, but those contained in the studio or workshop of a maker. The concerns of a maker will set the focus and limits of engagement with these materialized relations but, as will be seen in what follows, there is a need in making to think beyond the workbench, potter’s wheel, press, loom and so on. How far and where the concerns are focused is, I contend, part of the skill and the decisions of making.

Prior Intention

Making is prepared by its tethers. The tethers to particular practices, constructs and behaviours present “networks . . . [meshes] . . . of intentional states” (Searle quoted in Malafouris, 2008) that are the prepared ground of making. These then form a background to the immediacy of the actions of making – the actions of shaping, constructing, modelling, casting, carving, growing, throwing, printing, rubbing and so on.

The ought of making, the prior intention and responsibilities of making, are worked through in knowledge that draws threads from the tissues of contingencies, the tethers, which contextualise making. The prior intentions and their continued influence in the background of the intention of action in the immediacy of making are developed in a mesh of material and non-material agency, actors and actants, interconnected across time (diachronous) and/or across space (synchronous). So, for example, the prior intention of potting may be constructed, wittingly or unwittingly, in reference to social and/or cultural history through which typological form and function and an aesthetic vocabulary may be pre-intended.

Equally possible, prior intentions may be established in meshes of relations, contiguous or non-contiguous, that extend across a critical geography, out and beyond the locality of crafting, making connections to other cultures of practice.

Prior intention clearly forms a narrative to the practice. I believe if making is intelligent and tactful it cannot be disingenuous and not engage with its narrative agency. The dynamic of the mesh that forms prior intention and then backgrounds making, narrative agency, intermeshes with material agency, in which the made is crafted. It connects the ‘here’ and ‘now’ of making, the foreground of intention in action, to a ‘there’ and ‘then’, its background – in other words, it builds towards a poetics in making.

To illustrate the necessity to have a narrative agency as background to a foregrounded material agency, I draw on the examples of two making practices. The one practice shows the limitations of a craft-based making practice, which is disconnected from a narrative background, and is, to some extent, un-poetic. The other practice uses narrative agency to overcome the shame of a craft-based practice where toxic practices are used to extract the material used in the making.

Un-tethered Practice Phronesis

My colleagues and I were in Korea as guests of the Korean Design Centre. We were there to run workshops with design students from different areas of Korea. At the behest of the Design Centre we were also taken to meet expert makers of the region and, from our perspectives, as international, to them, lecturers in design, we were asked to advise them as to how they may extend the reach of what they do. We visited a potter, a bamboo craftsman and an expert in shell inlay and lacquer work. The problematic of the work of the latter expert, although perhaps more sharply etched, was also typical of the other two – material agency without a substantive narrative back-grounding the practice.

The phronetic knowledge of the inlay and lacquer expert was apparent in the sensitive way in which he worked with the materials of his practice – from preparation, e.g. preparing the lacquer, delaminating and cutting the shell (in Fig. 2), to deployment of the materials, e.g. inlaying shell and lacquering artefact. The maker, let’s call him Mr. Lee, had learnt his skills in an apprenticeship to a master maker and now he, as a master maker himself, had apprentices, too. His profound knowledge of his materials, tools and techniques was apparent; he was adept not only in traditional forms of making, but also had invented new ways of combining and working materials. He had learnt and had developed his making and he was indisputably a master at what he did, with much to pass on to others.



Fig. 2 Mr Lee prepares colour lacquer for use (photo on left), and right, uses a saw to cut delaminated shell.

The Design Centre had told us that Mr. Lee was eager to talk to us because he wanted to crack (sic) an international market. We went into the meeting thinking that we would raise ideas

with him about exposure of his practice and the marketing of his work internationally, e.g. internet presence (he had none), fairs, exhibitions and so on. Although this is something we did talk through with him, after looking at his work and in conversation with him, it became clear that there were difficulties with the work itself. Mr. Lee felt this too – it was he, in fact, that raised it.

The expertise manifest in the ‘intention in action’, in the dynamic interactions between Mr. Lee, the tools (saw, brushes), the materials (lacquer, shells, paper, wood) is highly evolved (see Fig. 2). In these interactions there was not only creativity but also material invention. The difficulty in the practice was in the lack of any prior intention apart from a need, unashamedly admitted by Mr. Lee, to sell the work. What, therefore, provided reference for form and imagery was other work that he saw was selling. This course of action, of course, was self-defeating. He was chasing after others and so his work did not have uniqueness he could use as a selling point. He was making work in reflective mimesis – drawing on patterns and typologies he had seen elsewhere, but was not really connected to. Mr. Lee’s work, and his history, did not seem linked to the exigencies of a situation and circumstance that produced the aesthetic he reproduced – his making seemed not to be connected through religion, spirituality, geography and so on to the landscapes, flora, fauna and other events he portrayed. The work he made was keyed in to a nether world of aesthetic pastiche – the images arose from the aesthetic expectation of inlay and lacquer work, and this alone (see images of his work in Fig. 3 below, coffee table with a tree pattern like those produced in Japanese lacquer-ware, and on the right, a floral butterfly arrangement of indeterminate cultural attachment).



Fig. 3 Images of Mr. Lee’s studio work.

The education, or sources, of craft work, I believe, benefit enormously by being motivated by a strong tie to an authentic tradition and history; in Mr. Lee’s case, real Korean narratives, symbols, images, – a diachronous narrative mesh. Alternatively, it could be motivated in connection to ‘other’ practices, discourses and contexts, which are important in constructing ‘relevant’ contemporary narratives; thus, synchronous and/or diachronous. Important in all of this, quite obviously, is Mr. Lee’s connection to the narratives that background the work.

In order to do this, a maker needs to appreciate where he/she, the studio and the other actors of the agency of making, human and non-human, are acting from. The agency of making needs to be positioned and an agency of making needs a narration that starts from *circum-stance*, position and milieu. A maker’s work needs to be anchored to what matters to him or her – enmeshed in his or her philosophy, history and geography.

Mr. Lee’s work, in the way we read it, lacked a narration and, indeed, an understanding of the circum-stance from which narrative can be built. At the same time, Mr. Lee is caught up in socio-cultural, political, economic apparatuses. His need to crack new

markets and his preparedness to make in other ways and, other things, than he does presently indicates just how much these apparatuses are working into the mesh of his making. An economic apparatus acts on his practice; quite simply, he needs to sell to make and what he can make is determined by what he sells. He needs to pay for materials, the studio and pay his apprentices and shop assistants. This is in part the ought of his making; the making needs to make money. It is the particular way in which the skill of making is made the unique marketable feature in his work that I am critical of.

An urgency to sell can blind a maker to other motivations of making. Making should first make sense to a maker and, second, resonate with others. If it does the maker will, no doubt, find buyers. It is precisely when making detaches from tethers to social, cultural, political histories and geographies that it also becomes un-tethered from markets. Even in highly motivated practices I believe the valorization of skill is not enough to sell and, more importantly, mean anything to anyone.

The point I am making is that a maker should be true to the circum-stances of their making and the worlds that circumscribe and create context for making; engaged poetically (Scarry's imagination) and ethically (Scarry's pain) with both material and narrative agency.

Tethered Making

Nicholas O'Donnell Hoare's (Nic) graduating project on our MA Design Critical Practice at Goldsmiths, University of London, connected his jewelry making to the (mal)practices of gold mining. He was concerned about the provenance of the metals that found their way to his workbench, and since he had previously made work from gold, he focused the research for his major project on gold mining. He encountered obfuscation and other obstructions in getting to the truth about gold mining and gold extraction. What he did learn horrified him – particularly, the toxic environments produced in gold production.

The use of mercury in gold mining is banned in a number of countries, but because the price of gold has more than tripled since 2001 and mercury is the easiest way to extract it, its use in gold production is widespread – used even in those countries where it is illegal. Small-scale gold mining is the second-worst source of mercury pollution in the world. Only the burning of fossil fuels is worse. Nic focused his work on a particular village in the Amazon Basin. Inhabitants of the village use mercury to extract gold from alluvial matter. They mix mercury into the river silt with bare hands, exposing themselves to mercury poisoning. Once they have extracted the gold, they then pour the mercury into the river, poisoning the river environment and their own village, which is downstream from the mining.

At first he was inclined to give up making jewelry, particularly jewelry using metals like gold. He, however, reflected on the meshworks of his practice and how they were connected with the apparatuses of gold production and also how the practice was bound to a socio-cultural axiology that places high value on gold artifacts. Given his concerns, Nic decided to turn his making to trying to make a difference in a place where they mined gold. Nic decided he would use the practical skills of jewelry to make retorts, mercury condensing kits, which can be used to minimize the risk of mercury poisoning in extraction and disposal. Nic realized he couldn't ask the artisan miners to stop using mercury because, at present, at the scale they mine, this is the only kind of mining they can do, and their livelihoods and the livelihoods of their families depend on it. Gold-mining is crucial for their existence, so there is no way they can stop, but he could see a way to make their mining safer through his making.

There is nothing new in the principles of the retort. Nic used his making skills to make a lighter more effective retort; where the real innovation in the project lay is in how he used jewelry making to fund the retort making and its delivery. He designed a system whereby owners of gold jewelry could, for various reasons, ask to have their jewelry re-designed and

re-made, and he was disposed to do it. For example, because of divorce, or because they don't like or have outgrown the design, a person may wish their jewelry re-designed (wedding ring or other) or, indeed, they may quite simply see the value of the project and want to contribute. With each new design there is a cost exacted; the cost is extracted from the piece of jewelry (ring) itself. Each newly designed piece of jewelry is made with less gold than the original; value is in the contribution to the project and in the design and making – not necessarily in the amount of material used. This presents a novel socio-cultural axiology for jewelry – a challenge to regular notions of value. The gold donated in the exchange, old design for new, is then formed again into jewelry, which is then sold, the profits used to fund the retorts.

In the example of Nic's project, the agency of making is used to question the circumstances (across production and consumption) of his practice as a jeweler. The narrative, beginning with his ethical concerns, is a narrative of tact, moving in a spiral dynamic, contiguously, from himself to other actors and actants in the mesh until the dynamic touches the itinerant miners, their river and their village (see diagrams in Fig. 5 – the left side maps the way he is thinking through the way one may make behaviour change to gold production and jewelry across three ecologies viz. mental, social and environmental, and the right side illustrates the actors and actants implicated in the production and consumption of jewelry, from airplanes to fish). Furthermore, each piece of jewelry that Nic designs would need to be directed to the personal narratives of the person commissioning the piece or to other socio-cultural forms with which they identify. Fig. 6 is an un-designed illustration of a ring with gold extracted to pay for the retort kit, which is itself shown on the left.

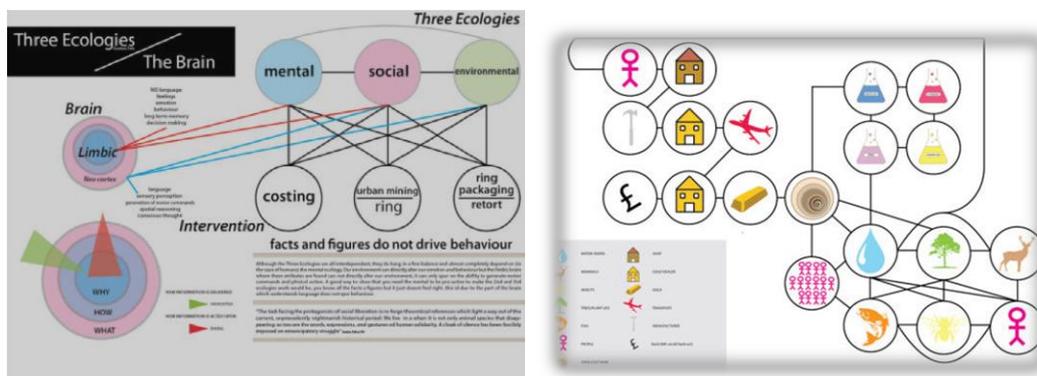


Fig. 5 Some of Nic's diagrams working through the way his practice may critically engage and enmesh in the apparatuses of gold production and consumption.



Fig. 6 On the left, a simple ring design indicating clearly where gold is extracted; on the right, Nic's retort kit.

Comparison of the Two Practices

Both Mr. Lee's and Nic's practices, all making practice for that matter, are necessarily engaged in a four-dimensional meshwork – spatial (3-axis) and temporal – but the imaginative focus given the *intentionality* running through each practice is motivated differently.

Nic's project works through a questioning of the interplay of forces that run through making as a spatialised practice – the performances of production and consumption that interplay across different practices – mining, extracting, exporting, wearing gold – and different geographies – river, village, Brazil, England – resulting in the production of a piece of jewelry (Fig. 5 on the right). This spacing of practice is where the project is narrated, where prior intention is drawn. Nic essentially draws out a synchronous meshwork in developing his project. One can see it evidenced in the diagrams above (Fig. 5). He also makes the ethical dimensions of his making poetic, drawing it into the narratives of his practice. He seeks to address the moral problems of the distributed material agency of making gold jewelry, and also draws this narrative through his work. This narrative is both social, in the concern for the community, and environmental, in the concern for damage done to the natural habitat of the Amazon Basin.

The material agency in which Mr. Lee is enmeshed is also 'a tangle of threads and pathways' that crisscross natural and artificial environments. For instance, the mollusk that produces the nacre from which the mother of pearl is formed is part of the mesh of making – the material agency – in which Mr. Lee is an actor. Other entities in the mesh, actors and actants, also include those people that collect the shells, their equipment, the vehicles and drivers that transport the shells, as well as his studio, tools, other materials, his assistants and so on. One may extend the entities in the material agency to the environment that supports the mollusk – sea, fish, sand, rock, etc. The ought of Mr. Lee's making runs, again, through both the social and environmental in the material agency of his making. Mr. Lee is implicated in caring for his employees and he has responsibilities for contractors and other human actors in the meshwork. His practice would be affected by any damage to environmental actors and actants in the distributed agency of his making. If the mollusk that produces the shell on which his making depends is threatened and brought to extinction, he will be affected. Therefore, even if the mollusk is not part of the narrative of his making, he still has a duty of care for it and needs to ensure that it isn't harmed – caused pain. The narratives of Mr. Lee's practice could indeed be about the mollusk and other actants in the distribution of material agency, but it seems to me that the narrative agency in his practice is not geographic, synchronous, but hints at being one of history and tradition, therefore diachronous.

Conclusion: Apparatuses and the Agency of Making

In conclusion I will summarise the ideas of this article and provide a synopsis of the substantive part of the article's thesis.

In the introduction I advance that a critical perspective into making is crucially important as we are inescapably made by what we make, thus we need to think through how what we make makes us; and further, think about how what we have made ineluctably shapes what we will make – in other words, we make within and with what is already made. The made world is a 'hauntology' (ala Derrida) haunting and forming the way we are and the way we make.

In order to build a compelling argument for the importance of considering making in this way and to lay building blocks for further evolvment of a theory of making, I start with thinking through why we make and what the made artifact is. Referencing Scarry (1985), I

begin at the body and with the idea that the thing made, at a fundamental level, may be thought about as a surrogate that compensates for the body's awkwardness and fragility in the world, extending the body into the world. In line with the assertions in the introduction, the world is, in turn, affected by making and what is made. Referencing Scarry (Ibid.) again, I introduce the idea of pain and call for its consideration in the course of making. Scarry's argument is that we make mainly in order to allay pain. However, what and how we make may cause pain, actual or conceptual, intentionally (implements of torture and war) or unintentionally. Pain is used in the article in order to indicate where an ethics of making may begin to be conceived. This is developed through the rest of the article in terms of a Bakhtinian "ought" (Bakhtin, 1993); we ought to consider the effect of making in relation to pain. The imagination is set in counterpoint to pain, and rather glibly summarized, is the capacity to extend the possibility of what is present in the world – actually or virtually. As Scarry (1985) points out, making can be thought about in terms of, on one hand, the poetics of the imagination and on the other, the problematics of pain. This is incorporated in the idea(s) throughout the rest of the article.

Appreciating that we need to consider a multiplication of the body and the artifact in attempts to theorize making, I introduce the notion of an "intermingling of bodies" (borrowed from Serres, 1995). The body and its surrogate are in the world with other bodies and other surrogates. As I indeed pick up and repeat at various points in the article, making is not just the one to one of maker, making and the made thing, but is inevitably in the many to many because it is of and inescapably in the 'intermingling of bodies'; the mingling of subjects and objects – both material and de-material. At this juncture, I use de Certeau's (1984) idea of "tact" to conceive a sensitive way – poetic and ethical – of connecting in making, events (actions and practices), objects and spaces in the intermingling of bodies.

I then distinguish between craft-based and design-based making – one know-how driven and the other know-why driven – and show that in both cases there is a need to consider making in the intermingling of bodies (also illustrated later in the case studies), and in some way collapse a distinction where craft is making and what is not is production. Arguably, all making is stretched beyond an individual maker – even the ostensibly simplest craft practice is dependent on extended, distributed practices, e.g. the potter is dependent on the maker of the potting-wheel (who in turn is dependent on a number of others, for instance, makers of metal and wood components used). The potter is also dependent on a clay supplier, the kiln producer (like the maker of the potting-wheel, again with numerous dependencies) and so on; in this, the making of a pot is hardly dissimilar to the making of a toaster – the complexity of the extended, distributed agency of the making of the toaster is wittily illustrated in the example of Thomas Thwaites's pathetic device (Fig. 1).

I also raise the problem of knowledge that works through craft, and in fairness, to an extent through design making. I critique the exclusiveness of the use of tacit knowledge to explain knowing in making. Tacit knowledge amongst other things is very much based on the singular, the one to one and although part of the knowing in making, it is not sufficient to explain making in the intermingling of bodies (the case of Mr. Lee points to the problem of a practice that is overly focused on tacit or phronetic knowledge and not engaged with the wider circumstances of making). Making in that it happens in the intermingling of bodies, I maintain that it necessarily requires both tacit and explicit knowing. Tacit knowledge on its own does not provide an adequate account of the necessary knowing in the extended, distributed agency of contemporary making.

Making is a complex ecology and the agency of making is not just constituted in the maker or even in the locale of an interconnection of tools, materials and maker in which Malafouris (2008) builds his idea of material agency. For me, the agency of making is extended beyond the immediate 'conversations' of materials, tools and maker that Malafouris

presents and is, rather, a wider distribution of human and non-human actors who, and which, contribute to making and thinking (through and for making) in an intricate series of interactions. Both case studies supply evidence of this – one negatively, the other positively.

So what is proposed is that one needs to think about making beyond merely the maker and even beyond the interaction of maker, materials and tools, and instead consider making as agency constituted in a larger meshwork of contingencies with different weights of force (a la Ingold, 2008) all acting on the event of making. The agency of making is not only practico-material but also is engaged in how we speak about the circumstances of us being in the world (historically, philosophically, culturally, socially), thus narrative-discursive. The practico-material aspect engages the physical meshwork and the narrative-discursive draws on the narratives with which maker and making connect to the user/reader/viewer.

The thesis makes apparent that making itself is enmeshed in artifice – enmeshed in what is made. The made, the surrogates, in modern times (arguably since industrialization but maybe even earlier than that) have moved away from the body, have become reified, and form and produce an ‘apparatus’ that sets disposition for making. An apparatus is “literally anything that has in some way the capacity to capture, orient, determine, intercept, model, control, or secure the gestures, behaviours, opinions, or discourses of living beings” (Agamben, 2009). Apparatuses are produced in and through all that we make, and apparatuses (political, economic, social, cultural and so on) are irresistible forces acting into and on making. Makers, in how they perform in the agency, need to engage critically with the apparatus that exerts force on making and in the constituting meshwork of actors and actants that is the agency of making. Otherwise, making is a rudderless application of knowledge and/or merely a blind regularity of applied techniques.

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