Open Research Online

The Open University's repository of research publications and other research outputs

They have escaped the weight of darkness: The problem space of Michel Serres

Book Section

For guidance on citations see FAQs.

Version: Accepted Manuscript

Link(s) to article on publisher's website:
https://www.taylorfrancis.com/books/9781315852430/chapters/10.4324/9781315852430-19

oro.open.ac.uk

They Have Escaped the Weight of Darkness: The Problem Space of Michel Serres

Steven D. Brown, *University of Leicester*

Production Has Come To An End

The final scene in Béla Tarr's *Werckmeister Harmonies* is a single uninterrupted shot following the character György Eszter into the main square of the small Hungarian town where he lives. The square is oddly calm after the riots and chaos of the previous evening. Debris lies everywhere. At its centre is the colossal body of a whale, perched in the broken shell of the circus truck that brought it into the town the day before. Eszter slowly approaches the rotting, preserved body and gazes into its milky, decaying eye. We recall the words he has previously spoken to Valuska – 'Nem számít semmi. Semmi nem számít' ('Nothing counts. Nothing counts at all').

Tarr's film echoes the apocalyptic tone of the novel on which it is based, Lázló Krasznahorkai's *The Melancholy of Resistance*. The novel depicts a world that is quite literally sinking into its own pollution. Refuse lays compacted on the streets of the town. Public services and transport are erratic and appear improvised. An old tree has been mysteriously uprooted overnight, as though it has clawed itself out of the ground in order to die. Even the weather seems to have come to a halt. As Mr Eszther tells Valuska, 'No more snow. Snow production has come to an end'. Into this gradual winding-down of rural life comes a travelling circus, promising to display 'an extraordinary spectacle' – what it claims is 'the biggest whale in the world'. The circus attracts followers, outsiders, who gradually fill up the main square, waiting for a sign. When it comes, they unleash a torrent of violence that overwhelms the entire town.

These are end-times. But also opportunities. In the shadow of the impending dissolution of the town, the three central characters pursue different paths. Tünde Eszther, the embittered President of the Women's Committee, interprets this strange conjunction of signs as indicating the moment when her long

1

nurtured plans to seize power can be enacted, and in so doing take revenge upon her estranged husband. For his part, György Eszter, seeks only to detach himself further from civic and personal life, to withdraw as far as possible into near solitude. Finally, there is János Valuska, who despite his disconnected and shambolic appearance, feels no separation between himself and his environment, and is compelled to pace the town at all hours, visiting all its points. Both film and novel end in the same way. A military take-over of the town secures Tünde Eszther's position. György Eszter submits himself to his wife's machinations, unable to see any alternative. Valuska is committed to a psychiatric hospital. The whale lies abandoned to rot.

Thinking the Apocalypse

Throughout the 60 or so books he has written since 1968, Michel Serres has articulated a uniquely non-hierarchical view of knowledge. Serres demonstrates a lateral approach of travelling between practices, of translating across languages and sense-making. Knowledge is treated as a patchwork, a scattered collection of pockets of order and sense that emerges from the noise of the world. There can be no formal hierarchy within epistemology, outside of strategies of violence or hygiene. Knowledge is rooted in the local, in bodies and practices and their encounters with one another.

Born the son of bargeman on the Garonne river, and having served for a time in the French maritime service, Serres has regularly claimed that his early years of sailing underpin his notion of 'voyaging' between bodies of thought. He famously once likened the epistemic gap between the human and the natural science to the 'Northwest Passage' that connects the Pacific and Atlantic oceans (Serres, 1980). Navigating this passage requires considerably more than just a good map. It is an unpredictable 'adventure', wherein all of the embodied skills and know-how of the voyager will be put to the test, and the ultimate goal is uncertain (see Serres with Latour, 1995). Things do not always turn out well: hence the recurring theme of catastrophe in his work, which often takes the form of reference to being trapped aboard a sinking ship (notably Serres, 2008 [1985]):

17-21). And yet, Serres, suggests, it is through these most difficult of experiences that we arrive at novel personal and metaphysical disclosures.

The literary scholar Steven Connor (2005) has noted the importance of the thematic of the 'hard' and the 'soft' across Serres' work. This can used to appreciate something of his intellectual trajectory over the past forty years. His early studies are concerned primarily with translations between the exact sciences (i.e. physics, mathematics) and philosophy and culture (i.e. literature, art, myth), where this is understood in terms of transformations in the movement of ideas. These early works are fairly tough going for readers who lack the encyclopedic turn of mind that Serres celebrates. Things become a little easier in relation to his work from the 1980s, which abandons extended exegesis in favour of a more poetic and often autobiographical style of exploring ideas. This culminates in *Angels: A Modern Myth* (1995 [1993]) and *Variations on the Body* (2011[1999]), both resembling art catalogues in their structure. His millennial work has more or less abandoned formal referencing in book length extended essays written in an accessible style resembling the extemporaneous, and bearing the mark of his public lecturing and broadcasting. *Thumbelina* (2015), for example, reads like a series of blog posts – precisely the media of thought which forms the intellectual object of concern in the book.

But at the same time, there is also a progressive hardening of intent. One finds little of the spirit of '68 across the early *Hermes* books, which feel quite disconnected from the social and political conditions under which they written (1969-1980). But from 1980 onwards, Serres become focused on the notion of the foundations of social order in violence – announced by Serres referring to *The Parasite* (1982 [1980]) as 'the book of evil' and *Rome* (1991 [1983]) as 'the book of foundations'. The terms henceforth become synonymous in his work. *The Natural Contract* (1995 [1990]) raises the stakes higher still. Using the pivotal example of Goya's painting *Fight with cudgels*, Serres argues that whilst we are busy killing one another in the name of a better world, we have failed to take into account that the earth is a third party to these battles. From this point on, the urgency of thinking the ecological becomes central to Serres work,

arriving at his recent statement *Biogea* (2012 [2010]). In this work, Serres meditates on the urgent philosophical-practical tasks that accompany the human transition from the Holocene (11,700BP to the present) to the present Anthropocene, the period where humanity has accomplished more or less complete power, as a species, over the environment. But that power comes without control. The environment, compromised by human activity, perhaps fatally, is responding in ways that will require colossal adaptation if we are to survive. As Serres once put if the Ancients distinguished between things that depend on us, and those that do not depend on us, then the current situation is one where it no longer depends upon us that *everything* depends upon us (see Serres with Latour, 1995).

The thematic of the hard and the soft can be complemented by a second relationship between the 'apocalyptic' and the 'ecstatic' that runs throughout Serres' work. The systematic and structural push towards violence is a recurrent motif for Serres. This is summed up in his invocation of the Roman Cult of Diana at Nemi in *Detachment* (1989[1983])[i]. Legend tells of how by a warrior-priest protects the shrine of a sacred tree in the woods above the town. Whoever seeks to control the shrine must first kill the current guardian. But in doing so, the burden – and inevitable fate - passes to the newcomer. The lesson Serres draws from this is that power depends upon and begets violence and murder. The Foundations Trilogy (*Rome*, *Statues*, *Les Origines de la Géométrie*) develops this further into an account of the mythic foundations of human relations in ritualized violence and sacrifice. Serres argues that technoscientific cultures inherit and accelerate this tendency to found order through death, with the stakes played out around Hiroshima and weapons of mass destruction demonstrating the ultimate horizon[ii]. This raises the question of how it is possible to find a space of liberty, for non-proprietorial living, when all the positions are already colonized by the logic of violent appropriation.

From the beginning of his work, Serres already knew that the search for space was not simply a matter of finding uncolonized territory, but rather of seeking out new relationships to space. The demi-God Hermes, who presides over five

early works (*La Communication*; *L'Interférence*; *La Traduction*; *La Distribution, Le Passage du Nord-Ouest*), invents new means of transport and communication (along with music and trade). Hermes can pass outside of existing networks and nodes, to find and exploit unexpected relations and points of contact. He is the living embodiment of the ecstatic – literally outwith (ex-) place (stasis). This allows Serres to read across the history of science and technology, and to identify places of unexpected passage, such as between the development of thermodynamic principles and the art of JMW Turner, or between the cybernetic reformulation of the body and the Freudian unconscious (see Serres, 1982). The enthusiasm for information technology expressed in Serres' later work (which lead him to appear as a media advocate for telecommunications companies), can be understood as a search for the ecstatic, for new modes of movement, and hence an evasion of the inherent violence of human relations, under the ever-present shadow of apocalypse. In his current work, the figure of 'the bomb' is replaced with the 'pollution' pumped out by a mass of humanity bearing down upon the world with seeming little sense of the short and long term consequences. Discovering new means of communicating with the planet itself is the most urgent task.

In this chapter I want to explore the relevance of thinking this problem space of the hard and the soft, the apocalyptic and the ecstatic, for management education. The pedagogic value of Serres' programme of 'voyaging' has been much explored (e.g Steyaert 2014), and more generally enthusiasm has been widely expressed for Serres' classicism and willingness to overcome disciplinary divisions (e.g. Abbas, 2005; Paulson, 1997). However, it seems to me that the lasting message of Serres' work is to be found in the tension between the two statements 'time is running out' and 'nothing new under the sun'. On the one hand, we live in uncertain times, where the disconnection of the global financial system from the greater part of humanity and the ravaged planet on which we subsist is as breathtaking as it is ultimately fatal. As Serres notes in *The Natural Contract*, sailing lore has it that one should piss from the side of a ship in order not to pollute the vessel. But that option does not exist at a planetary scale. On the other hand, the coming financial, social and ecological catastrophes need not

paralyse our thinking. There are resources within ancient history, myth and philosophy, Serres suggests, that can inform and enrich our efforts to find way through these times of perpetual crisis. As I will go on to argue, management education needs to be imbued with the paradoxical character of being both firmly forward looking (e.g. beyond existing epistemic and political divisions) and simultaneously intensely backward looking (e.g. to ancient questions of property and foundation).

In the following sections, I first of all attempt to situate Serres' work in relation to contemporary social science, in order to highlight the problems faced around working philosophical issues into curriculum delivery. I then map out the scope of the problem space that Serres offers, before proceeding to sketch out three routes through that space, and their relevancy for management knowledge. Finally, I end with some reflections on the practicalities of thinking with Serres.

The Scribblers of Social Science

There are numerous ways of delivering philosophy within management education, and many of the best contemporary practitioners of this dark art are contributors to this volume. Many would, I hope, agree that the strategies for delivering philosophy to management students are limited and difficult. It is possible to imagine offering a whole course on philosophy within a management programme[iii]. But there are numerous barriers, from the pressure on space within the curriculum arising from the need to comply with accreditation bodies, through to difficulties in persuading management students of the value of 'liberal education', especially when international students constitute either a significant part of or the majority of the class[iv]. The alternative is to do philosophy by stealth, embedding it across the entire curriculum in the form of conceptual discussions of first principles or ontological presuppositions for the topic in hand. This approach derives from the well-known 'paradigm' debates of the late 1970s/early 1980s (see Burrell & Morgan, 1979).

The success of this latter approach depends upon being able to convince students that the roots for a workable programme for social science can be

surfaced from a given philosopher's work. However, in the case of Serres, this is somewhat hampered by the outright antagonism he displays to the very idea of social science in general (let alone business and management studies). *Malfeasance* contains a disparaging example of 'some scribbler of a social science dissertation' (2011[2008]: 65) who considers studying dirt. Since the immediately preceding example concerns a 'Peeping Tom' who maps the 'ejaculatory stains on a sheet' (p.65), Serres' general view of the standing of social scientists is pretty clear here. What makes this all the more puzzling is the emphasis on the comparative that runs through books such as *Rome* or *Statues*. George Dumézil's studies of religion (e.g. 1988), for example, which extract grand structural relations organized around the figues of Jupiter (religion), Mars (war) and Quirinus (commerce), are a major touchstone for Serres. But the work of, say Claude Levi-Strauss or Gregory Bateson is entirely absent, despite its obvious resonance with Serres' concerns around patterns and connections within the social fabric. Most baffling of all is the lack of reference (to my knowledge) to Mary Douglas (1986), despite Serres continuous revisiting the problem of 'dirt' in relation to the founding of belief systems.

When pressed on this lack of engagement, such in the dialogues with Latour (Serres with Latour, 1995), Serres has presented himself as one of the few 'true structuralists'. What he means by this is taking the principles of set theory and the algebraic topology as guides for speculative investigations of human relations rather than positing abstract structural laws and axioms. Take, for instance, his early essay 'The Wolf's Game'[v] (see Serres, 1982). This piece describes La Fontaine's fable of The Wolf and the Lamb in terms of algebraic ordering relations that constitute a directional flow. Serres argues that the logic of pushing one's opponent into a relation that is 'upstream' whilst simultaneously positioning oneself 'downstream' creates the most powerful position. He then extrapolates towards a discussion of Cartesian reason and the birth of modern science, ending with the portent phrase 'Western man is a wolf of science' (p.28). In this piece, we see one of the sources of the generalized model of parasitism that becomes central to Serres' approach to relationality from *The Parasite* onwards.

In effect, Serres' move is to create a space that looks remarkably like social science through bypassing the existing traditions of scholarship in the area altogether to create an alternative passageway from the exact sciences to the humanities[vi]. His work then resembles a kind ghostly doppelganger that is at once oddly familiar to social scientists and utterly alien. This can be clearly seen in the uptake of Serres' work in Actor-Network Theory (ANT). Michel Callon's (1980) formulation of translation explicitly marks its debt to Serres, and in particular to the essay 'Betrayal: The Thanatocracy' from *Hermes III* (Serres, 1974). What Callon does is in his piece is to begin to develop his hugely influential model of how rival material semiotic orders become held together in networks (see Callon 1986 for the best initial formalisation). Specifically, in this case, how different versions of what constituted an electric car were temporarily made to cohere by Renault and other stakeholders for the duration of an ultimately failed project. Callon's work addresses the problem within the Sociology of Scientific Knowledge of rethinking the nature of 'interests', which acquire a socio-material rather than ideological character in ANT. But what Serres is up to in his piece is both vastly different in scope and tone, and yet strangely similar. He argues that the history of science has rendered itself unworkable because its own historicity is effaced as it seeks to translate the energies of the world into networks. This question, for Serres, is one of the dramatic changes of scale involved. For science to proclaim itself master of nature required a colossal series of conversions, transformations and ruses (hence 'betrayal'), the consequences of which are found in the violence of Hiroshima.

Bruno Latour's engagement with Serres follows similar lines. In his extraordinary 'infra-history' of the relationship between people and things, Latour (1994) draws upon Serres (2014[1987]) notion of 'pragmatogony' to describe a genealogy of the various forms of social/political ecology that have emerged as artefacts have mediated and reshaped human relations. The key idea of the exchange of properties between people and things, via translation, has become central to the 'material turn' in the kind of social science that ANT has

helped to inaugurate. However, in Serres' work the recognition of our status as subjects through encounters with objects carries with it considerable risk. In *The Natural Contract*, Serres recalls the etymology of subject in Latin – *sub* (under) *jacere* (throw). The subject is thrown under, or cast before, the object, exposed to its material affordances and valences, upon which she or he subsequently comes to depend. This line of argument is developed in Serres' writing on quasi-objects/quasi-subjects. In the game of rugby, for example, the status and fate of each player – as hero or villain, victor or vanquished – depends upon how they are positioned in relation to the ball (see Serres, 1982 [1980]). In a sense, it is the ball that 'decides', in the old meaning of the phrase to make a path, or make a cut. Our standing as subjects is fatally linked to the movement of objects.

Serres' Problem Space

Serres' influence on contemporary social science has been, in a manner of speaking, 'methodological'. It is his procedures for working with diverse materials that have been appropriated rather than the broader metaphysical and ethical arguments that serve as their underpinnings. But it precisely this dark core to Serres' work that speaks to the difficulties of teaching would-be 'Masters' of the modern business world. For example, in *The Parasite*, Serres argues that appropriation – taking without giving – is at the origins of human relations. He models this as a series of interceptions where production is interrupted and redirected, using the fable of the Town Rat and the Country Rat as example. From a Marxist perspective, what Serres has to say merely repeats, in a different language, the process of the real subsumption of labour within capital. Everything becomes exchange-value. One could imagine using this point as a jumping off point to a discussion of 'cultural economy' or something similar. However, what Serres proceeds to do is to push parasitism back beyond production itself. For Serres, agriculture is a kind of parasitism since it is redirecting the energies of nature; it is form of appropriation, albeit one that humanity has practiced since Neolithic times. If production is parasitic, then it follows that before use-value there is 'abuse value'. This is the outcome of applying thermodynamics to political economy:

Life works; life is work, energy, power, information. It is impossible to translate this description into an ethical discourse. It is thus, it must be thus; I really don't know. The work of life is labour and order but does not occur without borrowing from elsewhere. It makes order here but undoes order there. And it reinforces disorder and noise … One parasite chases out the other, as one disorder chases out the other. (Serres, 1982[1980]: 88)

What is at once both fascinating and terrifying about this argument is that immediately problematises the idea of a space outside of violence in which to ground some form of ethics. Life itself has a parasitic dimension. Order is created and sustained by interrupting and 'chasing out' prior forms of order. An ethical discourse cannot reply upon some unspecified 'otherness' or supplementary site for its salvation, since all the possible positions are already occupied. Which is to say that a Business Ethics informed by, say, Derrida or Levinas will be of little use. There is no space outside the boat to piss into.

This relentless line of argument is applied in Serres' recent work on the financial crisis. *Times of Crisis* has a rather cheeky subtitle appended to the English translation – 'what the financial crisis revealed and how to reinvent our lives and future'[vii]. The reader who takes this to mean that an analysis is to follow of modern financial systems and their manifold failings will be bitterly disappointed. Serres opening gambit is to confirm what we all know about this least opaque event in recent history – 'I simply think there is a gap between the numbers reached in the volatile stock market casinos and the weightier and slower reality of labour and goods' (2014[2009]: 1). He then likens the relationship between the 1% and 99% as akin to that between mortals and Gods in Greek or Roman culture. But this particular gap, the scale of monetary values, is simply a point of departure. There are numerous measures related to recent human activity that reflect similarly astronomical leaps in scale, such as demographics, health, transportation and medial connectivity. Serres argues that

taken together, these runaway measures reflect a fissure, a tectonic movement in human history or 'hominization'.

Hominization can, for Serres, be understood in terms of a transformation in the nature of appropriation. Modern forms of appropriation – with the financial crisis being the apotheosis – are rooted in 'natural' acts of territorialisation (Serres, 2011). Dogs piss to mark the boundaries of their respective territories, placing chemical signs to one another. Urine and excrement are dirt, but rather than being 'matter out of place', as Mary Douglas argued, this kind of dirt is a marker of place. It indicates that space is now owned. Conversely, the 'clean' designates that which is provisionally not-yet-owned or temporarily unmarked space (hence, Serres argues, the obsession with white sheets in hotels, inviting the guest to mark it out with their own filth). The dirt of others is disgusting, but our own dirt feels very different. It is grounds us in place, and hence accords identity. Consider, for example, Tracey Emin's infamous artwork, *My Bed*, consisting of an unkempt bed with soiled sheets, strewn with menstrual blood stained knickers and condoms. For the viewer the piece has a 'hard' exterior – it is challenging to look at it too closely – but for the implied subject of the artwork it has a 'soft' interior, it is an inhabited space that marks out the subjectivity of its user/creator. Dirt is pollution for those outside the territory, and a boundary marker for those within who appropriate it through their acts of soiling. In this way it has both a material 'hard' dimension and a 'soft' symbolic status:

> Let us define two things and clearly distinguish them from one another: first the hard, and second the soft. By the first I mean on the one hand solid residues, liquids, and gases, emitted throughout the atmosphere by big industrial companies or gigantic garbage dumps, the shameful signature of big cities. By the second, tsunamis of writing, signs, images, and logos flooding rural, civic, public and natural spaces as well as landscapes with their advertising. Even though different in terms of energy, garbage and marks nevertheless result from the same soiling gesture, from the same intention to appropriate, and are of animal origin. (Serres, 2011[2008]: 41)

Pollution is not a byproduct, or an unintended consequence of social and business activity. It is the deliberate marking, occupying and appropriating of space. We need to advise our Business Ethics students to start their deliberations from this point. The spread of 'hard pollution', as humans seek to mark out the entire planet as their property, is the obvious cause of environmental damage. Hard pollution shows the 'weight' of humanity on the Earth, the way in which humans have become a collective 'global subject' (Serres, 1995[1990]). But 'soft pollution' in the form of the vast proliferation of textual and visual markers is no less problematic. It clearly states that there no longer any unmarked spaces – everything is property:

> (N)ature is perishing under 'culture'. In the first deluge, on which Noah floated, culture disappeared beneath nature. In this final flood, the reverse of the first one, will there be a single dense point left where a work of art can be found, one last diamond dense with meaning? Who doesn't see that the only thing left floating will be the homogeneous excrement of the victorious Great Owner, Sapiens sapiens? (Serres, 2011[2008]: 70)

The disappearance of nature under the deluge of culture is the final act in several centuries of ecstatic 'objectivizing', driven by the so-called hard sciences which render the world into 'passive and submissive object, reduced to a few dimensions of space, time, masse energy and power' (Serres, 2012[2010]: 33), and completed by the soft sciences of management, marketing and finance. What the financial crisis reveals, for Serres, is that finally, we are masters of the planet, no longer reliant upon a mystical dependence to the old gods of earth and sky. Our modern science is able to produce 'world objects' that possess 'a dimension commensurable with one of the world's dimensions' (Serres, 2011[2008]: 53). For example, a satellite turns at the speed of the moon, human-made radioactive waste has a lifespan closer to that of the earth than to that of any given human, financial markets trade sums of money greater than the GDP of most nations. Serres coins the phrase 'hominiscence' to name the kind of creature we have become as we arrive at complete appropriation of the entire planet (i.e. from the Holocene to the Anthropocene). Humanity is the most successful parasite of any

invasive species, although, as Serres (2012[2010]) notes, our success may simply be the 'disembarkation' point for other more nimbler parasites, such as viruses.

But at the very moment that the world becomes a 'trash-can Earth' of objects to be consumed and disposed, something new happens. For Serres, climate change in all its myriad forms – e.g. rising temperatures, 'peak soil', water crisis, increased 'natural' catastrophes – are utterances, forms of speech through which the Earth is addressing us directly. Yet we no longer have the means to understand this speech. The ancients subjectified the Earth through symbolic transformation (e.g. Neptune came to embody storms at sea, Vulcan's hammering tamed the unpredictability of earthquakes). This transformation allowed recognition of there being actors outside of human relations – third parties – whose speech and actions needed to be taken into account. Our survival henceforth depends upon, once again, developing the means to hear and interpret this speech:

> The game with two players that fascinates the masses and opposes only humans, the Master against the Slave, the left versus the right, Republicans against Democrats, this ideology against the one, the greens versus the blues … this game begins to disappear when a third party intervenes. And what a third party! The world itself. Here, quicksand, tomorrow the climate. This is what I call 'Biogea', an archaic and new country, inert and alive, water, air, fire, the earth, the flora and fauna and all living species. The game with two players is over and we start a game with three. This is the contemporary global situation. (Serres, 2014[2009]: 31)

The idea of humanity as a global subject gained its modern form many years ago, when Hobbes and Rousseau set out that only a compact between humans, a social contract that elevated individuals to be so many parts of a single actor, could ward off the war of all-against-all. A third party to our disputes now emerges, which Serres names Biogea (from *bio* – life and *gea* – earth). The question is not if we ought to recognize this third party, since as global subject 'the world objectivises us' as it 'falls on our heads and becomes the formidable

residual reality that keeps us alive, transcends us and can eradicate us' (Serres, 2014[2009]: 48). We need instead to open up a negation with this new global subject, Biogea, to find the legal and political means – in effect broker a *natural contract* to be woven into our existing sense of the social contract (Serres, 1995[1990]) – whilst dialogue is still possible.

The Social Science of Thirdness

In the early 1990s, Serres wrote an influential text *The Third-Instructed*, which argued that learning begins when we recognize an intermediate space between two apparent sides[viii]. The term 'instructed' is important here, because it deliberately echoes Gaston Bachelard's (1986) argument for a hierarchy of knowledge, with Physics placed at the top, where each discipline needs to take 'instruction' – i.e. model its own practices and methods of deliberation – from those higher up. Bachelard's argument was underpinned by the widely shared view, in the early twentieth century, that only Physics, which had its reformulated its fundamental terms of reference several times, could lay claim to being a genuinely 'revolutionary' science. From his very earliest work, Serres has rejected this notion of a hierarchy in knowledge, and indeed the concomitant Bachelardian idea of progress through 'ruptures' or 'breaks'. To say that we must instead take our instruction from the spaces between, from 'thirdness', is, in effect to argue for multiplicity, mixture and the as-yet-unappropriated.

This kind of thinking chimes well with what we might call a 'soft' form of interdisciplinarity, which sees the expansion of the intellectual palette around problem definition as an unalloyed good. But consider again that word 'instruction'. Serres is not simply recommending that good pedagogy should embed alternative approaches. He is demanding that we place ourselves under the direction of thirdness, of a continuous disciplining of thinking through multiplicity. If, as we have seen, the dark core of Serres' work consists of articulating human history as violence and appropriation, then it will not be enough to merely celebrate alternatives or the inherent value of crossing intellectual borders. Serres insists upon a peculiar new synthetic procedure that arrives from giving oneself over entirely to multiplicity:

Our analytical hate bursts into these little puzzle pieces, into these texts armoured with compelling, aggressive, defensive citation. In fragmented lives, we think a world burst into technologies, sciences, separated languages. Our meaning lies in scattered limbs. By dint of quartering the subjective, the cognitive, the objective and the collective, how can I say the right word and live a happy life? The analysis that unties these four components comes from the hate that divides them. What love will reunite them? (Serres, 2010: 75)[ix]

How might such an extraordinary proposal be put into practice? Very roughly, I think there are three routes through the apocalyptic problem space that Serres has systematically worked out. I will try to describe each in turn with reference to how it might be operationalized in management education.

i) Dark Organizational Theory (Tünde Eszter)

The logic of the parasite is the motor of human relations. The parasite takes without giving; it intercepts an existing set of processes and finds a way to extract value (see Serres, 1982[1980). The parasite produces nothing by themselves – everything they have is borrowed or stolen from others – but because they act as 'irritant' to a prior system, they are nevertheless catalysts of change. Parasitism is a challenge to appropriation; its omnipresence amongst human relations has provoked powerful strategies of re-appropriation. For example, the founding of the great city of Rome was done, Serres argues, to solve the complex inheritance problems – i.e. swarms of parasites – around the existing city of Alba Longa (Serres, 1995[1983]). In Serres' language, a new 'white space' or owned site needed to be created. This was done through a sacrifice that converted pollution into purification. Romulus kills Remus, and the city is constructed on the site drenched with his blood. Serres sees the origins of modern religion in this foundation through sacrifice – 'death designates the site and often its limits' (2011[2008]: 10). When the time comes for a new foundation for Rome, as Romulus' power ebbs away, he is in turn murdered by the Roman Senators, legend has it, and is replaced by Numa, who formalizes Roman religious principles ('On the heels of the first murder come religions'

p.15). The strategy of the Cult of Diana at Nemi becomes the foundation of pre-modern statecraft.

Social order and institutions are founded through violence. Murder and sacrifice cleans the site, opens it up for re-appropriation. Blood replaces urine as the marker of property. This idea bears the imprint of Rene Girard's work on 'scapegoating' (e.g. 2005). Girard – to whom *Rome* is dedicated – posits that human desires have a mimetic structure. We want what the other wants, and when our desires are mutually frustrated, we seek to collectively destroy the elusive object that is the source of our frustration. Thus envy and jealousy are fundamental drivers of collectivity, bringing with it the ongoing threat of violence. The scapegoating mechanism is a solution to the collective descending into the 'war of all against all'. Our mimetic desires for the same thing invert into a collective hatred against the same object. This is embodied by the ritual victim – Romulus in the myth of the foundations of Rome, Christ in the foundations of Christianity – whose sacrifice puts a temporary halt to violence. In doing so, the sacrificial victim, the scapegoat, becomes sacred, as they are now attributed with the power to preserve social order.

The scapegoat is the first example of what Serres refers to as 'quasi-objects'. These are objects that confer identity upon subjects. We recognize who or what we are through a relationship to the quasi-object (i.e. Christians are those who are both complicit in and redeemed by Christ's sacrifice). For Serres, the emergence of the quasi-object – which is also a quasi-subject, by virtue of its powers to act upon the collective – inaugurates the subject/object dichotomy that will prove so pivotal to hominization (an argument made more fully in *Genesis*). But quasi-objects are unstable, they only put an end to violence temporarily. They require an institutional structure to be placed around them in order to continue to secure social order. Here Serres turns to George Dumezil's studies of archaic Indo-European societies. Dumézil (1988) claimed that social order coheres around three distinct functions – worship, war and commerce. In Roman mythology these are embodied in the Gods of Jupiter, Mars and Quirinus. On Serres' reading, each institutional group houses its own quasi-subject – *fetishes* (traces of the body of the scapegoat) for religion, *stakes* (polluting and

purifying blood) for the military, and *merchandise* (circulating signs of soft pollution) for producers. The goal of each institution is to keep their respective quasi-object moving to ward off the threat of total violence and the destruction of the collective.

In contemporary terms, what this means is that the securing of social order requires ever more relics, blood and money to be put into circulation, in an ecstatic movement. The financial crisis is a testament to this: the solution to the failure of legitimacy of financial institutions is to pump more money into them, in the same way that the solution to conflict in the twentieth century was to invent technologies to exponentially increase actual or potential death toll. For a time, notably in *Angels: A modern myth*, Serres appeared to be championing a fourth God – Hermes or communication – as the source of a new-quasi object of 'information'. And yet this too seems to be tending towards hyperbolic breakdown, where social and political problems are treated as reducible to the need for more data, whatever the (social, political) cost.

In pedagogic terms, the lesson to be drawn here is that organization is always parasitic upon prior forms of order. Contrary to the routine and tiresome claims made for extraordinary entrepreneurial success *ex-nihilo*, we may instead enquire as the extensive chains of parasitism and appropriation through which this accomplished. The curriculum may speak of innovation or creativity, but what we are referring to is always theft and violence. Parasitism is the rule, not the exception. But parasites come in many different forms, and their strategies may vary greatly. For example, parasites that kill their hosts tend in general to be less successful, and by definition are unable to gain numerical superiority over host organisms. Endoparasites that dwell within the body of the host are themselves dependent on other parasites that serve as their vector of transmission (recall how Serres speculates that humanity may ultimately have been the vector for other, as yet unknown parasites to implant themselves). Symbionts exist in mutually parasitic relationships with other species, in semi-stable arrangements. If organization is parasitic, then a central task is to describe the precise forms such parasitism takes.

Equally pressing is the task of analyzing the movement of quasi-objects. Here we can usefully begin by dispensing with the idea that there is an economic logic at the core of finance, or a legal-political rationale to war, or, indeed an existential/spiritual need being played out in religion. Which is not to say that there nothing 'economical' about economics, and so on, but rather these institutional practices are founded in the administration and regulation of violence. Thus 'management' itself becomes the modern domestification of an ancient logic of sacrifice and scapegoating. From urine to blood to spreadsheets. Recognition of the persistence of archaic violence in modern management practices means that the study of recent and ancient history, and of myth and fable, is no less important than contemporary theories and concepts. As Serres' mantra goes: 'nothing new under the sun'.

ii) Detachment (György Eszter)

One of the most curious of Serres' works is a small volume of essays from the mid-1980s, *Detachment*. The four pieces contained within it meander between myth, real, or perhaps false, autobiographical remembering and a haunting sense of loss and despondency. The guiding thread between them is of the nature of endurance, what it means for something to persist in time. Commonly we think of this in terms of the historical – the chronological succession of events, one succeeding the other. Yet, as we have seen, the history of human relations is, for Serres, the continuous evolution of violence and the strategies that contain it. Historical endurance then amounts to an interplay of parasitism and (re)appropriation. Is this all that can be hoped for?

In one of the essays, 'Trees of Death, The Tree of Life', Serres speculates on the symbolism of trees. As sacred symbols, trees appear as sources of life and rebirth, germination and the continuity of species. The spreading out of branches serves as a potent representation of division and distribution through the growth of successive generations. Small wonder then that the image of a 'tree of life' finds its way into many different religions. To give but one example, the Jewish Kabbalah provides a representation of the emanation of God into the created world, and hence of the ways in which humans may come to know God's

creation. The tree of life is then also, typically, a tree of knowledge, a diagrammatic representation of the principle distinctions within what is knowable. In this way, the tree structure mediates between the sacred and the profane. Finally, the tree of life and knowledge is also, inevitably, the site of power. In the Christian bible, transgressing the prohibitions around the tree of life result constitutes 'original sin'.

The intertwining of life, with the growth of knowledge and the play of power renders the tree structure as a key symbol of the unfolding of history. Serres recounts an experience of standing before a Sequoia tree, one of the largest living organisms on earth. The current form of this tree, with its powerful attributes of longevity and fire-resistance, speaks to a long evolutionary history (dating back to the Jurassic period). It may even be directly speaking *to us* of this history, since as Serres observes elsewhere, the 'things of the world' communicate with one another, through chemical and elemental processes far faster and more effectively than we do (Serres, 2012[2010]: 128-130). Serres fantasises that at some point the Sequoia was planted by an ancient culture, whose intentions, knowledge and practices are now lost. This is not an entirely fanciful idea, since the marks of cultivation and domestication date back at least to the Neolithic era:

> Four thousand years ago some gifted ancestors – I did not keep track – bequeathed to us plants and animals on this side of the world, on the other slope of the sun. Today we eat lamb, are clothed with wool; my father raised cattle, we taste wheat-bread, we drink wine from the vine, thanks to their immortal genius ... [B]reeding and cultivation perpetuated themselves without shortcoming ... [O]ur forefathers of forty centuries ago trained phylogeny. They forever domesticated the species. They formed the matrix of all matrices. They awakened their genealogy, we only know how to lull it to sleep, they created it to serve them, we can only kill it. (Serres, 1989[1983] 58-9)

Serres here observes that some of the most ancient technologies invented by our ancestors in the deep past – viticulture, animal husbandry, milling – continue to shape our world. In this sense a kind of 'immortality' akin to the growth of the

Sequoia has been bequeathed. Serres contrasts this with the forms of longevity that the modern world accomplishes – hazardous radioactive waste with an enormous half-life, huge carbon footprints, irreversible soil erosion. It seems, Serres argues, that we have lost the ability to disappear into the world, to 'live on' in perpetuity through techniques that foster life. Our technologies seem, by contrast, remarkably short-sighted and impose a problematic history that future generations will be forced to endure:

> Why do we no longer invent durable traditions? Why do we only foment revolutions lasting hardly one generation? Why do we no longer discover new know-hows cutting through time? What did we lose to allow us to enter history, this myth of death? (Serres, 1989[1983]: 61)

Long-term species survival – the immortality accomplished by the ancients – depends upon escaping history, understood here as the continuous violence played out around the tree of knowledge/life. Serres points to the pre-modern condition of China, where mass labour-intensive agriculture, created a traditional culture seemingly unchanged by the centuries – 'No time, no history, for millennia agricultural China shows the end of history, the end of time – an adapted eternity – the absorption of humanity into the loam' (Serres, 1989[1986]: 9-10). Chinese farmers were detached from history, Serres muses, because they were sunk into an enduring landscape in which there was no space for change[x].

We may then propose to our students the importance of the 'off grid' – forms of sustainable living that deliberately try to extricate themselves from history and seek a different relationship to the environment. Detachment is accomplished here by a withdrawal, as far as possible, from existing circuits of production and consumption (which Serres would see as inherently parasitic in nature). This is not to say that there is some clearly defined space outside of parasitism. Rather that it may be possible through anti-parasitic technologies, such as open-source development and production, to find a way to disconnect and effectively 'disappear' into the fabric of social space, into the loam. For decades we have been telling our students of the power and value of networks. Now we need

champion the necessity for partial disconnection, for cutting oneself out of the ecstatic circulation of fetishes, stakes and merchandise.

iii) Cords (Janos Valuska)

Language has a complex status throughout Serres' work. For a thinker who revels in the use of archaic language, who celebrates dialect and local idiom, Serres also displays ire at the manner in which speech is given priority over the body. From classical times onwards, the tongue that speaks is deemed of greater importance than the tongue that tastes or that kisses - 'Socrates, Agathon and Alcibiades speak of love without ever making love, or sit down to eat without actually eating or drink without tasting' (Serres, 2008[1985]: 165). A central concern of one of Serres' key mid-period works, *The Five Senses*, is the liberation of the body from language, and reconstitution of knowledge and empiricism in our sensuous embodied engagements with one another and the world.

A repeated image of a mountain climber, a body shorn of language, recurs throughout Serres' work. In *Variations on the Body*, a series of images of mountains accompanies a strange gymnastic experiment, where the author invites readers to stretch out and trace the edges of a geometric shape formed by their furthest physical extension. 'Who climbs a rock face?' Serres asks, 'Not a visible body exposed to the void, but, precisely, this mobile extensible ball inside of which the simian organism reposes' (Serres, 2011[1999]: 5). Physical activity demonstrates to us that our bodies are not solid containers set against the world, but are instead a dynamic and mutable mixture of forces and surfaces that become mingled with the environment. At one moment the climber is spread taught against the rock, now held to others by ropes, then curled tightly into the snow. All bodies – whether human or non-human – are, in essence, mixtures or 'minglings' of constituent parts rather than discrete entities separated from their environment: 'the state of things becomes tangled, mingled like thread, a long cable, a skein' (Serres, 2008[1985: 82). The climber is, in some sense, a part of the mountain for the duration of the ascent, the corporeal and the elemental flowing together. They are knotted together like the ropes or cords that attach the climbing party to one another.

The terms 'cord' and 'contract' convergence upon the idea of 'drawing together' parties. *The Natural Contract* expounds the idea that we need to not only arrive at a better legal and political framework around the environment, but also to find a new understanding of the manner in which we are jointly attached. The first issue is to reframe our relationship to property. Humanity is no longer the owner-occupier of Biogea, but a tenant – 'we should no longer be the masters and possessors of nature. The new contract becomes a rental agreement' (Serres, 2011: 72). On this formal basis, we need to develop better means to understand what Biogea is saying when it speaks. This gives a pragmatic rather than a principled priority to the Life Sciences, which are able to engage with the processes wherein things code and become coded by one another:

> Whether fluid or of air – even solids communicate – things respire together, they conspire with their different breaths, but in a constant and total circulation that's chancy, torn, chaotic and consenting. These breaths have rhythms, *tempi*, a music, waves, codes. Caused, causing, certainly, but coding, coded, I say again. The world adds up the codes. (Serres, 2010: 129)

The life sciences are best placed to act as legislative counsels on behalf of Biogea. Serres calls for a political-legal forum in which the resulting natural contract can be negotiated, to which he gives the title which translates into rather unfortunate English: WAFEL (Water, Air, Fire, Earth, Living). Much as with Latour's (1993) call for a 'parliament of things', what is interesting about this proposition is not so much the details of how it be put into practice, but rather the new relationship between law, politics and ecology that it asserts as necessary.

The life sciences are, of course, not the only knowledge practices that will be needed. From his very earliest works, Serres has argued for a kind of 'synthesis', or 'encyclopedic' approach to knowledge (see Serres, 1982; Serres with Latour, 1995). Who is to say what we will need to know in order to negotiate with Biogea? If epistemology has previously been in thrall to appropriation and division, alternating between the Gods of Jupiter, Mars and Quirinus, then the

kind of knowledge now required is a 'thinking with' rather than a 'thinking against'. It is skills at mediation and translation – thinking from the middle – that become important in the attempt to unite 'the fields of knowledge amongst themselves the way the things are connected among themselves' (Serres, 2012[2010]: 131).

Ultimately, this amounts to a self-transformation. Serres (1982: 7) once defined the human in the following way, as the greatest of all parasites – 'Man is a wolf for man, an eagle for sheep, a rat for rats. In truth, a *rara avis*'. But parasitism alone will not preserve us for much longer. A new relationship to Bioega is required:

> To attempt to open talks with [Biogea] and negotiate together, thanks to the codes shared in this way, a mutual aid and benefit pact, so that we can pass from parasitism to symbiosis together. That's why I want to listen to the voices of Biogea while comparing them with ours. Communication, interferences, translation, distribution, passages and bridges[xi]. How can the invasive order become a reciprocal dialogue? How can the object become subject? In what language does this mute world speak? (Biogea, 2012[2010]: 171)

Serres is much taken with Aldo Leopold's phrase 'thinking like a mountain'. To think amongst Biogea, with Biogea, like Biogea means finding ways of encountering wind, sea, fire, earth, being exposed to their contingencies. Hence the text *Biogea* is composed of numerous narratives – reliable and unreliable – where extraordinary events overtake the author. At the close of one, he offers the gnomic phrase 'Rare, these moments of being on the lam. Most often, everything to is decided at the crossroads' (Serres, 2010: 150). To be 'on the lam' is to travel as a fugitive, away from home, towards an uncertain destination. It is to offer oneself up to events, to contingencies. There is the chance of unexpected hospitality, the risk of sudden hostility. And, most of all, there are the uncertain moments in between, at the crossroads, where decisions have to be made. That is perhaps something like what it means to 'think like Biogea'.

The goal of management education is typically framed around some desired archetype – the reflective practitioner, the effective manager, the servant leader etc. What Serres proposes is that we dispense with these kinds of images and recommend thinking like more-than-humans. 'Thinking like Biogea' means understanding strategy from the perspective of a tree, marketing from the belly of the snake, finance amidst the excess of frogspawn, innovation amongst coral. Management education need to be 'de-hominized' if we are to understand how we can live with rather than against Biogea.

Thinking With Serres

Let me conclude by trying to develop some practical implications of Serres' work for management education. I have suggested that the problem space that Serres draws up between the hard and the soft, the apocalyptic and the ecstatic, sees the roots of modern organization and human relations in violence and its future in ongoing pollution. One possibility is to develop this argument further into a counter-narrative of organizational and institutional life. In *The Parasite*, Serres develops his generalized model of parasitism in opposition to an account of systems, with their guiding principles or equilibrium and feedback. What Serres describes are systems that are being leached, subject to interference, drawn down unpredictable pathways. But which still, neverthess, 'work'. He asks what we should make of this relationship between apparent order and the parasitical – 'What happens would be the obscure opposite of conscious and clear organization, happening behind everyone's back, the dark side of the system. But what do we call these nocturnal processes?' (Serres, 1982[1980]: 12). Elsewhere, I have suggested the phrase 'dark organizational theory' as a way of treating parasitism not as an exception, but as the very central motor of organizational life[xii].

Dark organizational theory is a myth, a fable, a tall tale. But it is one that is satisfying to narrate, and, I hope, to hear. Rather than convince students that organization is our defence against noise, our means of securing our common interests, we should tell them instead of how it is founded on excrement and murder. That organizations only 'work' because of the continuous movement of

parasites up and downstream in relation to one another. Instead of telling them a Kantian or a neo-Derridean fairy story about the (im)possibility of ethics, we should let them know what history tells us, that 'the collective collects itself by killing' (Serres, 2012[2010]: 21). Organization is founded upon theft, appropriation. It is, in the one sense, inherently evil. The translator of *Le Mal Propre* settled upon 'malfeasance' as a means of capturing the play on evil and property at work in Serres' fable. But it seems to me that, at least in a management context, the direct rendering of 'clean evil' better articulates the hard and soft pollution piled up by the modern corporation. It would seem a little ambitious to suggest that our students take the oath that Serres recommends to no serve any of Dumezil's three gods – religious, military and economic interests. But we could at least invite them to consider how to place the interests of Biogea above all else.

Another possibility. In *The Five Senses*, Serres argues for the corporeal, lived dimension of knowledge. We learn through encounters, through physical engagement with the world. The metaphor of the voyage, the adventure has always been central to Serres' work. It is what one learns along the way, at the crossroads, perhaps 'on the lam' that matters. Our students come to us through a variety of routes, some with more or less interesting stories to tell. But all of them come from somewhere, from a place in which their knowledge, their language, their experience is rooted. How might this be mobilized, liberated as central rather than as peripheral to teaching? It is not simply a matter of adding a few cultural references to leaven out the lecture, but instead something more far-reaching. Why not give over sessions to the discussion of ancient and modern mythology? Or to explorations of local practices of brewing, culinary arts, rituals of consumption? Instead of speaking and writing, why not making or creating – fashioning objects, the use craft skills, visual arts, demonstrations of aesthetic preferences? Serres argues that ultimately it is not 'hard' analytic knowledge that gain immortality, but instead 'soft' technologies:

> [F]or the two economic systems known to this day, not taking any account of this world, have only taken a few decades, negligible at the scale of Biogea, to exhaust the mines, the rivers, the entirety of the available

stocks, destroying the seas, polluting the air, laying waste to the Earth, killing, at a lightning-fast pace, the living species, in a word, devouring all earthly capital, hard accumulated over millions of years, not without drowning what's left of human cultures under a flood of ugliness; better, said sustainable development serves as deceptive advertising for them to finish the plundering. What is left that's lasting? Yes, the soft. Water lasts longer than earth, air longer than water ... signs longer than fire. Here is my theorem in full: the hard does not last, only the soft lasts. (Serres, 2010: 192)

Finally, why remain in the classroom itself? Donna Haraway has developed a pedagogic strategy she refers to as 'implosion' (see Ghelfi, 2015). Students are asked to pick an object and use it as a starting point for a discussion of the histories that may be tied together within it. For example, a cotton shirt may lead to the history of pesticides and California water projects. However, to follow Serres' suggestion of 'going on the lam', why not just leave the lecture hall altogether and explore the myriad objects and sites in nearby surroundings? Architecture can lead to accounts of social history, of the parasitism of social space. Gardens can provoke discussion of the shaping of human and non-human relations. Observing the skyline can reveal more about global communication networks than most textbooks. We need to free the eye of powerpoint, liberate the ear from lecturing, release the body from the torpor of management education.

Production Has Come To An End

The opening scene of *Werckmeister Harmonies*. It is closing time at the Peafeffer inn. One of the drunks advances towards the camera, holding their drink precariously. Valuska is summoned – 'Come on', 'Show us'. Tables are pulled away to make a space. Valuska moves the drunks into position one by one, assigning to each the role of a planetary body. 'The sun' sways on his feet, wiggling his fingers to imitate solar rays. 'The earth' is slowly waltzed around 'the sun', gently spun in its rotation by Valuska. With greater effort 'The moon' is drawn together into what is now a crowded space, and set on its course around

'the earth'. Valuska tells of the immortal, unchangeable vastness of space. Of the power and weighty darkness of an eclipse. The remaining drunks join, forming a moving, turning throng in which Valuska becomes lost. His face is rapturous, ecstatic. The landlord intervenes, shows the door. Valuska leaves with the words 'But Mr Hagelmeyer, it's still not over'. He walks away, the camera following him until he becomes lost in shadow.

References

Abbas, N. (Ed) (2005) Mapping Michel Serres. Ann Arbor: University of Michigan Press.

Bachelard, G. (1986) [1934] The New Scientific Spirit. (Trans, A. Goldhammer). Massachusetts: Beacon Press.

Brown, S.D. 2013. In praise of the parasite. *Informática na Educação: Teoria e Prática* 16(1), 83-100.

Callon, M. (1980) Struggles to define what is problematic and what is not: The socio-logic of translation. In K.D. Knorr, R. Krohn, & R. Whitley (Eds.). *The social process of scientific investigation: Sociology of the Sciences, Vol IV*. Dordrecht: D. Reidel.

Callon, M. (1986) Some elements of a sociology of translation: Domestification of the scallops and fishermen of St. Brieuc bay. In J. Law (Ed.). *Power, action, belief: A new sociology of knowledge?* London: Routledge and Kegan Paul.

Douglas, M. (1985) *Purity and Danger: An Analysis of the Concepts of Pollution and Taboo*. London: Ark.

Dumézil, G. (1988) [1971] *The Destiny of a King*. (Trans, A. Hilfebeitel). Chicago: University of Chicago Press.

Frazer, J.G. (2009) *The Golden Bough: A Study in Magic and Religion*. Oxford: Oxford University Press.

Ghelfi, A. 2015. *Worlding Politics: Justice, Commons and Technoscience.* PhD submitted to University of Leicester.

Girard, R. (2005) *Violence and the sacred*. London: Continuum.

Latour, B. 1993. *We Have Never Been Modern*. Cambridge, Mass: Harvard University Press.

Krasznahorkai, L. 1998 [1989] *The Melancholy of Resistance*. (Trans, G. Szirtes) New York: New Directions.

Paulson, W. (1997) 'Writing that Matters', *SubStance* 83: 22–36.

Serres, M. 1974. *Hèrmes III: La Traduction*. Paris: Éditions de Minuit.

Serres, M. 1980. *Hèrmes V: Passage du Nord-Ouest*. Paris: Éditions de Minuit.

Serres, M. 1982. *Hermes: Literature, Science and Philosophy*. Baltimore: Johns Hopkins.

Serres, M. 1982 [1980]. *The Parasite*. (Trans, L. Schehr) Baltimore: Johns Hopkins Press.

Serres, M. 1989 [1983] *Detachment* (Trans, G. James and R. Federman). Athens: Ohio University Press.

Serres, M. 1991 [1983] *Rome: The Book of Foundations*. (Trans, F. McCarren) Stanford: Stanford University Press.

Serres, M. 1993. *Les Origines de la Géométrie*. Paris: Flammarion.

Serres, M. 1995 [1982] *Genesis*. (Trans, G. James and J. Nielson) Ann Arbor: The University of Michigan Press.

Serres, M. 1995 [1990]. *The Natural Contract*. (Trans, E. MacArthur and W. Paulson) Ann Arbor: The University of Michigan Press.

Serres, M. 1995 [1993]. *Angels: A Modern Myth*. (Trans, F. Cowper) Paris: Flammarion.

Serres, M. with B. Latour 1995 [1990] Conversations on Science, Culture and Time. (Trans, R. Lapidus) Ann Arbor: The University of Michigan Press.

Serres, M. 1997 [1991] *The Troubadour of Knowledge*. (Trans, S.F. Glaser and W. Paulson). Ann Arbor: The University of Michigan Press.

Serres, M. 2008 [1985]. *The Five Senses: A Philosophy of Mingled Bodies*. (Trans, M. Sankey and P. Cowley] London: Continuum.

Serres, M. 2011 [1999] *Variations on the Body*. (Trans, R. Burks). Minneapolis: Univocal.

Serres, M. 2011 [2008] *Malfeasance: Appropriation Through Pollution?* (Trans, A-M. Feenberg-Dibon). Stanford: Stanford University Press.

Serres, M. 2012 [2010] *Biogea*. (Trans, R. Burks). Minneapolis: Univocal.

Serres, M. 2014 [1987] *Statues: The Second Book of Foundations*. (Trans, R. Burks) London: Bloomsbury.

Serres, M. 2014 [2009] *Times of Crisis: What the Financial Crisis Revealed and How to Reinvent Our Lives and Future*. (Trans, A-M. Feenberg-Dibon). London: Bloomsbury.

Serres, M. 2015 [2012] *Thumbelina: The Culture and Technology of Millennials*. (Trans, D.W. Smith) London: Rowman & Littlefield.

Steyaert, C. 2014 Michel Serres (1930b). In J. Helin, T. Hernes, D. Hjorth and R. Holt (Eds.) *The Oxford Handbook of Process Philosophy & Organization Studies*. Oxford: Oxford University Press pp. 549-566.

---

[i] The example is also central to Frazer's *The Golden Bough*.

[ii] Geometry has long served as an example of 'Martial' science in Serres works – the mathematical technology of division and control over space.

[iii] The degree programmes in Business Administration and Philosophy run from the Department of Management, Philosophy and Politics at Copenhagen Business School are excellent examples of this practice.

[iv] This has been a significant issue around our provision of philosophy and rhetoric on the undergraduate Business and Management Studies programme at Leicester.

[v] This has recently received a new translation by Randolph Burks (the best translator to date of Serres in English) along with a set of other short pieces from Hermes IV as 'Streams'.

[vi] I cannot resist mentioning here a phrase coined by my former doctoral supervisor, Rex Stainton Rogers, who referred to the site connecting the great divisions of the science and the humanities as the 'istmus' of social science, akin to the place of Panama between North and South America. Serres (1980) famously offers the alternative metaphor of exploring the Northwest passage to get between the great divisions, rather than taking the more obvious route of the Panama canal...

[vii] This may have been added because the original French title *Le Temps des Crisis* is a rather satisfying pun on *Le Temps des Cerises* ('Cherry Season'), a song associated with the Paris Commune ('I will always cherish the season of cherries, It is that time that I keep in my heart...'). The French edition reinforces this with an image of the fruit on the cover. In addition, the dual meaning of le temps and 'time' and 'the weather' suggests the link between history and ecology that is important to both this text and *The Natural Contract*. Anglophone readers are denied these hooks into the text.

[viii] The English translation title is the rather unhelpful but perhaps more catalogue-friendly *The Troubadour of Knowledge*.

[ix] I leave it to the reader to decide whether quoting this section this is itself an instance of a compelling, aggressive defensive citation.

[x] The example is clearly not unproblematic – or even perhaps historically accurate – and is an instance of tendency towards romantic idealization of supposed rural idyll that recurs throughout Serres' work.

[xi] These are in order the subtitles of the five *Hermes* books from 1968-1980.

[xii] Brown, 2013