Review Article

Forethoughts and Afterthoughts on 'the Productive Organs of Man'

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Bernard Stiegler's first and perhaps most fundamental book *Technics and Time, 1: The Fault of Epimetheus* (1994) commences with a story of brothers: Prometheus and Epimetheus.[1] These brothers were the Titans of Greek myth who were tasked with populating the earth. Prometheus shaped mankind, and Epimetheus other animals. It was considered 'the fault' of Epimetheus that humans were left without traits that may have protected them. It was then up to Prometheus to steal the technology of fire from Zeus so that the human might endure. Zeus punished Prometheus by chaining him to a rock while an eagle would dine at his liver. The liver, for its part, would regenerate daily so that the bird might continue to feed upon it. Having an organ eternally feasted upon seemed a fitting punishment for challenging the *organ*isation of the cosmos. Prometheus became known as the champion of mankind. His name translates as 'forethought'. Epimetheus on the other hand had to wait centuries for his reputation to be resurrected. His name translates as 'afterthought'. The liver was unnamed and all but forgotten.

At this moment following the passing of Stiegler, I am keen to look at what might constitute the forethought and afterthought of his first book, *Technics and Time, 1* Far from a comprehensive survey, I will turn to the strange banding of brothers in the book, and particularly to the coupling of Karl Marx and Friedrich Engels. Marx and Engels were not only brothers of a kind, but also forefathers of one or two driving impulses that surge through Stiegler's oeuvre, and to which architecture itself owes a particular debt. These ideas form a relay concerning organs, organic matter and technology, or what Stiegler would come to call 'organized inorganic matter'.[2] I then turn to a form of architectural experimentation with one or two productive organs, Neil Spiller's *Communicating Vessels* project. The project is located on an island in Fordwich, Kent, and Spiller takes up the task of populating the island with all manner of architectural oddity, somewhere between the organic and inorganic. *Little Soft Machinery* (2006), for example, is one intervention into the island, 'a kind of semi-living creature that has grown from stem cells, an old testicle and a leaky bladder'.[3] It is an architecture that Engels might have called 'men in the making', or that Marx and Engels collectively might call 'species-being' (*Gattungswesen*).[4] But it is also an architecture that might illuminate what Stiegler would come to call the 'exteriorisation and prostheticity'[5] of a 'general organology'.[6] But such a naming would, of course, constitute an afterthought, a thought that follows a passing.

Castrating Marx

Early in Stiegler's *Technics and Time, 1,* the question at stake for technology is raised by raising the idea of an organ. Or at least in terms of an organ or two that would be defined as 'the productive organs of man'. It is mentioned in reference to two seminal figures: Karl Marx and Charles Darwin. Marx the revolutionary historian of capitalism; Darwin the father of evolutionary biology. To get to the question of technology, the 'organ' itself becomes a tool

of a kind. Stiegler quotes from the fourth footnote in Marx's long fifteenth chapter in *Capital* (1867), 'Machinery and Large-Scale Industry':

> A critical history of technology would show how little any of the inventions of the eighteenth century are the work of a single individual. And yet such a book does not exist. Darwin has directed attention to the history of natural technology, that is, the formation of the organs of plants and animals, which serve as the instruments of production for sustaining their life. Does not the history of the productive organs of man in society, deserve equal attention? … Technology reveals the active relation of man to nature, the direct process of the production of his life, and thereby it also lays bare the process of the production of the social relations of his life, and of the mental conceptions that flow from these relations.[7]

Stiegler would suggest that 'Marx outlined a new perspective',[8] but his use of the ellipsis in the above quotation is telling. Ellipses tend to be used in standard practice to compress a quotation when the quote might otherwise be too long, or when the quote strays distractingly from the path of the text in which it now finds itself. Or, in rarer cases, ellipses are used where a quote might introduce an opposition to the body of text into which the quote is inserted. In the above case of Stiegler quoting Marx, the ellipsis is not there because the quote was too long. The sentence removed and replaced dutifully with the ellipsis is a simple and short one and involves Marx asking of a critical history of technology: 'And would not such a history be easier to compile since, as Vico says, human history differs from natural history in that we have made the former, but not the latter?'[9] One can also assume that Stiegler's use of the ellipsis is not because the reference to Giambattista Vico, the early philosopher of history, strays too far from the topic of Stiegler's surrounding text. In this case, it would seem that the quote was compressed because the sentiment expressed by Vico and then repeated by Marx is the very habit of thought that Stiegler wishes to expel. Stiegler is happy to climb onto Marx early in his book in order to posit the question of a 'technical determinism arising in a permanent oscillation between the physical and biological modalities'.[10] He is not so happy to note Marx's qualification. This may be for two reasons. First, it is hard to assert that Marx is offering a 'new perspective' when even Marx is deferring to a philosopher from the Age of Enlightenment. Second, the old perspective is Promethean. Marx is repeating what would remain the habitual way of conceiving of the relation between technology and organs in suggesting 'human history differs from natural history in that we have made the former, but not the latter'.

The story Marx tells via Vico has currency not because anyone in recent centuries believed that Prometheus had delivered technology to the human to compensate for his brother's failure, but rather because the evolutionary story of the species and its relation to technology resonates so well with the developmental story of an (any) individual. The traditional logic related to the species and technology can be stated thus: the human animal (the former) had the capacity to invent technology (the latter) and that this technology then helped leverage the human into dominion. Such a story resonates well with the tale of an (any) individual which goes something like this: the vulnerable and naked baby, born of nature, develops, grows, learns, and technology then comes to extend the capacity of the body in engagements with the world. In biological theory the desire to find in the story of the development of any individual a microcosm of the story of the species as a whole is given the term 'recapitulation'. Recapitulation offers an analogy between ontogeny and phylogeny as a link between the laws of individual development and evolution of the species.[11] Indeed we still talk of the 'birth of a species', the 'development of a species' and the 'maturity of a species', as if the qualities that apply to a single individual apply to a collective. The traditional story told to us of technology is that it enters

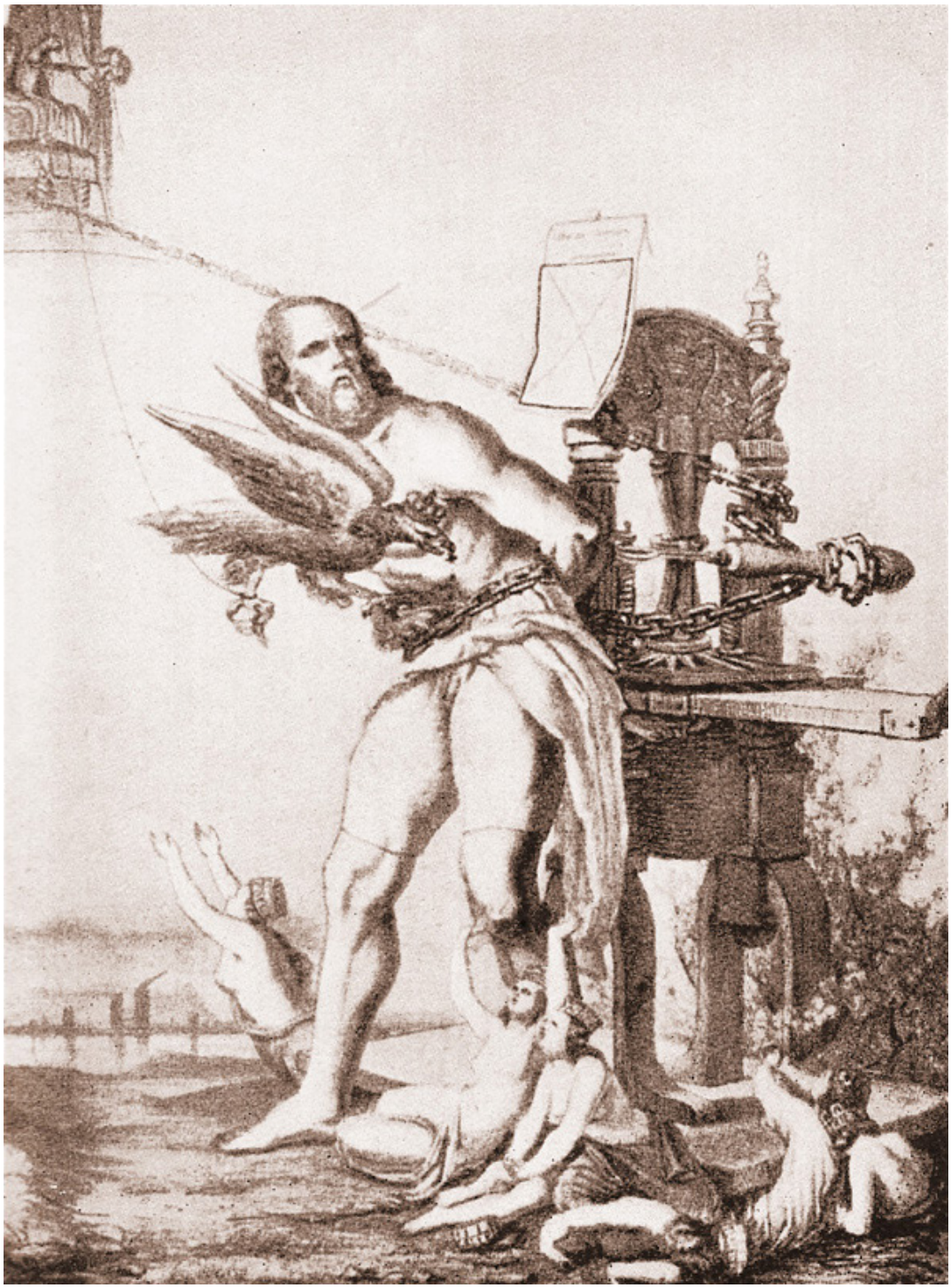

Fig. 1: Unknown artist, Karl Marx as Prometheus, March 1843. Image: https://commons.wikimedia.org/wiki/File:Marx_as_Prometheus,_1843.jpg

the picture for both the individual and the species in maturity, that is, adulthood. Thus, when Marx refers to 'the direct process of the production of his life' this process is framed as a developmental order, a tale of process as progress that relies entirely on this temporality: organism, organ, tool, and then technology. Now while this might seem to make sense for the naked baby, it is not necessarily so for society nor the species. And it is this habit of thought to which Stiegler himself is opposable.

In this matter Darwin may have been a better forefather for Stiegler than Marx. Marx was right in suggesting that Darwin's focus was a 'history of natural technology', but we might note that this focus did not preclude the inorganic world. Darwin would describe the world into which an organism was born not as some form of isolated outside. In referring to context extensively throughout *The Origin of Species* (1859) the phrase Darwin uses is 'conditions of life', textually compacting the Cartesian dialectic not to a pact of world-body reciprocity or world-body continuum but to the world as the condition of body, as life-former or body-context assemblage.[12] Darwin does not fixate on a figural descriptor and instead facilitates a relational understanding that exteriorises the body in a manner that would resonate well with Stiegler's account. And Darwin is clear on the integral relation between 'organic *and* inorganic conditions of life.'[13] Such a descriptor would equate well with what Stiegler calls the 'permanent oscillation between the physical and biological modalities'.[14]

For Stiegler, the technical object and its relation to the organ and organism is far more a condition of the species than a developmental process or moment. As such, technics is bound intimately to the very question of what it is to be human. *Technics and Time, 1* thus evolved into a series of three books, and commence an oeuvre fixated on the relegation and repression of technics, and then the very capacity of technology to relegate and repress. The conclusion for Stiegler is that what Marx calls 'the latter' indeed invents 'the former'. That is, the tool invents the human. And *Technics and Time, 1* masterfully rallies the greatest thinkers of technology to the cause. Following his long (yet carefully cut) quote from Marx, Stiegler writes 'Gille and Simondon, as much as Leroi-Gourhan and Marx, essentially tie the scientificity of a technics to such a critique.'[15] While it might be true that Bertrand Gille, Gilbert Simondon and André Leroi-Gourhan are at the core of the argument to come, rallying Marx to the cause isn't so simple. Stiegler might have put Marx in his corner, but it took an ellipsis to do so. *Verum esse ipsum factum* (as Vico might say).

By Engels's hand

In *Technics and Time, 1,* a book that commences with a tale of brothers, one is fascinated by the relegations that go on… the rise of one and the fall of the other. The one that is deferred to, and the other silenced in the relation. Epimetheus silenced by Prometheus, and Engels quiet behind Marx. Engels would receive but one subdued mention early in Stiegler's text. Following the phrase 'Marx outlined a new perspective', comes a sentence: 'Engels evoked a dialectic between tool and hand that was to trouble the frontier between the inert and organic.'[16] Given that troubling the frontier between the organic and inorganic was fundamental to the Stieglerian project, it is interesting that this statement implicating Engels is without reference. And the bibliography of *Technics and Time, 1* is of no help in identifying the *fore* of the thought. One assumes (and regrettably assuming is all one can do at this moment) that Stiegler is referring to Engels's pamphlet of 1876, 'The Part Played by Labour in the Transition from Ape to Man'. This small piece of writing was intended to introduce a larger work which Engels planned to call *Die drei Grundformen der Knechtschaft – Outline of the General Plan*. Neither the short essay nor the book would be completed, (even the best laid plans of mice and men…) but the pamphlet would come to constitute a chapter in Engel's *Dialectics of Nature* (1883).[17] Its main thesis was not that technology produced

Fig. 2: Marx and graffiti, Berlin, 2014. Photo: author.

man, but rather that 'labour created man himself'; however, the idea would have been highly useful to Stiegler because in his pamphlet Engels goes on to note: 'labour begins with the making of tools'.[18] *Ipso facto*, tools create man.

The story of one organ in particular is crucial here. It's not the liver nor a testicle, but rather: the hand. Engels's account of evolution draws on that of Darwin but the core reference is to the oft repeated idea that the accidental opposable thumb allowed the human to grab and hold a tool, and thus the organism that had the organ then had the tool that then had technology. Again, this story is much repeated: apes, or what Engels calls 'our hairy ancestors', came to walk on two legs, thus 'devolving' the hands of one function (walking) meant that they were free for another (holding a tool). And anyone who has watched chimpanzees at the zoo knows that their hands can come to satisfy many of their needs (or relieve many of their tensions). For Engels 'the decisive step had been taken, *the hand had become free* and could henceforth attain ever greater dexterity; the greater flexibility thus acquired was inherited and increased from generation to generation.'[19] Engels's description makes the evolution sound somewhere between Darwinian and Lamarckian. For Engels the hand operates as 'the organ of labour' but also as '*the product of labour'*.[20] And for Engels it is labour that generates the distinction between the human and other animals: 'By the combined functioning of hands, organs of speech and brain, not only in each individual but also in society, human beings became capable of executing more complicated operations'.[21] Tools were taken up, hands formed to tools as tools formed to hands, tools led to labour, and labour led to society. And in Engels's account, this then led to the capitalist mode of production and to those who use the hands of others to overpleasure themselves, and then to the degradation of the planet in 'burned down forests' that would come to decimate our dexterous 'hairy ancestors'.[22] Engels's pamphlet is prodigious.

When Stiegler refers to Engels's 'dialectic between tool and hand' he is not only referring to the interplay of digits and devices, but also to the dialectical materialism Engels invokes. Engels would describe the dialectic as the method for investigating 'inter-connections in general, and transitions from one field of investigation to another.'[23] Engels's dialectical method would pay little heed to traditional disciplinary bounds and would come to weave all manner of science and the social into what he refers to as 'my recapitulation of mathematics and the natural sciences'.[24] And it was not that Engels imagined that thought itself would illuminate the situation of the material world. No, Engels was no philosopher of the Enlightenment. Instead, he found in the material world itself a logic that was far richer than thought. He emphasised that 'there could be no question of building the laws of dialectics into nature, but of discovering them in it and evolving them from it.'[25] Here Engels is suggesting that what Marx called 'the latter' was indeed 'the former'. This position at the centre of Stiegler's work and indeed why Epimetheus comes to figure so prominently. In Plato's *Protagoras* 'Epimetheus, the being in whom thought follows production, represents nature in the sense of materialism, according to which thought comes later than thoughtless bodies and their thoughtless motions.'[26] Plato's fool becomes Stiegler's hero, for exactly the same reasons. Engels also set a path that would privilege the material *real* ahead of the abstractions of thought. His account is thus an undermining of Cartesian meditations on the mind (*cogito, ergo sum*), Jean-Jacques Rousseau's notions of human freedom and perfectibility, and most notably the Hegelian triad of propositions (thesis, antithesis, synthesis). Indeed, it is an undermining of all philosophies posed in isolation from the material world, and particularly the philosophies of mind, or what Stiegler, following Leroi-Gourhan, refers to as 'cerebralism'.[27]

Stieger's fast and subdued praise of Engels belies the impact of Engels's dialectical logic on

the key arguments of *Technics and Time, 1*. The focus on the concrete material world is important to Stiegler, but so is the method of simple logical inversion which Engels's dialectics transformed into an artform. Though simple, it is an inversion that has significant and multiplicitous implications. The inversion comes to be expressed in terms of the productive use of contradiction or what is referred to as 'the law of the negation of the negation' (after Hegel), and it constitutes an escape of a kind.[28] Engels refers to this logic as 'a very simple procedure, performed everywhere every day, which every child can understand as soon as the mysterious junk in which the old idealistic philosophy wrapped itself is stripped off.'[29] The method is a little like taking a whole (a whole anything) and dividing it into its habitual oppositions, for the purpose of locating the opposites within each other. Engels uses the example of life and death, where death is 'the negation of life as being essentially contained in life itself, so that life is always thought of in relation to its necessary result, death, which is always contained in it in germ.'[30] Now, while Engels imagines that any child could understand this; an example may help. Consider a seed and a plant: the organic plant comes to contain the husk of a seed that when cast aside is inorganic. The seed is the negation of the plant. The plant negates the negation in its growth. The fruit of the plant contains the very germ of both life and death. Roy Bhaskar has suggested that the negation of the negation 'raises the issue of *absenting absences* and the reassertion of lost or negated elements of reality.'[31] Engels himself makes the point more simply in notes to his *Dialectics,* stating, 'that from the outset identity with itself requires *difference from everything else* as its complement, is self-evident.'[32] For Engels the dialectic allows the simple oppositional construction of organic and inorganic to be recomposed. And for Marx and Engels it would allow a weaving between a number of categories that might once have been framed in opposition. Marx would exercise the dialectic in noting that 'the capitalist mode of appropriation, the result of the capitalist mode of production, produces capitalist private property'.[33] Thus, the class struggle exposes the source of the struggle itself. And thus, in a demonstration of the problem of brothers, Engels's formulation of the negation of the negation became a core part of what would come to be known simply as 'Marxism'.

In *Technics and Time, 1* the negation of the negation is also a key tool. As Stiegler writes: 'for to make use of his hands, no longer to have paws, is to manipulate – and what hands manipulate are tools and instruments. The hand is the hand only insofar as it allows access to art, to artifice, and to *tekhnē*.'[34] That is, it is not the hand that invents the tool, it is that the tool invents the hand. Henceforth the human is indissociable from the techne that produced it. We have here a form of logic – an investment – that translates opposition into inversion, which becomes the logical refrain of *Technics and Time*. At times this occurs as a play of correlation and causation, or a type of reverse causation, reverse causality, where the naïve assumptions of what is 'former' and 'latter' are exposed in the material of the world. It is a mirror into which many of Stiegler's key referents had peered. We are reminded via Leroi-Gourhan that it is not that the human invents technology, it is that technology invents the human; and via Simondon that it is not form that invents matter, but matter that constitutes form. This logical inversion is not more apparent than in Stiegler's own summation of the relation between the exterior world (of tools, contexts, technologies) and an interior one (of a body, of what one thinks they are). Stiegler writes: 'interiority is nothing outside of its exteriorisation – but that of an originary complex in which the two terms, far from being opposed, compose with one another'.[35] It is a simple logical manoeuvre, but also a valuable and highly productive one. Stiegler's resurrection of Epimetheus is entirely bound to this logic. Therein, it is not Prometheus's gift that gives the human technology, but rather Epimetheus's 'fault'. It is a matter of temporality. Epimetheus planted the seed (albeit

in negation) for all tools that came to grow hands. For Stiegler, the prefix '*Ēpi*' of both Epimetheus and what he would come to call *epiphylogenesis* 'carries the character of the accidentality and artificial factuality of something happening, arriving, a primordial "passibility" [*passibilité*].'[36] While Stiegler would do much to resurrect the reputation of Epimetheus against the accidental and artificial factuality of Prometheus, he was not so generous when it came to Marx's brother Engels. I hope it is as productive a negation.[37] *Cum hoc ergo propter hoc.*

Afterthoughts on testicular architecture

It is Sigmund Freud who likely best negates the negation of the Promethean myth and incidentally implicates architecture in the organ-tool equation. Freud notes in *Civilization and its Discontents* (1930), 'we find that the first acts of civilization were the use of tools, the gaining of control over fire and the construction of dwellings. … With every tool man is perfecting his own organs, whether motor or sensory, or is removing the limits to their functioning.'[38] In a conclusion that seems odd for the father of psychoanalysis, Freud finds that the 'first acts of civilization' were not acts of thought, the imposition of an ego over an untamed id, or the secret collaborations of ego to constitute super-ego. No. Instead for Freud the 'first acts of civilization' were simply 'the use of tools', and the tool perfects the function of both 'motor *and* sensory' organs. One assumes that Freud's use of the word 'sensory' is implicating not only the organs associated with senses of perception but also the brain, consciousness and thought itself. And if this assumption is appropriate, then this account of civilisation is Epimethean (as Plato had framed it), in that 'thought follows production'. We should be clear in noting that Freud is not suggesting that it is tools that make the human, but rather that tooled-up humans make civilisation. Whilst this seems like an oddly pragmatic conclusion, Freud does fulfil an expectation of the bizarre in a joyous footnote that seems to imagine an act that could so easily have been the second fault of Epimetheus. He writes: 'It is as though primal man had the habit, when he came into contact with fire, of satisfying the infantile desire connected with it, by putting it out with a stream of his urine.'[39] And thus, for Freud, even a penis in a hand is a tool that might quash the fire of gods. Prometheus would have been furious.

Stiegler doesn't turn to Freud on this point of urethral eroticism, though his work does open a new frontier in the question of the relation between selves and technologies, and between organs and architectures. It is the frontier of the tooling of the cerebral. That is, the manner by which tools come to construct the brain and all that is associated with it. For Freud's footnote suggests that organ-tool relations operate in more than a pragmatic, utilitarian, or functional manner. In a basic functional sense, it might be entirely pragmatic to take hold of an organ in order to put out a fire. But in Freud's account there is also a cerebral mechanism at stake, and the mechanism he is concerned with is 'desire'. Freud notes that the technology of fire has a 'desire connected with it' and it is desire that is configured in fire, a stream of piss and a penis. The organ in such an account is a tool, but more than this, it is a tool lubricated by desire. In this sense, what Freud is speaking of may indeed be a subset of what Marx had noted in a passing phrase within the fourth footnote to Chapter 15 of *Capital*, which Stiegler came to quote. There, Marx notes that a history of technology and its relations with the human might also deal with 'the mental conceptions that flow from these relations'.[40] This may have been a passing phrase in a footnote, which comes to be quoted in *Technics and Time, 1*, but it does suggest that the kernel of the cerebral was always in the core of considerations of technology. And thus, while Stiegler did not turn to Freud on this point, it is not that he didn't turn.

The closest architecture comes to engaging such an idea of the manner in which 'thought follows production' is perhaps Neil Spiller's *Communicating Vessels*. This project commenced

Fig. 3: Neil Spiller, Little Soft Machinery, 2006. Photo: Neil Spiller.

in 1998 and constitutes a 'life-work', a long-term theoretical investment in rich layered drawings that waver between techne and poesis. Spiller locates the project in a geographic sense, on an island in the English village of Fordwich, but this island is not exclusively geo-historic. He describes it as 'an island of memories, of hot sunshine bicycle rides, burgeoning sexuality, secret underage beers and illicit '70s liaisons.'[41] I think I've been there. There are two interconnected impulses surging through the *Communicating Vessels* project. On the one hand, it negotiates a pragmatics of techne and a vivid concrete material world. The island exists, as do the geo-historical events, technologies, bicycles and beers that come to be collated. And Spiller is clear in locating the project in the frame of techne, describing it as 'a rumination on the impact of 21st Century technology on architectural space and materiality'.[42] On the other hand, the project negotiates the realm of desire and memory. Spiller describes *Communicating Vessels* as 'a personal memory theatre, a surreal contemplation', and in this regard the island is also a place of the burgeoning and the illicit, or what Engels calls 'mysterious junk' and what Freud calls 'desire'.[43] It is this dual formation that is fascinating: the manner in which the concrete pragmatics of technology and cerebral mechanisms surge together. The hard wiring of bikes and beers in concert with the supple wiring of desires and memories. On Spiller's island objects desire and tools remember, and the island itself is 'simultaneously there geographically and in my memory'.[44]

Such a surge also occurs in *Technics and Time, 1.* It occurs where the phylum of the hand and the epiphylum of technics directly generate thought. Memory, traditionally the preserve of an interior, becomes articulated by a nonorganic exterior and thus, what starts as an equation of tools and hands, slides into the cortex and relates to what Stiegler would call 'epiphylogenesis'. He defines epiphylogenesis as the 'inorganic organization of memory', and in an odd moment of concurrency with Freud, Stiegler suggests that epiphylogenesis is the 'first coup' in the constitution of society.[45] Just as the tool makes the hand, the technologies that surround us – that were the product of others' hands – are implicated in the cerebral constructions of ourselves, our societies and civilisations. The desires and thoughts we imagined were internal are, it seems, constructed well beyond our organs and well before our origins. For Stiegler it is technics that precedes us and that pre-empts cerebral constructions. He notes that the 'epiphylogenetic structure makes the already-there and its appropriation possible, as reappropriated expropriation, a maieutics of "exappropriation"'.[46] For Socrates, maieutics was the birthing of knowledge; for Stiegler it was that which was already outside the organism, and which – coming to be reappropriated – gives birth to that which thinks: the 'what' inventing the 'who'. In this regard all those things that we come to think of ourselves *as being*, occur as the intellectual residue or biproduct of the assemblages in which we are implicated. This or that political alignment, this or that class designation, this or that categorisation, this or that gender, this or that orientation, this or that relation or demarcation, come to be matters of construction.[47]

To explain the idea in simpler terms, we might turn to Spiller's memories of his island as an example. Bicycles and beer were there before the teenage Spiller came to take them up in order to assemble a teenage memory. They are still there after he departed the island too. These inorganic things might be taken up or put down by other teenagers. In the case of a bicycle, it might be taken up to temporarily extend legs into the circular motions of chains and tyres that help construct a desire to get to an island before a sunset. Indeed, Spiller's bike had already been ridden uphill by Alfred Jarry and around rural Ireland by Flann O'Brien.[48] It was 'readymade' as Duchamp says, a 'reappropriated expropriation' as Stiegler says. And in the case of beer, it too flows through generations like mental conceptions and urine. It is taken up to make communication more fluid and inhibitions

less pronounced in the construction of innumerable memorable sweaty moments. These 'things', bicycles and beers, constitute what Stiegler calls 'exteriorisation and prostheticity' because such things are at once outside us and formative of us.[49] Thus, prostheticity should not be thought of merely as an extension of (our)selves. These inorganic 'things' that Spiller connects to, bikes and beers, are completely indifferent as to whether or not they constitute the memories that Spiller considers to be *his* youth. That is to say, one could note the story of the bicycle or a liver just as simply as one notes the story of a teenager or a Titan. They are all part of a complex milieu of individuation. And from the perspective of epiphylogenesis, the beer and bicycle are as constructed as the teenager that rides both. Stiegler notes that 'epiphylogenesis bestows its identity upon the human individual: the accents of his speech, the style of his approach, the force of his gesture, the unity of his world.'[50] Spiller himself, the person, the architect, the designer, is not extended or perfected in prostheticity, but rather taken up as a component – merely another component. Just as the tool makes the hand seem less fundamental, identity becomes less an internal particularity to be essentialised and preserved, than a machine that is itself in construction.

What all these organs, tools, desires and memories, and organisations thereof, come to construct is not an individual. What is constructed here is a world. And this is the case whether that world is a simple one ('the unity of his world' as Stiegler calls it), or a complex and proliferating world (as is the case of Spiller's island). While we noted that the collation and assembling of 'things' such as beer and bicycles constitute what Stiegler calls 'exteriorisation and prostheticity', the world of the island might constitute what Stiegler calls a 'general organology'.[51] And organology might be thought of as the technicised milieus organised for particular forms of social production. Spiller's project gives us a world as a cacophony of organs, the organic, inorganic, desires and memories. Phenomenological and anthropomorphic sensibilities, social relations and mental conceptions come to be indiscernible from the architectural. Simultaneously architectural objects come to be indiscernible from ontologies, regimes of thought, memories, presences and timings. Spiller writes of a

> permanent architectural context, material sympathies and synthesis, massing, phenomenological and anthropocentric sensitivities [that] are now imbued with the accelerating timescales of virtual and chemical metamorphosis combined with the virtual choreography of chance. Positions of, and the nature of objects and architectures are conditioned by mixed ontologies, scopic regimes, numinous presences and reversible time. This reversible time stalks objects and disturbs their gentle entropy and peaceful rest. The vitality of architecture has increased a thousand-fold.[52]

With the skilful capacity of Hephaestus, Spiller engages organs, organisms, objects, desires and memories, 'transductively' (as Simondon would call it), to generate a world. Technology is not only at its conceptual core but temporally anticipates this world. That is, it operates always as 'the former'. In a paper titled 'Vascillating Objects' (1997) that poetically pre-empts the *Communicating Vessels* project, Spiller writes: 'Technology is forcing the object to become a subject, partial and anamorphic.'[53] And it is for this reason that we might now come to speak of 'the vitality of architecture' without hesitation, and without invoking metaphor.

The *Communicating Vessels* project incorporates a logic of the corporeal and an organisation that does not merely house the organ. Objects here are never given, but rather stalked and disturbed. There are to date forty-three sites or structures constituting the project. *Little Soft Machinery* is one oddity of the island, 'a kind of semi-living creature that has grown from stem cells, an old testicle and a leaky bladder'.[54] Where Freud imagines a technology that might remove our organs' 'limits to their functioning', Spiller imagines a removal of organs

from organisms in order that they might function radically differently. And thus, an emancipated organ on an island where 'thought follows production' is productive indeed. In the case of *Little Soft Machinery* an orchidectomy allows a testicle to bloom and operate as an energy source for the island, perpetually generating a substance Spiller calls 'vaz', 'the holy gasoline' or 'grease'. And much like an eagle might forever feed off a liver, Spiller's island has fed for years off this 'old testicle and a leaky bladder'. It should be noted that though *Little Soft Machinery* is composed of parts – organs – it itself remains partial – and comes to be plugged into all manner of architectural expression. *Little Soft Machinery* is currently plugged in under the *Lillith Gate*, the entrance to the island. Here on Spiller's island, organs function not as they might in the organisation implied by the organism, but beyond the bodies in which they originated. They become tools for the construction of worlds. *Little Soft Machinery* is without an overarching essence or sense of itself, but it is not without desires. Spiller tells us that it is a 'bio-technological factory' that (much like Epimetheus) 'isn't very smart, just smart enough to desire.'[55] *Nullius nisi insipientis in errore perseverare.*

Again, I think I've been there… The old formula (first the organism, then the organ, then tool, then technology, then civilisation) comes to appear as a rather restrictive habit of thought that bares little correspondence to the material world. The new equation is: livers, testicles, bladders, architectures, memories, desires, populations, the machinery of civilisation, connected and surging: all 'productive organs of man', as Marx called them; all constituting a 'general organology', as Stiegler called it. The negation at stake here is the negation of the world as a type of causal system. It is an 'augmented reality', as Spiller writes. But it is also a negation of the world of habitual thinking. And architecture likely negates the negation in creation – bearing fruit that always contains the husk of a seed and a plant yet to come. In *Technics and Time, 1*, a text that continues to produce immense thought, Stiegler told us that when the tool liberates itself from the hand and technology comes to enter a 'general organology', techne 'brings into being what is not.'[56] A new world. And just as an organ might be removed in order to feed an architecture of a new world, so too might an ellipsis or two be necessary to extend a wondrous philosophy.

Notes

1. Bernard Stiegler, *Technics and Time, 1: The Fault of Epimetheus,* trans. Richard Beardsworth and George Collins (Stanford: Stanford University Press, 1998 [1994]).
2. Bernard Stiegler, 'Elements for a General Organology', *Derrida Today* 13, vol. 1 (2020): 72.
3. Neil Spiller, 'Ethics, Architecture and Little Soft Machinery', *Architectural Design 78*, no. 6 (2008): 94–97.
4. Friedrich Engels, 'The Part Played by Labour in the Transition from Ape to Man', trans. Clemens Dutt, in *Dialectics of Nature* (Moscow: Progress Publishers, 1986), 173. The original essay 'Anteil der Arbeit an der Menschwerdung des Affen' was written in 1876 and first published in *Die Neue Zeit* 1896; Karl Marx, footnote 20 of his *Economic & Philosophical Manuscripts of 1844,* trans. Martin Milligan (Moscow: Progress Publishers, 1959). Marx notes: 'The term "species-being" [*Gattungswesen*] is derived from Ludwig Feuerbach's philosophy where it is applied to man and mankind as a whole.'
5. Stiegler, *Technics and Time, 1,* 172.
6. Stiegler, 'Elements for a General Organology'.
7. Karl Marx, as cited in Stiegler, *Technics and Time, 1*, 26. It might be noted that in the original French edition, the ellipsis is marked in square brackets to indicate it is not Marx's own ellipse, but rather that of the Stiegler. The square brackets are removed in the English edition.
8. Stiegler, *Technics and Time, 1,* 2.
9. Karl Marx, *Capital*, Volume 1, trans. Ben Fowkes (Harmondsworth: Penguin,1976), 493n4.
10. Stiegler, *Technics and Time, 1,* 26.
11. Peter J. Bowler, *The Eclipse of Darwinism: Anti-Darwinian Evolution Theories in the Decades around 1900* (Baltimore: Johns Hopkins University Press, 1983), 159.
12. See for example Chapter 4 of Charles Darwin, *On The Origin of Species By Means of Natural Selection, or the Preservation of Favoured Races In the Struggle for Life*, with an introduction by Ernst Mayr, (Cambridge, MA: Harvard University Press, 1966 [1859]), 126–27.
13. Darwin, *On The Origin of Species*, 84, my emphasis.
14. Stiegler, *Technics and Time, 1,* 26.
15. Ibid.
16. Ibid., 1, 2.
17. The essay would come to form the ninth chapter of Engels, trans. Clemens Dutt, *Dialectics of Nature* (Moscow: Progress Publishers, 1986 [1925]), 173.
18. Ibid., 170, 176.
19. Ibid., 171–2.
20. Ibid., 172.
21. Ibid., 177.
22. Ibid., 183.
23. Ibid., 43.
24. Ibid., 8.
25. Ibid.
26. Plato, *Protagoras,* trans. Benjamin Jowett (Project Gutenberg EBook, 2013), 320d–322a.
27. Stiegler, *Technics and Time, 1,* 84.
28. Engels, *Dialectics of Nature*, 62.
29. Friedrich Engels, 'Herr Eugen Dühring's Revolution in Science', trans. Emile Burns, in Karl Marx and Frederick Engels, *Collected Works* vol. 25 (New York: International Publishers, 1976), 125.
30. Engels, *Dialectics of Nature*, 295.
31. Roy Bhaskar, *Dialectic: The Pulse of Freedom* (London: Verso, 1993), 150–52.
32. Engels, *Dialectics of Nature*, 215.
33. Marx, *Capital*, 542.
34. Stiegler, *Technics and Time, 1,* 113.
35. Ibid., 152.
36. Ibid., 206.
37. It is well-known that Marx's favourite figure from Greek mythology was not Epimetheus, but rather his brother Prometheus. The hero of Marx's dissertation on *Democritus and Epicurus* (1841) was Prometheus, the god 'who would not bow to the gods' anger'. The image became fundamental. Marx notes in *Capital* that 'the law which always holds the relative surplus population or industrial reserve army in equilibrium with the extent and energy of accumulation rivets the worker to capital more firmly than the wedges of Hephaestus held Prometheus to the rock.' Marx, *Capital*, 451. Marx also writes in 'Prometheus Bound':

'Prometheus is the noblest of saints and martyrs in the calendar of philosophy.' *Marx-Engels Selected Works* (Moscow: FLPH, 1955), 21.

38. Sigmund Freud, *Civilization and its Discontents*, trans. David McLintock (London: Penguin Books, 2002 [1930]), 28.
39. Ibid., 35n2.
40. Karl Marx, as cited in Stiegler, *Technics and Time, 1*, 26.
41. Neil Spiller, 'Drawing as communicating vessels: an apologia (or not)', in *Drawing Futures: Speculations in Contemporary Drawing for Art and Architecture* (London: UCL Press, 2016), 37.
42. Ibid.
43. Ibid.
44. Ibid.
45. Stiegler, *Technics and Time, 1,* 174.
46. Ibid.*,* 159.
47. In this regard, Stiegler's *Technics and Time, 1* project perhaps finds itself pushed toward conclusions in the work of Paul B. Preciado and particularly Preciado's conception of technology in the constructions of sexuality. Beatriz Preciado, *Testo Junkie: Sex, Drugs, and Biopolitics in the Pharmacopornographic Era,* trans. Bruce Benderson (New York: The Feminist Press, 2013 [2008]).
48. Alfred Jarry, 'The Crucifixion Considered as an Uphill Bicycle Race', trans. Roger Shattuck, in *The Selected Works of Alfred Jarry* (Grove Press, 1965). Flann O'Brien, *The Third Policeman* (London: MacGibbon & Kee, 1967).
49. Stiegler, *Technics and Time, 1,* 172.
50. Ibid.*,* 140.
51. Ibid.*,* 172.
52. Spiller, 'Drawing as communicating vessels', 41.
53. Spiller 'Vascillating Objects', cited in Spiller, 'The Geomorphology of Cyborgian Geography', *Organs Everywhere (OE)* 2 (2011): 9. Spiller would defer to the idea in a later text noting of the project that 'the epistemological distinction of plants, animals and machines is eroded'. Spiller, 'Ethics, Architecture and Little Soft Machinery', 16.
54. Ibid., 94–97.
55. Ibid., 24.
56. Stiegler, *Technics and Time, 1,* 9.

Biography

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