Matters of the heart: temporality and microchimeric entanglements

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In addressing matters of the heart, I want to abandon a unified approach in favour of bringing empirical, biological and philosophical – and especially bioethical - insights into conversation. My own involvement in an ongoing heart transplantation project sprang from my identification as a body theorist with an unapologetic commitment to postconventional philosophy and critical cultural theory. Plenty of empirical work already existed around the topic of transplantation, both in strictly biomedical texts that eschewed speculation and in the social sciences which was more open to providing a theoretical envelope to research data, but it was hard to find philosophical texts that reference any systematic enquiry into reported lived experience or that engage directly with clinical findings. The pleasure of working with a radically multidisciplinary team has ensured that all those elements must be taken into account in order to work together productively. Rather than having an additive model, however, we have arrived at an approach that interweaves many areas of expertise and diverse methodologies that reflect the extraordinary complexity of the object of our endeavour. Heart transplantation emerged from this process as a seemingly inexhaustible source of questions. What I present here is simply a plateau of ongoing thought, not a place of final arrival.

The focus on heart transplantation reveals it as both a radical encounter between self and other, and the site where the conventional teleology of life and death are deeply problematised. The relation of self to other is irreducibly intertwined in the experience of transplant recipients with an ongoing sense of self that is shot through with at very least anxiety, and for some a profound ontological uncertainty. For recipients of donor organs, the experience of surviving an otherwise certain death is fraught with complex emotions not only about the self and the now dead other, but the persistence of the other within the self. In a strong sense it a relationship of spectrality. Of course any exercise in life-saving surgery raises awareness of mortality, but the apparently self-evident distinction between states of living and states of death - one of the fundamental binaries underlying our understanding of human existence - has become increasingly insecure as biotechnologies seek to intervene into processes that once seemed natural and inevitable. Survival rates are high, so the expectation of prolonged life is soundly based, but the post-transplant question ‘who am I?’ is never straightforward (Poole et al 2009). Yet, living on is no simple outcome, and the question of whose life has been prolonged is far from clear. In contrast to the feel-good rhetoric of hope in the transplant clinic, recipients are often significantly troubled after the procedure, but find little room for any exploration of the more negative emotions that they may experience. All organ transfer is symbolically complex, but the heart itself carries all the cultural baggage of being considered not just biologically, but metaphorically, the seat of life such that heart donation constitutes the gift of life. The metaphor of the gift is hardly unexpected, but I shall problematise its meaning, before moving on to consider whether a Deleuzian notion of the assemblage might offer a more productive framework.

Heart transplantation has become such a taken-for-granted intervention into the body that the issue of scarce resources – the gap between available organs and those required to meet demand – dominates ethical discourse. Health care providers regularly launch new campaigns to encourage organ donation, and state policy across disparate jurisdictions is increasingly turning to presumed consent. Clearly these factors – together with the uncomfortable spectre of organ trafficking that is motivated by the shortfall – rightly generates public debate, but what are given far less time are the wider ethical and philosophical implications of incorporating another’s heart and genetic material. Based on the empirical evidence accumulated by the PITH and GOLA studies, over more than 10 years, those aspects should be a site of serious and perhaps even primary concern, particularly in the light of recent understanding of the phenomenon of microchimerism, which I’ll go on to explore in detail. What transplantation entails is a
dramatic intervention into the embodied self that accelerates the potential harms and benefits of chimerism at the cellular level in terms of subsequent well-being and well-Being. Where the relation between recipient and donor has always been existentially fraught in terms of personal identity and the obligations attached to the gift of life, considerations of microchimerism introduce new dimensions. Not only does the suture at the heart of transplantation figure both a cutting apart and a joining together, but the continuing circulation and operation of ‘alien’ genetic material in the peripheral blood supply raises questions regarding the singularity of the self and the temporal dimensions of life and death. While the notion of such close encounters may provoke feelings of disturbance and anxiety, it is also the point at which we might rethink the temporal and spatial boundaries of all embodiment.

Before coming to the specific nature of microchimerism and its implications in transplantation, I want to look more generally at some of the disturbing elements of heart donation that are not readily apparent to those either choosing to donate or to receive an organ. When the PITH project began we set out with the expectation that some recipients at least would experience certain discontinuities to their sense of self in line with the post-transplant narratives of changed identities that are so prominent in literature and film. The intention was not to make any judgment as to the veracity of possible claims, but simply to better understand the lived experience of recipients. Very few of the respondents gave florid accounts of changed personality, but not surprisingly many felt themselves to be no longer the people they had been, either in tastes, temperament or behaviour, and several speculated about the characteristics of their own donor (Poole et al 2009). What we hadn’t anticipated was the degree to which the recipients expressed palpable distress in their newly embodied states. Against an authorised narrative in which transplantation is pitched as effectively spare part surgery that restores the former healthy self and that sees bodies as subject to external control, divested of any phenomenological sense, the continuing experiences of most of our cohort were anything but disembodied or comfortable (Shildrick 2008). Over 80% showed negative affect - crying, sighing deeply, slumping in their seats, twisting their hands together – or voiced their distress. The clinicians on our team, who were in daily contact with organ recipients, were especially startled by the results given that few of the concerns were ever expressed during consultations where the common question of ‘How do you feel?’ is taken as an enquiry into medical recovery and capacity rather than emotion. In interview, however, the scale of actual disenchantment revealed a very different understanding of what heart transplantation entails (Ross et al 2010). With few exceptions, recipients felt themselves now entangled with the donors, whether through shared attributes, a deep feeling of obligation, or guilt that their own lives depended on the death of unnamed but very specific others.

A further complicating factor arose from the dual emphasis within the transplant procedure of strictly observed anonymity for both recipient and donor coupled with an implicit demand that recipients should acknowledge the material and familial specificity of the donation. Far from being a neutral and depersonalised spare part, or the expression of disinterested altruism, the organ took on the sense of a purposeful gift that bound the two parties together in an economy of exchange. Our respondents did not need to be familiar with Mauss’ theory of the gift (1990) to recognise that the transplanted object carried with it spiritual aspects of the other and that they were expected to reciprocate with ‘gifts’ of their own. Conventionally there may be an exchange of letters, initiated either by the recipients themselves or by the donor family, and while it is not a direct obligation on either side, it was clearly the crux of disturbing emotions. Whether realised or not, the prospect of writing generated tears and inarticulacy in a high percentage of recipients became; while for donor proxies there was similar hesitancy, but often deep regret if they had not received any letter. The requirement of anonymity weighed heavily on both sides, but where for recipients there might be some disinclination to acknowledge their own current hybridity in the literal entanglement of self and other, on the donor side there was a clear wish to know that in some way their deceased loved one was living on, albeit as part of another. In parallel to the recipients’ intuition that they were not restored to their former selves, the feeling for donor proxies was that at least some aspects of the donor would endure in a material way after death. The often burdensome, but usually inexpressible relation between the two parties centred on the discourse of the
The empirical findings from the interviews confirmed what had begun as philosophical speculation: that the experience of transplantation would invoke a sense of hybridity and ontological anxiety where that was unwelcome. The initial starting point relied on the phenomenological claim that as the self is always embodied, then changes to the corporeality of an individual would disturb any continuous sense of self (Merleau-Ponty xx). Clearly, then, the coming together of self and other in the material form of heart transplantation is a point of high concern. Given that the dominant imaginary of the western world insists on the boundedness and singularity of each individual, it is unsurprising that the notion of hybridity is a largely alien one. Popular representations of transplantation abound with uneasy narratives that express an underlying fear that the personal characteristics of the deceased donor might take possession of the recipient, or that s/he might reappear as a spectral presence. It is not just - as phenomenology might predict - a change that could be assimilated in the fashioning a new embodied self, but of a self haunted by irregular traces of otherness. The transplanted organ – the heart – is never really mine but remains a living reminder of the deceased donor. For the majority of our respondents, whose clinical recovery was expected to be coincident with a renewed sense of a stable and integrated self, the path to psychological well-Being was difficult and sometimes impossible. None of them were classified as distressed on the scale of conventional psychometric tests but that their phenomenological lived experience was one of disruption and dysmophia. Following his own heart transplant, philosopher Jean-Luc Nancy is eloquent in his self-analysis of what is at stake: ‘Medical practice … renders the graftee a stranger to himself’ (2002: 8–9). For Nancy, the transplanted heart is not a gift in the everyday sense but an intrusion which both gives him life and exposes him to danger. In this he reflects Jacques Derrida’s understanding of hospitality in which the unknown guest – and surely that is what the unassimilated graft intends - must be welcomed across the threshold of the self even at the risk of dissolution.

For Derrida the coming of the other is inevitable and it always constitutes a hauntological relationship between absence and presence, life and death, as well as self and other. What matters for Derrida is that we should welcome the unknown other, not in the knowledge that we will benefit - for we may not - but as a way of securing a future. Derrida wrote little directly about transplantation but it clearly in

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enough to call into question, to the point of annihilating or rendering indeterminate, all the distinctive signs of a prior identity, beginning with the very border that delineated a legitimate home and assured lineage. (1993: 34)

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developments in biological science. And this is where the recent explosion of interest in microchimerism becomes significant as it plays into the central Deleuzian concept of assemblage.

Before exploring to the relevant implications, I want to quickly set out what constitutes microchimerism. While the concept of chimeric – the combination of body parts from different animal species - may be familiar from its origins in Greek myth, microchimerism, which operates at the cellular level, was little known or researched until the late 20th century, even in biological science. The term denotes the existence of parallel and distinct sets of DNA and their associated antigens in the same body, in concentrations of no more than 1 in 1000 cells showing a difference. Microchimerism has long been acknowledged as an evolutionary occurrence in plants and invertebrates as well as many vertebrates and mammals, including human beings. Bioscientific explanations for both chimerism and microchimerism are undecided, but the implication is that the conventional model of biologically distinct objects - including ourselves - where each individual organism is regulated by a single unvarying genome and genetic homogeneity will not hold. Chimeric states may be entirely natural as in the human fusion into a single body of dizygotic twins in utero or the widely recognised phenomenon of foetal cell engraftment into the maternal body, and vice versa. There is also a wide range of iatrogenic causes, like plant grafting in horticulture, or turning to more relevant material, biomedical interventions such as organ or stem cell transplantations. As with chimerism at the level of whole bodies, there may be observable morphological distinctions arising from the diverse DNA markers in microchimerism, although it is not usually visually detectable. Classically someone who is microchimeric may have different coloured eyes or patches of different skin pigment, but as the external effects are likely to be very limited or non-existent, there is little evidence of the extent of the condition. The point to stress is that the putatively non-self cells are not assimilated to achieve new uniformity, but remain distinct.

Microchimerism is now regarded – after decades of dispute - as a fairly common, and probably ubiquitous phenomenon, but one that can still be largely disregarded in the absence of disease or ill-health. Despite the low incidence of non-self cells and lack of obvious anomalies in morphology, there are, however, strong reasons to believe that microchimerism may affect the biomedical outcomes of procedures such as transplantation surgery. The authorised narrative of the clinic, and certainly the one that questioning recipients will hear is that the DNA of the grafted organ will remain in situ and play no part in recovery and future life. There is plentiful evidence, however, that the donor DNA enters and circulates in the peripheral blood supply, thus maintaining a consistent low level presence of disparate cells throughout the body. More dramatically, occasionally microchimeric cells may accumulate at specific sites such as solid organs (other than the transplant itself) and result in distinctive instances of what can be called macrochimerism. Certainly there is an ongoing and highly oppositional debate within immunology and transplant medicine with regard to the potential of beneficial or pathological outcomes in the presence of microchimerism.

In transplantation, microchimerism matters specifically to with regard to its input to the immunological status of the recipient. As an immediate consequence of the transplant procedure, it is necessary for a lifelong regimen of immunosuppressant drugs to be established, not just for short term recovery, but for continuing survival. Without it the recipient’s natural immune response to the unfamiliar donor DNA - which determines its own distinctive Human Leucocyte Antigen (HLA) profile – would be to overwhelm the putative intrusion and reject the organ, resulting in the recipient’s own death. Careful tissue matching in close relations, as in kidney transplantation, can eliminate some of the problem, but where hearts are concerned that is not an option. Donor hearts are a scarce commodity and potential recipients may spend many months on the waiting list – with a third dying untreated – to the extent that organs with a less than ideal degree of match must frequently be used. In any case, there is rarely a complete correspondence of HLA which is unique to each individual. The resulting histo-incompatibility that would prevent a successful grafting can be controlled by suppressing the recipient’s own antigens, but a further problem arises with a similar reaction originating with the donor organ. In what is called graft v. host disease, the functional immune cells of the new organ recognise the non-self markers of the
recipient and attack the host who may have little defence if already immuno-compromised. The risk of heart transplantation surgery itself is not especially high with 90% surviving for at least a year (Lund et al 2017): the danger lies in effectively managing the incompatible HLA systems. New drugs to control such post-transplant effects occasionally come on the market, but the basic procedures remain the same. The underlying and all-but unquestioned principle is that the immune system operates on the principle of self/non-self discrimination such that donor and recipient antigens will always be in conflict.

The pioneering work of Frank Macfarlane Burnet and Peter Medawar in the mid 20th century laid down the foundations for most subsequent research and gave rise to the plethora of militaristic metaphors with which immunology is commonly explained. For both men, the task of the immune system was to mobilise in response to ‘foreign’ antigens by releasing a profusion of biochemical agents that would eliminate the putative threat of otherness. In the context of his work on the rejection of skin grafts, Medawar was concerned to discover a way of inducing immuno-tolerance. Immunosuppressants had not yet been manufactured and he was largely unsuccessful, but he is remembered mainly for firmly establishing the apparently natural antagonism of the self/non-self cellular relation. What is less well-known is that he also identified the phenomenon of enduring dizygotic twin chimerism in certain cattle, and even very rarely in humans, which he saw as a form of natural immuno-tolerance. Nonetheless, Medawar was unable to explain such occurrences, calling them a ‘natural accident’ and ‘astonishing’ (Medawar 1960), and that insight was never developed. What remains enduringly influential is the conviction that the protection and maintenance of the boundaries between the supposedly normal self and the pathological other is a natural function of the body. There have been sporadic attempts over the subsequent decades to rethink the nature and function of the immune system – Donna Haraway (1989) and Polly Matzinger (2001) are notable here - but they have made little headway until recent years. Medawar’s immediate audiences were bioscientists, but precisely the same idea of the operation of self/non-self conflict is at work in the socio-cultural imaginary of which the biomedical imaginary is a subset. The notion that the self is a fully integrated and defensively bounded entity is so entrenched in the western logos that the suggestion that immune systems might ever be co-operative is a challenge not only to biomedical science but to the very understanding of what constitutes human being.

The recognition that the immunological context of transplantation is not limited to the problem of a solid organ being sutured into an alien environment where it causes disruption at the immediate borders, but extends to potentially involve the whole body of the recipient, demands a radical rethinking of the relation between self and other. Once the DNA of the donor begins to circulate, or the recipient’s DNA enters the tissue of the graft as is now widely accepted, then the question of hybridity takes on a different significance. Hyridity has always been an aspect of transplantation as the recipient can no longer claim to be ‘all me’ even if the finer points of DNA coding are glossed over. I can find no evidence that the issue of dual DNA typing is ever discussed with potential recipients, despite their clear awareness that the heart graft signals that death has been magically avverted and that the particular essence of the donor is evident in the recipient. Hybridity was not a term used in interviews on either side of the procedure, but that is surely what is intended; still less were respondents aware of the growing recognition that donor DNA does not stay in situ but circulates throughout the recipient body which becomes in effect a microchimeric environment. The ongoing biomedical debate is largely concerned with material consequences in terms of future health and illness, but what should not be overlooked are the philosophical implications of that coming together of self and
other, not as a hybrid as such which speaks to a form of assimilation but as a chimera where – at the cellular level - the different components remain genetically distinct.

Acceptance that microchimerism might be an issue in transplantation has been slow to emerge. The earliest serious consideration came when Starzl (1992) conducted a retrospective study on the outcome of kidney transplants from almost 30 years earlier. Despite the absence of effective immunosuppressant drugs at that time, several of the recipients had survived against all prevailing biomedical expectation. In addressing this apparent anomaly, Starzl conducted a number of systematic reviews which indicated that the donor HLA could be found not only localised at the site of the transplant organ but throughout the recipient body (Starzl et al 1992). Similarly, other researchers showed that cell mobility was bidirectional in that the transplant organ itself could show signs of incorporating the recipient’s existing HLA typing. In other words, there was evidence of extensive microchimerism. Starzl himself proposed that chimerism might solve the problem of rejection by keeping in balance the immunogenetic effects of the 2 different populations of cells and he recommended that recipients should be given pre-treatment infusions of hematopoietic (stem) cells derived from the donor bone marrow, which would obviate the need for highly toxic programs of immunosuppression. While this clearly might be a plausible approach to living donation, it could have no place in the scenario of heart donation. Nonetheless, Starzl’s approach did generate suggestions relevant to xenotransplantation which is of enduring interest in the transplant field as it could potentially address the acute shortage of suitable human organs. Yet, even were the immunologic rejection of xenografts controllable - through the infusion of porcine bone marrow to induce prior chimerism in the human recipient of a pig’s heart, for example, (Abe et al 2002) - xenotransplantation remains ethically impermissible in most jurisdictions, and research has been limited to animal models. In strictly human allografts, the pre-treatment infusion procedure, like other optimistic operations, has not proved as effective as hoped, mainly because such chimerism appears transient and is eventually overtaken by the resurgence of chronic rejection.

Despite Starzl’s original finding that microchimerism was already an effective feature of transplantation, reports of such iatrogenic outcomes are still relatively sparse in the clinical literature. One remarkable case, reported in 2008, concerned an emergency liver transplant in a 9 year old female child, whose whole immunological response realigned itself with that of the male deceased donor, with her blood group switching from O-negative to O-positive. As the clinical paper outlined, ‘(t)he patient remains well 5 years after transplantation. She has not received any immunosuppressive therapy for 4 years, and the results of her liver-function tests are normal’ (Alexander et al. 2008: 371, my emphasis). Various tentative explanations are offered for the unexpected absence of graft-versus-host disease, particularly as the recipient and deceased donor were ‘fully HLA-mismatched, sex-mismatched’ (373), which heightened the anticipation of rejection even with a regimen of immunosuppressants in place. The chance discovery of extensive chimerism led to the withdrawal all immunosuppressant medication, enabling the donor cells to rapidly effect a full, and therapeutically beneficial, engraftment, which resulted in the patient’s eventual enduring recovery. This startling demonstration that microchimerism might be a factor in graft acceptance was nonetheless subsequently downplayed by the assertion that although the process was relatively common after liver transplantation, it usually disappeared within weeks. Alexander’s own case, however, was not reducible in terms of either time or scale. Rather than simple microchimerism – in which the incidence of ‘non-self’ cells is very low – it demonstrated in-depth genetic translocation. The authors - perhaps with an eye on the extent of their unsettling of biomedical givens – offer little theoretical analysis of the case, but there is no doubt that they raise some urgent questions. Although few other studies in the transplant field have so clearly upset orthodoxies, the Alexander case — even in its rarity - suggests new ways to approach transplantation that rely less on immunosuppression, the side effects of which greatly increase vulnerability to other forms of disease, and instead seek to stimulate similar chimeric effects. It instantiates a new understanding of intracorporeal malleability, a recognition that boundaries are permeable, and that genetic origins may not be secure. The dominant fantasy in the socio-cultural imaginary of a pure, unified and enduring self-identity, temporally established at conception and secure until death, begins to dissolve.
The issue of immuno-incompatibility is not, however, limited to the pressing issues of alleviating graft rejection, and by exploring the wider context of microchimerism it becomes possible to trace its further significance following transplantation. Incorporating an allograft is one dramatic instance of inducing microchimerism but it is thought the phenomenon has many other grounds, both iatrogenic and natural. Microchimerism as a result of pregnancy is now well-established and is thought to occur very frequently and possibly universally (Nelson 2012), and that far from being ephemeral, it may persist for decades, perhaps even indefinitely (Bianchi, Zickwolf et al 1996). The lab run by Diana Bianchi has been particularly influential in investigating microchimerism and in establishing that even women who have never been pregnant can be carrying Y chromosomes from a variety of sources (Khosrotehrani and Bianchi 2005). Some will have been born from a dizygotic twin conception where the male twin was absorbed in utero; the so-called vanishing twin syndrome; others will be carrying male DNA passed on by their own mothers who will have incorporated the markers of previous male pregnancies (Yan et al 2005), or from their own foetal absorptions in utero. Beyond that there are multiple ways in non-self DNA could enter the body; possibly going back several generations if there have been no males in recent times (Waldorf et al 2006). The greatest part of the research on microchimerism focuses on female bodies simply because of the comparative ease with which Y chromosomes can be detected as ‘out of place’ in women; there is no suggestion that microchimerism is limited to one sex rather than the other. What matters is that cellular traffic across the placental barrier goes in both directions so that the likelihood is that mother and the neonate will each accommodate non-inherited antigens (NIMA) which can in turn be passed on to future generations. At the time of transplant, recipient and donor bodies may already be microchimeric with the graft itself simply multiplying the multiplicity of distinct DNA markers. If each body in the normal life-course does indeed carry plural and durable populations of differentially active HLA, it is not just our understanding of the immune system that requires revision. The very existence of such somatic multiplicity and the probability that it is ubiquitous deeply disorders any notion of the bounded self or of definable individuality, whilst at the same time reinforcing the trope of uniqueness by amplifying its specific markers.

Over the last couple of decades, the phenomenon of transcorporeal cellular motility has been mired in controversy as to whether microchimerism is beneficial or harmful to subsequent health, or simply neutral. Microchimerism has been marked as both actively enhancing tissue repair and regeneration, and as contributing to, even causing, a range of little understood autoimmune diseases such as rheumatoid arthritis, MS, and lupus (Nelson 2012; see also Kelly 2012). Confusingly the very same conditions may be referenced on either side of the debate with little disagreement as to the evidence of the disease progression; it is only the speculative interpretation that makes the difference in evaluation. The common ground is that non-self (microchimeric) cells are frequently found in higher ratios at the site of lesions than in peripheral blood, and to a greater extent than in disease-free control groups. Cancerous tissue, for example, which is a major risk in immunosuppression following transplantation, may show a heavy concentration of microchimeric cells. That association then suggests either a damaging causal link in the disease process, or alternately that the circulating differential HLA – with its distinct immunological signature - gathers to provide augmented protection and repair in the event of tissue damage (O’Donagheue 2008). The research findings remain paradoxical, and with few researchers actively looking for explanations, bioscientific opinion as to the putatively destructive or preservative nature of microchimerism is still heavily divided. Most researchers have fallen back to saying that it is sometimes beneficial, sometimes not, with most hopes of therapeutic implications shelved. The lack of clear cut resolution and the redundancy of exclusionary metaphors of self/non-self antagonism may make it harder to secure research funding for the area.

I want, now, to explore how the bioscientific observations around microchimerism could be deconstructed through a theoretical critique of the sense of the bounded self protected against the intrusions of others. It is worth noting that the biomedical notion of immunity as defence of the body dates only from the late nineteenth century, before which it had a purely juridical and political meaning.
(Cohen 2009). In addition to the Derridean concept of hospitality which is highly appropriate to microchimerism, my starting point is with philosopher Roberto Esposito’s dissection of the word ‘immunity’ which reveals it as entangled with what may appear to be an opposing concept, that of ‘community’. Where the latter refers to something public or held in common, immunity signifies that which is private and particular to my self, but as Esposito (2008) points out, the common root is in the Latin term ‘munus’ which means an obligation or even a gift. If munus is all about the obligations of responsiveness to the other, then one who is immune is exonerated from reciprocal gifting and stands beyond the abnegation of self that community demands. Gift giving is a familiar theme in heart transplantation, where the acceptance of a donor organ – which is currently reliant on the suppression of the recipient’s immune system - inaugurates an enduring obligation of reciprocity and the confusing sense of mutual kinship between recipient and donor following transplant (Shildrick 2013a, 2013b). Apropos Esposito’s work, Timothy Campbell writes: “Accepting the munus directly undermines the capacity of the individual to identify himself or herself as such and not part of the community” (Campbell 2010: x). And that is precisely what disturbs recipients, who – prior to accepting the ‘gift of life’ – have understood themselves within the normative paradigms of western modernism as autonomous selves, with an unthinking acceptance of the corporeal distinction between one self and the other. As Esposito notes, it is logically unthinkable for conventional culture to tolerate the two-in-one or the one-that-is-made two. In that context, the hybridity or microchimerism that results from organ transplantation, in which the differential DNA of the donor material is never assimilated as such but remains fundamentally made two, is logically unthinkable for conventional culture.

Esposito is largely concerned with biopolitics, but references the materiality of medical immunity throughout, reminding us of Haraway’s dictum that immunology is at the heart of biopolitics (Haraway 1989). He also has much in common with Derrida – whose rethinking of the gift and of absolute hospitality is highly relevant to the nature of transplantation as I’ve already explored briefly here and elsewhere (Shildrick 2008, 2013a). In marking the material and ontological transmutation of embodiment, Esposito is seeking an affirmative biopolitics which moves away from the biomedical trope of tolerance – marking in immunological terms a lack of reaction to the other, a kind of passive co-existence – to postulate instead a logic of dynamic multiplicity where dissimilarity is reciprocally affective. As he puts it: ‘we need to find the mode, the forms, the conceptual language for converting the immunitary declension … into a singular and plural logic in which the differences become precisely that which keep the world united’ (‘Immunization and Violence’ 13). Derrida’s notion of hospitality (2000) has already moved in that direction in establishing the irreducible interiority of otherness, but it is not clear that it is explicitly transformative. The task for Esposito is to find a mode of thinking afresh and constructing more adequate ways of conceptualising the events that transform life, which, as he points out, is precisely what Deleuze explicitly sees as the primary purpose of philosophy. Deleuze insists on the impersonal as a vitalistic mode that moves beyond conventional semantics that function in relation to individual and autonomous selfhood to recognise instead the one in the other, and to jettison the limitations of being to favour instead the unbounded potentiality of life’s becoming. I want to finish then with some preliminary speculations on how a Deleuzian approach that seeks to shatter the illusion of self-other distinctions might engage with the materiality of chimerism. Deleuzian philosophy makes a decisive break with modernist thinking that not only contests the boundaries of embodiment per se, but makes sense of many of the disturbing aspects of the question ‘Who am I?’ that underlie the ontological unease felt by many transplant recipients. It supports a fundamental shift is from the conventional paradigm of ‘self versus other’ in the formulation that still dominates immunology, and thus the bioscientific and socio-cultural imaginary more generally, to a view of the normal ‘self’ as constitutively chimeric.

At the heart of the Deleuzian approach is his rejection of the notion of an atomistic and sovereign subject of modernity, and a celebration not of static ‘being’ – the enduring sense of self - but a state of becoming in which any individuality is provisional and always in a process of unravelling (Deleuze and Guattari 1987). Every one of us is entangled in innumerable and unstable webs of interconnections creating
dynamic fields of energy that Deleuze calls assemblages, in which life itself is characterised as a vitalist force that exceeds the unique experiences and seemingly contained embodiment of each individual (see Braidotti 2006; Shildrick 2013b). The concept of assemblages provides a compelling perspective from which to understand what is at stake in chimerism, which, remember, signifies not an assimilation of parts that erases the differences, but a conjunction of disparate elements (the heart of the donor in the chest cavity of the recipient, for example) that deform and reform each other yet can still function through some new mode of configuration. The occurrence of chimerism may suggest that parasitism could be a fitting metaphor for organ transplantation (Shildrick 2015a), but the metaphor manifestly sustains some features of self/other antagonism that a Deleuzian model rejects. That latter approach, in contrast, stresses that human life is always and intrinsically entangled not only with other beings but with an array of technologies and processes, such as those that enable transplantation. All demonstrate the productive power of connectivity and the incessant processes of transformation, and may facilitate the rethinking of organ transplantation, not as a one-off event, but as an ongoing project for both the recipient and the deceased donor. Human life, in the Deleuzian sense, is not a temporally bounded essence, actualised in the limited life-span of an individual, but rather a component of the enveloping cycle of becoming that comprises all types of living beings, organisms and machines. Although the human life course is clearly marked by discrete episodes such as pregnancy or transplantation where things dramatically change or transform, in another sense, events are also intangible and atemporal forces and points of intensity that transcend any singular form of embodiment. In short, the strategic defence of the boundaries of the self that immunity – in both the biomedical and political sense - is understood to mobilise is overridden by a communal becoming.

As I understand it, a Deleuzian approach opens up new ways of thinking about the microchimerism which cannot be explained in terms of the conventionally exclusionary function of the immune system. In the modernist context in which individual identity is paramount, it is hardly surprising that transplant recipients should experience frustration and distress when they are not restored to the self who preceded the surgery. In Deleuzian terms, however, there is no individual ‘ownership’ of life but rather an intensity of continued becoming in a process with neither beginning nor end (Braidotti 2006). The probable incidence of intergenerational chimerism supports such a view, but even in the limited arena of transplantation, elements of the donor coexist with those of the recipient in a new assemblage that advances the ongoing flux and flow of life. In a very practical way deceased donation is already a Deleuzian enterprise in that each donor body provides on average multiple organs and tissues for as many as seven recipients, thus clearly demonstrating the fluid and interwoven power of connectivity and assemblage to supersede the individual death (Shildrick 2015b). For Deleuze, what matters is not the restoration of functional efficacy for the recipient, or even the prospect of a life prolonged, but what Braidotti calls ‘sustainability’, ‘the very possibility of the future, of duration, of continuity’ (2006: 137). The relation between recipient and donor in such an assemblage is no longer one of self and other as the bioscience of immunology insists, but a non-personal and immeasurable conjunction of elements that reflects the materiality of the unseen chimerism that has taken place. Along with all the predictable changes that result from transplantation, many unthought mutations like the emergence of microchimerism disorder existing corporeal boundaries and the limits of linear temporality. Regardless of whether microchimerism is classed as positive or negative, the move is always towards realising new potentials of becoming other than the conventional atomistic self.

As an authoritative discourse, biomedicine cannot be separated from the ethics of the socio-political stage where the concept of immunity reflects the modernist objective of protecting the illusory singularity and integrity of the defended self; it is, in Esposito’s terms, what thwarts the development of positive community. The research on gestational microchimerism and its many probable intergenerational implications, and on various aspects of organ and tissue transplantation, including the recent use of stem cell transplants for neurological disorders, may seem to belong to the realm of bioscience alone, but all should be recognised as constituting biopolitical objects. In short, the justificatory biological ground of the mutually supported biopolitical trope of immunity - as the keystone for the distinct identities
of self and other - is no longer reliable. The recognition in both the humanities and now bioscientific discourse of the malleability of human embodiment, not only in terms of tangible body modifications, but at the cellular level, suggests a mode of perception that encompasses the entanglement of corporeal materials, and yet, in maintaining the notion of irreducible differences, goes beyond the assimilative metaphor of hybridity. As it becomes increasingly apparent that chimerism and microchimerism are the rule of corporeality rather than the exception, any unproblematised belief in the illusion of self/other separation and linear temporality becomes nonviable. Rather we have to find new modes of thinking our ways of life, not in terms of the defended autonomous self, but through the dynamics of conjoined existence and communal forms of assemblage. Energised by my own research participation in heart transplantation, I suggest that thinking chimerism and an immuno-politics together could resolve the ethically damaging rigidities of the self/other model and insist on the inherent diversity, permeability and entanglement of all bodies.

References:

Merleau-Ponty


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i The team consists in Heather Ross, Susan Abbey, Oliver Mauthner, Enza De Luca from the clinical side; social scientists Pat McKeever, Jen Poole; Margrit Shildrick from philosophy; and artists Ingrid Bachman, Andrew Carnie, Catherine Richardson (now left), Alexa Wright, and more recently Emily Jan, Dana del Bo and Tammer El-Sheikh.

ii See ‘Messy Entanglements’ (Shildrick et al 2018).

iii All those listed for transplantation know they will die without the procedure, and that their only hope of survival is the limited possibility of getting a replacement heart. Around one third do not survive the wait.

iv The interviews were all video recorded.

v Derrida’s work on hospitality has anticipated such a risk. Whether the incomer is welcome or not, it raises the ‘general problematic of relationships between parasitism and hospitality’ (2000: 59).

vi Clinical evidence of the translocation of genetic material is not simply one-way. Quaini et al (2002) show how a heart graft may be genetically transformed by the incorporation of the recipient’s existing markers. Once again, contrary to toconvention, the suggestion is that this unexpected chimerism could regenerate myocardium and sustain cardiac performance’ (Quaini et al 2002: 5).

vii Foetal absorption does not preclude the possibility that live dizygotic twins have also swapped DNA *in utero*. One of the first cases (1953) to identify microchimerism, concerned a woman known only as Mrs McK who - when screened for blood donation - was shown to be positive for two different types. It was eventually determined that there must have been an *in utero* transfer of DNA between the female foetus and a non-identical twin brother, thus creating a chimera.

viii Having identified the maternal-foetal translocation of cellular material, few researchers are actively looking elsewhere. Nonetheless, chimerism is already known to relate to non-irradiated blood
transfusions, bone marrow transplants, all types of tissue and organ transplant, pregnancy, generational genetic transfer and human dizygotic fusion.