Generative grafting

Reproductive technology and the dilemmas of surrogacy

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In 2013, at the advanced age of 101, Howard W. Jones, a medical pioneer in reproductive technology, published *Personhood Revisited: Reproductive Technology, Bioethics, Religion and the Law*. Looking back at the development of what came to be called the ARTs (assisted reproductive technologies), Jones chronicles the initial controversies surrounding their emergence and his own participation as a medical professional in the newly formed bioethical committees and agendas that sought to respond to the novel and urgent questions posed by a technology that appeared to challenge the natural facts of and assumptions about human reproduction, and to set policies and regulations for its use – often under the watchful eye of the Vatican.[1]

Jones ends the book with a reflection on the future of *in vitro* fertilization (IVF), a future in which, in his view, many of the controversial ethical, legal and religious issues related to new reproductive technologies will be remedied through the further advancement of the technology itself. The development of more accurate pre-implantation genetic screening and diagnostic techniques, for example, would make assisted reproductive technology more efficient than normal human reproduction, which is a 'notoriously' inefficient process. 'Somatic reproduction' would be another future development, which would rely on techniques similar to those used in therapeutic cloning but would involve the production of viable human gametes from homologous somatic cells – for example, skin cells – from both intended parents and the creation of a human embryo by first inducing meiosis in the somatic cells, then fusing them and, finally, 'transferring the new nucleus into an enucleated donor oocyte'.[2] This, for Jones, would certainly be a contentious enough development, but it would circumvent the legal, ethical and psychological complexities associated with donor gametes (he does not seem to give much consideration to the fact that this procedure would still necessitate oocyte donation) and would assure the genetic lineage of the created child to both parents. The other and even more controversial future development is that of 'exogenesis' – that is, 'the development of the conceptus in vitro to the point of viability', a future reminiscent of the one described by Aldous Huxley in his 1932 novel *Brave New World*:

> If exogenesis could be achieved – and I feel sure that it will be sooner or later, but probably later rather than sooner – it would eliminate the necessity for surrogacy and all the social and legal complications associated with that technology.[3]

But could such technology answer these issues for itself?

In Huxley's speculation on a society based on exogenesis, surrogacy is a stage in the industrialized assembly line for the massive production of babies, a machine designed to pump nutrients into 'bottled' and already socially cast and conditioned embryos for a World State where kinship is completely eliminated. In this state the mere appellation of someone by the obsolete and comical word 'father' provokes outbursts of hysterical laughter and 'to say one was a mother – that was past a joke: it was an obscenity.[4] Thus in both Huxley's and Jones's speculations on exogenesis, surrogacy seems to be either eliminated or generalized as a condition for what is called human reproduction, or both.

Surrogacy as generalized condition, what we will here propose to revamp as an operation of 'generative grafting' – an expression borrowed from Derrida's *Politics of Friendship* – does not pertain to a possible or a fictional future; nor does it introduce any radical novelty in the domain of procreation. Rather,

it has always supplemented the archaic symbolisms and fundamental fantasies of Western culture and fashioned its juridical, political and philosophical discourses at their most inceptive moments. 'Generalized surrogacy' is a name for what is perhaps the most inaugural and unthinkable substitutability, inextricably tied to an archaic fantasy that continues to generate the appropriations, exclusions and empowerments which surround, traverse and preside over the enigma of the creation of life: *the fantasy of a unique and irreplaceable mother.*

This is the fantasy of a pure, immediate and unified origin or identity asserted at the moment of birth as the unassailable evidence of a natural indissoluble bond between mother and child. The supposed 'naturalness' of this bond defining maternity has always supplemented the disavowed origin of filiation. That is to say, it was always used to assert the mother's irreplaceability by paradoxically putting her *in the place of a surrogate* (bearing a child for someone else – the father – while being naturally excluded from patrilineage) and by at once duplicating and putting under erasure the originary operation of supplementation. Surrogacy cuts through the figure of the mother in three ways: as the generalized condition of maternity (or even of reproduction), as the unavowed role of the 'traditional' mother, and as the controversial IVF surrogate.

Here I reflect on the co-implication of surrogacy and filiation in both their traditional and recent manifestations, encouraged by the advancement of biomedicine. I will argue that a philosophical and political critique of filiation and normative kinship, as well as their rapid reformulation, needs to consider the generative process across its complex, differential and intersecting layers (genetic, biological, symbolic, social, legal, biotechnological) even beyond the figure of the mother and its powerful connection to surrogacy, a connection with a paradoxical yet essential role in the formation of kinship relations and lineages. With the idea of 'generalized surrogacy' it becomes possible to think of generation as an operation of supplementation or 'generative grafting', by first putting into doubt what was believed to be indubitable – the mother as the ultimate fortress of traditional kinship – and by opening up new and alternative ways of thinking generation and kinship (or alliance) beyond the established normative figures, beyond heterosexuality. How is this move from the unique mother to surrogacy as generalized condition and the operation of generative grafting carried to term?

Mothers, in the plural

The transformation of the procreative process and of certain biogenetic facts by new reproductive technologies over the last three decades shows that it is possible to interfere with the continuity between conception, gestation and birth in the generative process. It also appears to assail motherhood at the point of its highest value and its definition as the most natural parenthood, possessed of the utmost, impregnable certainty – or fantasy of certainty. But perhaps it has only made more visible, at unprecedented levels, the effects of the originary substitutability or prosthesis in which motherhood is implicated.

It is increasingly recognized that more than one 'mother' can be involved in bringing a child into the world. This, of course, does not only refer to a distinction between the genitrix and the legal, social or rearing mother. Biological maternity can now be split between the mitochondria or oocyte donor, the nuclear genome donor (or genetic mother, for whom, however, there is no legal concept in the UK) and the gestational or birthmother – the surrogate, sometimes called the 'rented womb' – whose legal status, rights and identifiability are currently being debated and redefined in bioethical councils, regulatory authorities and legal courts. The legal and philosophical question of 'who' or 'what' is the mother is debated alongside that of the donor's anonymity and the child's right to know its genetic origin. For example, the UK's Human Fertilization and Embryology Authority (HFEA) has recently given its approval for the use of mitochondrial DNA replacement techniques in IVF, which, when backed by the government, would make the UK the first country to license a 'form of germ-line therapy'. This technique controversially involves the creation of so-called 'three-person embryos'. In 2012 the Nuffield Council on Bioethics' report on mitochrondrial replacement and the question of parentage specifies that it is inaccurate to 'refer to the mitochondrial donor as a "mother" or "third parent"' to the child'. That there is neither biological nor legal indication of motherhood in the donation of mtDNA – which is inherited solely from the mother and enables geneticists and anthropologists to trace maternal lineage far back in time – is interestingly considered not to have any 'identity effects', or at least no more than a replacement of a battery with a different brand would 'affect the functioning of a camera'.[5] In addition, technologies such as cryopreservation (the freezing of sperm, eggs and embryos) can suspend or stretch the generative process both temporally and geographically.

Thus what was previously taken as an unquestionable and self-evident biological fact, secured by and fastened to the maternal body as the onto-topo-physiological ground for the erection of all powerful symbolisms and fantasies – as the foremost safeguard for the unity, continuity and transmissibility of identity, kinship and nation and the ensuing birth rights, privileges and citizenship – now seems to be more and more divided and distributed across place, time, bodies, genetic material and jurisdictions. Of course separation or even absence from conception and birth has always defined *fatherhood* as its structural necessity. But this now seems to come more and more into view in the generative process through the multiplication and supplementation across and between what can now be mothers in the plural. This dis- and rearticulation of moments and processes brings into play new delimitations, configurations and investments but more importantly allows for new levels of discernibility of the differential and irreducible relations as well as prosthetic relays between the genetic, biological, symbolic or cultural and technological operations. I have suggested that we call these operations 'generative grafting'. But why 'grafting'? And why link it to generation?

Self and (m)other

The association of generation with grafting is nothing new in the biomedical context. It goes back to the reconceptualization of the relationship between mother and fetus which emerged in the discipline of immunology in the 1940s and 1950s through the experimental work of Owen, Medawar, Billingham and Wilson. This led to the formation of the concept of 'immunological tolerance' and to the establishment of the field of reproductive immunology. In his seminal 1953 essay 'Some Immunological and Endocrinological Problems Raised by the Evolution of Viviparity in Vertebrates', Peter Medawar describes the fetus as 'tissue homograft' and raises the question of what still remains a paradox in immunological thought – that is, the phenomenon of feto-maternal tolerance. His theory of why the fetus is not rejected by the mother even though it is genetically half foreign to her rests on the assumptions of: (a) an anatomical separation of fetus from mother; (b) the antigenic immaturity of the fetus; and (c) the immunological indolence or inertness of the mother.[6]

Current immunological theory on feto-maternal tolerance is still dominated, according to Moira Howes, by Medawar's hypotheses and by the immunological and correlative social and philosophical biases towards pregnancy as a passive or pathologized phenomenon and towards the immune self-viewed as 'sharply defined, unitary, independent, masculine and Western'.[7] Howes's critique of the 'foreign-fetus model', which is based on the assumption of maternal inertness or antagonistic reactivity and an immunological barrier raised for the self/nonself discrimination, moves towards a 'relational model' which accounts for the immunology of pregnancy as an active phenomenon of maternal agency or involvement. Howes argues that the marginalization of certain features of women's biology has resulted in incomplete theoretical and experimental immunological models and even in ineffective and harmful treatments; she stresses the 'strong need for feminist critiques of science'.[8]

Thomas Pradeu's critique of the self/nonself theory still dominant in modern immunology includes a reconsideration of pregnancy as an immunologically active phenomenon that does not fit the classic criterion of self/nonself differentiation but rather involves the beneficial extension of a symbiotic self and is one of the best examples of a mechanism of active tolerance – the most striking and vital being that of normal autoimmunity.[9] Both Howes and Pradeu share the view that asserting a positive maternal immunological reactivity frees up a conceptual space for redefining immune selfhood and biological individuality in terms of their openness, relationality and plasticity. Howes, however, is critical of the transplantation or chimerism conceptual framing endorsed by Pradeu for fitting the 'foreign-fetus model',[10] a bias exposed by a feminist critique of immunology and shown to restrict the latter's theory and experimental practice. Roberto Esposito's philosophical critique of the immunitary paradigm moves along similar lines and has similar shortcomings. Albeit without employing a feminist viewpoint, Esposito also sees in the immunological paradox of pregnancy and its tolerance mechanism the chance of opening up a perspective 'within the immunitary logic that overruns its prevailing interpretation' and from which 'nothing remains of the incompatibility between self and other'. Even though Esposito's critique wants to distance itself from 'all military interpretations' of the immune system, in this case feto-maternal contact is described as a 'furious battle', as a fight between self and other that results not in death but in 'the spark of life', that protects and enhances rather negating or destroying life.[11]

But the point here is not to examine the accuracy of these theories or to draw political or philosophical

consequences directly out of biological models or analogies. Nor is it to make an argument for the assertion of the positive maternal action and power during pregnancy – we will come to the question of empowerment and reproductive right later. Rather, the point here is to be mindful of the conceptual constraints and assumptions about the maternal body that still underlie biological theory and that are shared with a long philosophical tradition that has relegated the mother to the passive or at best reactive natural substance that receives form from the male action upon it. Aristotle's arguments about female inertness in *Generation of Animals* have become a commonplace reference for that matter: 'the male stands for the effective and active, and the female considered as female, for the passive' and 'the contribution of the female to the generative product is not the same as that of the male, but the male contributes the principle of movement and the female the material.'[12] It seems, then, that what would become the 'traditional' role of the mother was that of a surrogate; a passive and inferior role in the procreative process which was seized in turn by the father as if he was the only genitor. On this model the father's more symbolic and elevated parenthood was capable of superseding nature and having a claim to the domain of spirit and reason, oath and testimony, name and inheritance, politics, law and the universal – but only at the expense of the mother, and in so far as a bond with nature was safeguarded by her. The paradox of surrogacy – the mother's foundational but marginal place in filiation – seems to be consistent with the immunological paradox of the foreign fetus.

Backlash

The notion of 'generative graft' does not merely allude to an immunological model or even more specifically to a conceptual frame of transplantation for pregnancy, which, as we just saw, is not without certain biases towards the feto-maternal relationship. And, of course, it does not purport to offer or propose a theory of generation or establish a new term for it. What it attempts to do is to yield some insights into possible ways of rethinking procreation itself as a complex, multilayered and heterogeneous phenomenon that operates between and across bodies, sexes and genetic material without fixed finality. This is an understanding of procreation as originally an operation of prosthesis and supplementation, beyond the maternal figure of the surrogate and beyond heterosexuality, that resists an automatic translation into established or naturalized figures, roles, relationships or rights. But we have to be clear: this is not to collapse or indiscriminately confuse levels, domains, functions and values associated with procreation or to perform what Sylviane Agacinski calls 'radical culturalism' – that is, to 'absorb nature in cultural constructions, as if the latter fell out of the sky'.[13] On the contrary, it seeks to describe reproduction in such a way that the task of discriminating between these limits, functions and differences is endlessly refined, the relations between them endlessly reconfigured. The perennial question of the nature/culture relation, whether conceived in oppositional, reductionist or differential terms, is posed today anew and this time it includes and profoundly affects a terrain that was hitherto considered to be impenetrable to theories of gender, kinship, sexual identity and difference: procreation itself as biological process, as a reality thought to precede and exceed all social and cultural inscriptions, representations and symbolizations. An attachment to the conceptual opposition between the cultural and the biological, which involves, as Agacinski is right to point out, a fabrication of two domains that are never given separately,[14] can only unfold within what were presumed or defended as incontrovertible natural facts. The most profound transformation brought about by new reproductive technologies is perhaps the grafting of the effects of the differential relationship between nature and culture onto new planes and, as we said earlier, onto new levels of discernibility. Which, again, does not mean that the role of the biological or the genetic in what are understood as the 'facts' of procreation is now more distinct or separable from their symbolic or cultural functions or appropriations, but rather that these delimitations are displaced, reproduced and even amplified at unprecedented levels, in unprecedented situations.

'Grafting' is proposed here as an apt name for the co-articulation of technical gesture, natural offshoot and symbolic investment. It also names a conjunction between the old and the new; it broaches the question of generation and heritage. Derrida uses the expression 'generative grafting' to describe the marking of patriarchy on the body of culture but also the prosthesis or supplement of origin with which bodies begin.[15] This is to say that what is commonly associated with birth – filiation, cultural, national, linguistic identity and so on – does not follow naturally from it but is a prosthesis or supplement of an origin grafted on the body at or even before birth. New reproductive technologies allow for such supplementation, hence also reconceptualization, of the

generative process to occur on the cellular, genetic and biological levels and for opening new possibilities that are often deemed to threaten traditional and normative forms of kinship. But at the same time they can collude with or even be driven by the archaic desire for genetic continuity, filiation and entitlement; a genealogical drive that always persists only now can be defined at the level of nuclear DNA. As the anthropologist Marilyn Strathern claims, 'For Euro-Americans there's no getting around the tie that exists with those persons whose genetic substances combined at the child's conception."[16]

Full, gestational or IVF surrogacy – to be distinguished from partial or traditional surrogacy, which is an ancient cultural practice – and gamete donation offer the possibility of genetic offspring to some of those who would otherwise have little hope of it. That the genetic tie to the mother's body is no longer a necessary and irrefutable fact seems to have strengthened on the whole the desire for such affinity. The fact that a woman can now have a similar role to that of a man in the creation of a child – that is, the provision of a gamete and the disengagement of the procreative from the sexual act – have given rise to new forms of reproductive freedom as well as new reproductive powers and mandates, to new claims to reproductive rights and justice, along, of course, with the horror that is often incited by the last, as we have recently witnessed in France and the UK.

These new procreative powers and mandates are rapidly reshaping kinship but seem to also both sustain and be driven by a desire for genetic continuity. While new forms of families and refracted genealogies are being continuously generated, in most jurisdictions the legal status of the birthmother remains unaltered and genetic affinity with the child an imperative. The Human Fertilization and Embryology Authority in the UK, in common with most national legal frameworks and regulatory directorates for IVF policy (Greece is an exception), prescribe the necessity of genetic lineage between at least one of the intended parents and child.[17] Despite increasing complexity in the legal definition of the mother, the Roman law principle *mater sempre certa est* still applies on the grounds of the sensorial certainty of the observed birth with reference to the gestational mother or the surrogate. The principle *pater sempre incertus est* also still applies, maintaining thus the inductive and testimonial character of the acknowledgement of paternity, in so far as the law's default is to recognize the husband or partner of the mother or surrogate as the legal father. (The latest HFEA code of practice, updated in October 2013, regarding legal parenthood in surrogacy arrangements has amended its guidance to allow for one of the intended parents – who could be either a man or a woman – to be recognized as a legal parent with the surrogate mother, if certain conditions are met.[18]) The principle of paternal uncertainty has even, in certain cases, become the father's complete legal absence: the HFE Act of 2008 withdrew the requirement of 'the need for a father', introducing the term 'supportive parent' instead, in order to remove discrimination against lesbian couples, who can now have both of their names on the birth certificate. While motherhood remains legally unshakable and certain at the moment of birth, fatherhood has been allowed to recede legally in favour of the notion of 'supportive parenting'.

However, the recent Marriage (Same Sex Couples) Act 2013 in the UK and the legalization – despite fierce opposition – of gay marriage and of the right for same-sex couples to adopt in France (May 2013) express completely different attitudes when it comes to the technologies of procreation. French law, according to which surrogacy is illegal, does not grant same-sex couples the right to access assisted reproductive technologies (an amendment initially proposed and later withdrawn by the Socialist Party). It seems that while reformulations of family right and kinship are being endorsed, attachment to the deep symbolism and the 'sacrosanct' facts of the creation of life – now touched and manipulated by biomedicine – are the source for the expression of reactionary positions. These positions often rely on substantiating the difference between the right to be a parent and the right to procreate. Agacinski, a very vocal opponent of the right of same-sex couples to access IVF who has acted as consultant to bioethical panels in France, formulates her argument by resorting to the notion of 'procreative power' as the ultimate and intractable marker of sexual difference – that is, the difference between the male and female sexes.

For Agacinski sexual difference is a universal experience that is founded not on the observation of the morphological traits of individual bodies but on the organization of generation as the '*schema* of a dynamic relationship', to wit, a relationship that is not just any duality but one that is fecund and capable of resulting in the creation of living beings.[19] So the distinction between the sexes is not a matter of 'formal appearances', of anatomical or physiological evidence, but is relevant to the organization of procreative powers, a biological organization that

occurs on the 'indissoluble' level of individual living organisms – that is, sexed bodies with determined dispositions and finalities: 'Thus the biological scheme of sexuality answers the question why there are two sexes, no more, no less.'[20] To isolate and put to use functions and potential on the level of biogenetic material, she claims in a recent article in *Le Monde*, is to transform the persons who give life into mere, anonymous biological material and the children into fabricated products or even merchandise upon demand.[21] These biotechnologically driven transformations threaten to 'devitalize', 'denaturalize' and 'sexually neutralize' the living body, to reduce it to a 'physical materiality' made available for all kinds of fashioning and exploitation.[22]

This is the form of the materialism of which Aganciski accuses Judith Butler, criticizing her for inadvertently reintroducing a position that is '*a priori* spiritualist and logocentric' to the extent that, in its refusal to think a prediscursive corporeality, it subordinates the living being to the speaking being.[23] The issue, however, is neither to accept nor to deny a corporeal reality but rather to question how, and at which level, this reality becomes intelligible or ontologized and what foreclosure this may entail. The issue, in Butler's words, is to 'to attend to the foreclosure of the possible that takes place when, from the urgency to stake a political claim, one naturalises the options that figure most legibly in the sexual field'.[24] To question the (quasi-)transcendental or pre-social status accorded to sexual difference and readdress it within the field of the struggle for hegemony and to consider the ways in which social norm and power enter and are entangled with psychic life and phantasy (and vice versa)[25] is not to dissociate the latter from life itself, as Agacinski claims.[26] And it does not follow that to consider the procreative desire within such structures is to interpret such a desire in a woman as a naturalized effect of patriarchy. Agacinski herself broaches the question of sexual difference in terms of the difference and asymmetry of powers, thus inscribing it in a field traversed by and generative of antagonisms, appropriations and entitlements along with their ensuing right and politics.

The question that imposes itself with renewed urgency is that of reproductive justice, and today it must extend its claims beyond the reproductive rights of women. Agacinski is close to feminist thinkers such as Irigaray and Roudinesco, who have turned to the figure of the mother and to female fecundity as source of empowerment and emancipation. Roudinesco has hailed the advent of assisted reproductive technologies for devolving power over the procreative process to mothers, who can now have *la maîtrise de la procréation*.[27] What does this revival of a maternal power wrested from patriarchal domination call for? For Irigaray and Agacinski it urgently calls for a rethinking of a universalism that would ground equality not in abstract but in sexual terms; a universalism, that is, in which the female and male genders would participate not in egalitarian neutrality but as specifically sexed beings.[28] But would such 'mixed universality', to use Agacinski's phrase, avoid what Irigaray describes as sexual amputation or would it replace it with a universalized sexual dichotomy?

Reproductive justice

Why insist on the figure of the surrogate, if only provisionally? The purpose was neither to restore a feminine genealogy nor to propose a universalization modelled on figures other than the privileged masculine ones or even the redistribution of such privilege between the duality of sexes. It is to claim that the deconstruction of the androcentric configuration of politics and of fraternalist democracy, on which Derrida embarked in *Politics of Friendship*, must also pass through the figure of the mother to that of the surrogate and further to the operation of 'generative grafting', which here seeks to assume some distance, if possible, from the foreclosures of normative kinship figures and to keep open the possibility of reconceptualizing the procreative process without relying upon an idealization of sexual difference as division of the sexes and heterosexuality.

And here one must be constantly alert to the dilemmas issuing from the promulgation of rights and the foreclosures the latter by definition entail. There are two points to be made here with regard to the problem of framing. One is raised by Judith Butler, who cautions against the sometimes uncritical and precipitous advocation for gay rights under the banner of 'marriage for all' to the extent that such petition sanctions the marriage frame at the expense of other forms of alliance and is driven by the desire for a state-ratified normalization that could entail the curtailment of the field of radical sexual politics.[29] The second concerns reproductive rights and the right to access reproductive technology, which, as necessary and desirable as they are, may involve injustice and exploitation, if not carefully framed. Rights are powers and privileges, and in the globalized terrain of reproductive tourism they can indeed curtail the demand for reproductive justice. The growing numbers of Western clients opting for cross-border

surrogacy in order to exercise what they take to be their right to have a genetic child correspond to an increase in the violation of the negative reproductive right of women vulnerable to exploitation. India is a notorious example, with an unregulated fertility industry market valued at more than $500 million a year.[30] There is growing awareness of the need for the harmonization of international private law and the regulation of these practices on a global level so as to tackle exploitation but also situations resulting in stateless and legally parentless children. It remains to be seen whether global juridification of reproductive technology can address the fundamental dilemmas of surrogacy and pursue reproductive justice.

It seems that the alteration of the biogenetic facts of procreation by cutting-edge reproductive technology and the old/new desires and powers this has unleashed – powers that are no less real than a child born thanks to such technology – are at once inscribed in, transforming and inheriting from diverse and often competing genealogies or even from what exceeds genealogy as such: generalized surrogacy or better 'generative grafting'. And here could lie the most profound and disturbing consequences not just for discourses of philosophy, right and politics, which are founded on the patrilineal logic reflected in the two Roman law principles mentioned above, but also for certain kinds of feminism. They all need not merely to respond to what today seems to entail a radical transformation of kinship, feared by some to endanger the social order with desymbolization, but also to take into account what such possibilities as well as their foreclosure have always meant for their discourses. The wager as aways is to learn to discern, to inherit and to adopt from both the old and the new. What we call generative grafting also reflects what Walter Benjamin describes in *The Arcades Project* as 'the task of childhood': 'to bring the new world into symbolic space';[31] or should we say, the 'brave new world that has such people in it'.

Notes

1. Jones and his wife Georgeanna Seegar Jones led the team that developed America's first tube baby in 1981, following Robert Edwards's first successful clinical *in vitro* fertilization programme in the UK in 1978. They were invited to participate in two meetings on reproductive technology held in 1984 and 1992 at the Pontifical Academy of Sciences in Rome.
2. Howard W. Jones, *Personhood Revisited, Reproductive Technology, Bioethics, Religion and the Law*, Langdon Street Press, Minneapolis MN, 2013, p. 145.
3. Ibid., p. 146.
4. Aldous Huxley, *Brave New World*, Vintage Books, London, 2007, p. 133.
5. *Novel Techniques for the Prevention of Mitochondria DNA Disorders: An Ethical Review*, Nuffield Council on Bioethics, June 2012, http://nuffieldbioethics.org, §4.5, pp. 52–3, and §5.7 & 5.8, pp. 88–9.
6. P.B. Medawar, 'Some Immunological and Endocrinological Problems Raised by the Evolution of Viviparity in Vertebrates', *Symposia of the Society for Experimental Biology*, 7, 1953, pp. 320–38; 330, 327.
7. Moira Howes, 'Conceptualizing the Maternal–Fetal Relationship in Reproductive Immunology', in Kenton Kroker, Jennifer E. Keelan and Pauline M.H. Mazumdar, eds, *Crafting Immunity: Working Histories of Clinical Immunology*, Ashgate, Burlington VT, 2008, p. 250.
8. Ibid.
9. See Thomas Pradeu, *The Limits of the Self: Immunology and Biological Identity*, trans. Elizabeth Vitanza, Oxford University Press, Oxford, 2012. Autoimmunity is a complex phenomenon that involves immunological reactivity against the organism's 'self-components'. Marginalized for decades as an intolerable paradox (Erlich's *horror autotoxicus*), it is increasingly distinguished from its pathological expression and interpreted as a normal and vital homeostatic function.
10. Howes, 'Conceptualizing the Maternal–Fetal Relationship in Reproductive Immunology,' pp. 259–60.
11. Roberto Esposito, *Immunitas: The Protection and Negation of Life*, trans. Zakiya Hanafi, Polity Press, Cambridge, 2011, p. 170–71.
12. Aristotle, *On the Generation of Animals*, trans. A.L. Peck, Harvard University Press, Cambridge MA and London, 1989, 729a30, 730a25.
13. Sylviane Agacinski, *Femmes entre Sexe et Genre,* Éditions du Seuil, Paris, 2012, p. 15 (my translation).
14. Ibid., p. 45.
15. Jacques Derrida, *Politics of Friendship,* trans. George Collins, Verso, London, 1997, p. 185.
16. Marilyn Strathern, 'Introduction' to Jeanette Edwards, Sarah Franklin, Eric Hirsch, Frances Price and Marilyn Strathern, eds, *Technologies of Procreation: Kinship in the Age of Assisted Conception*, Manchester University Press, Manchester, p. 14.
17. See *A Comparative Study on the Regime of Surrogacy in EU Member States,* Directorate General For Internal Policies, Policy Department C: Citizens' Rights and Constitutional Affairs*,* European Union, 2013, www.europarl.europa.eu/studies.
18. See www.hfea.gov.uk/7955.html.
19. Agacinski, *Femmes entre Sexe et Genre*, p. 66.
20. Ibid., p. 70 (my translation).
21. Sylviane Agacinski, 'Deux mères = un père?', *Le Monde,* 3 February 2013, www.lemonde.fr/idees/article/2013/02/03/deux-meres-un-pere_1826278_3232.html.
22. Agacinski, *Femmes entre Sexe et Genre*, pp. 15–16.
23. Ibid., p. 146.
24. Judith Butler, 'Is Kinship Always Already Heterosexual?', *differences: A Journal of Feminist Cultural Studies*, vol. 13, no. 1, 2000, p. 20.
25. See Judith Butler, 'Competing Universalities' in *Contingency, Hegemony, Universality: Contemporary Dialogues on the Left*, London, Verso, 2000.
26. Agacinski, *Femmes entre Sexe et Genre*, p. 149.
27. Élisabeth Roudinesco, *La Famille en Désordre*, Fayard, Paris, 2002, p. 220.
28. See Luce Irigaray, *Sexes and Genealogies*, trans. Gillian C. Gill, Columbia University Press, New York, 1993; Sylviane Agacinski, *Politique des Sexes*, Éditions du Seuil, Paris, 2009.
29. See Butler, 'Is Kinship Always Already Heterosexual?'
30. *A Comparative Study on the Regime of Surrogacy in EU Member States*, p. 27.
31. Walter Benjamin, *The Arcades Project*, trans. Howard Eiland and Kevin McLaughin, Harvard University Press, Cambridge MA, 2002, p. 390.