Chapter 6
The embodiment of progress

INTRODUCTION

As noted in the introduction, this book is organised around a contrast between the historic importance of certainty about the 'facts of life' within anthropological accounts of conception models crossculturally, and the uncertainty now characterising the 'biological facts' of human reproduction in the context of achieved conception. This contrast is provided as a means of establishing a refractory perspective on the givenness of these 'natural facts' in relation to both kinship and gender theory. In this final chapter, I begin by locating this refraction in the context of parliamentary debate of the Human Fertilisation and Embryology Bill, which reached its culmination during the period of fieldwork for this study, and which comprises an elaborate debate about 'the facts of life' not entirely dissimilar to those pursued within the 'virgin birth' debates in anthropology.[1] By so doing, I propose to explore the workings of 'the biological facts of human reproduction' in terms of their cultural importance to contemporary British culture. In turn, this perspective 'refracts' on the importance of a specific model of 'the facts of life' in the history of British and Euro-American anthropology.

As noted in Chapter 1, Schneider critiqued the anthropological study of kinship for having been based on a

presumed genealogical model of relatedness, which itself reflected the 'folk models' of European culture (1984). Similarly, in her account of the 'virgin birth' debates, Delaney argues that a Judaeo-Christian model of monotheistic creation informs the monogenetic concept of paternity assumed by anthropologists over much of the past century (1986). Mary Bouquet adds specificity to the claim that genealogy is a 'folk European' artefact by arguing that it is in some respects particularly British, or even English (1993). Uniting these perspectives is the view of Yanagisako that it is the givenness of the 'biological facts of human reproduction' which has structured anthropological models of both kinship and gender (Yanagisako 1985, see also Yanagisako and Collier 1987). Finally, the givenness of these 'natural facts' has been linked to hegemonic operations of 'the natural' within Euro-American society by a range of commentators, developing what has become a key strand in feminist anthropology and feminist cultural theory (Franklin 1991b; Haraway 1989, 1991; Strathern 1992a and b; Yanagisako and Delaney 1995).

By invoking the contrasting conception models that structure *Embodied Progress* as a whole, my aim is to contribute to this debate about the 'biological facts' which have structured so much British and Euro-American social theory by exploring one specific context of their elaboration. In a suggestive, rather than conclusive, manner I offer here an account of how these 'facts' can be read as broadly symbolic not only of the generative power of a sequence of biological events (egg meets sperm makes baby), but of the generative power and authority of scientific knowledge. I am suggesting that 'genealogy', in the form of life's continuity, or life's progression, not only does service for models of kinship, but

for models of knowledge. I closely follow Strathern, whose arguments have focused on the role of ideas of the natural in the constitution of culturally specific ways of knowing, in this interpretation (1992a and b). Historically, my reference is the importance of 'conceiving' as both an epistemological and a procreative act.[2] Here, I offer an additional exemplification of these conceptual processes, though approaching them from a different angle.

As the last three chapters have illustrated, the world of achieved conception produces an unfamiliar perspective on 'the facts of life'. Whereas these 'facts' are deemed so obvious that no one could possibly be ignorant of them in the context of the 'virgin birth' debates (Leach 1967, Spiro 1968), they are far less 'obvious' in the context of IVF. Rather than being 'clear', in vitro fertilisation renders conception opaque. For every instance in which a sperm and egg unite to produce a pregnancy, there are many times more cases in which pregnancy does not result, and for these 'missed conceptions' there is no explanation. Much as it comprises a domain of elaborate expertise about 'the facts of life', in their strictest biological sense, the experience of both couples and professionals in the context of achieved conception is inevitably one that foregrounds 'ignorance' of the 'facts of life'. At their most explicit, biological explanations of 'the facts of life' are revealed as *most* effective for explaining successful pregnancy: when a pregnancy is established, biology provides a causal explanation. These same explanations are *least* effective in the context of reproductive failure, in which all of the known causal determinants are present but a pregnancy does not occur. For such an eventuality, the technical term is 'unexplained infertility'.

Into the breach of explanation is inserted technological enablement. Sometimes, for reasons that are not clear, IVF can bridge the gap in the biological sequence leading to the production of pregnancy. Most of the time it cannot. Importantly, this failure does not destabilise the biological model: IVF is still considered to be 'giving nature a helping hand'. The result of failure is instead the renewal of hope. As the previous chapters illustrated in some detail, hope comprises a major component of the IVF experience. In the face of assistance to conception failing to produce the desired outcome, couples either give up hope for success and abandon IVF treatment, or they renew their hope and 'have another go'.

The inadequacy of the biological model of 'the facts of life' is directly reflected in the language of hope and miracles defining the world of achieved conception. It is a measure of how incomplete biological models are that when they are coupled with technological assistance and succeed, the result is a 'miracle baby'. Much as the comments of would-be parents and the professionals that assist them in the context of IVF emphasise the normalness and naturalness of assisted conception, they also affirm that there is 'something special' about the children born from this technique. These children are seen to embody the special efforts invested in their creation, both by their parents and by clinicians.

In turning to the parliamentary debates concerning human fertilisation and embryology, this language of hope and miracles takes on a further specificity. In this context, the hope expressed by women seeking IVF for a technological miracle to relieve the anguish of their infertility took on a prominent importance. Reference was repeatedly made to this

hope, so much so that parliamentarians opposed to IVF explicitly commented upon its overvaluation. In the next section I offer a brief account of the role of 'hope for a miracle' in debates about the 'facts of life' with a view to examining in more detail the consequences of Euro-American 'ignorance' about 'the facts of life'.

HOPING FOR A MIRACLE

The use of 'hope for a miracle' to legitimate the procedure of IVF is not restricted to media portrayals of 'desperate infertile couples', and stories of happiness and hopelessness. Reproductive desire, annexed to faith in scientific progress, was also a key feature in much public debate concerning the new reproductive technologies in Britain in the 1980s. It served not only as an important, but in a certain sense as a uniquely privileged, form of evidence. In parliamentary debate of the Human Fertilisation and Embryology Bill, and accompanying media coverage, for example, accounts of the 'desperate' desire of infertile women and couples were frequently used as a form of witnessing, or testimony, in support of assisted conception.

The following, for example, is a typical extract from the parliamentary debates of 1989–1990 as a result of which IVF gained official state approval as a form of reproductive intervention, and became subject to governmental regulation via the Human Fertilisation and Embryology Authority. The extract is taken from the opening debate (the Second Reading) of the Human Fertilisation and Embryology Bill in

the House of Lords, in December 1989, which occasion was of major importance in establishing the foundational arguments informing subsequent proceedings. The speaker is a parliamentarian who has been to visit an IVF clinic in Cambridge, where she met and spoke with a woman undergoing IVF. In the following passage, she describes this occasion in language that is immediately reminiscent of the generic conventions structuring the popular media accounts discussed in Chapter 2:

> IVF has seemed almost like a miracle for desperately unhappy couples who are able to undertake the new process…. I am speaking today because I have been able to visit the IVF clinic at Addenbrookes Hospital in Cambridge…. I saw one woman who is a senior midwife. She loves her work and is obviously dedicated to her patients, but until now she has had the experience of delivering babies day by day while unable to have one of her own. She has had two failed IVF pregnancies but is now in the 25th week of her third pregnancy and is expecting twins, if all goes well. She has to stay in bed in the clinic for a highly critical period of time just now, and probably for most of the rest of her pregnancy, but she said: 'It's all worth it—without IVF I would never have had the chance of having a child'.
>
> (Baroness Llewelyn-Davies, House of Lords, *Official Record,* 7 December 1989, cols 1023–4)

This passage is noticeably similar to the accounts of reproductive desire encountered in the media representations in several respects. The language of 'desperateness' and 'miracles' is used in the description of the relation between

the individual woman and the promise of new reproductive technology. The extract typically describes the woman's needs and desires in the midst of treatment, indeed we encounter her at a 'highly critical period of time'. It thus describes the 'going forward' mentality described in the last three chapters. Despite two failures, IVF is still described as 'worth it' because it is the only 'chance of having a child'. The extract thus describes the *potential* of technology and the desire for a technological miracle.

This description is also effective because it relies on eye-witness testimony. In this extract, Baroness Llewelyn-Davies describes how she has seen for herself the hope that IVF can provide. Her formal public testimony recounts the impact of having personally witnessed what IVF can offer. She has herself been convinced by what she has seen, and is seeking to convince others on the basis of her own experience. It is the experiential dimension to such images, in this case the experience of the woman described being amplified by the parliamentarian's experience of meeting her, which makes them so effective. The issues at stake are rendered more human, more meaningful and more poignant for their being depicted in this way, through the hopes and sufferings of another person rather than in the rarified and abstract language of ethical principles or moral duties.

Many parliamentarians, like Baroness Llewelyn-Davies, became similarly convinced of the value of IVF through visits to IVF clinics. These were arranged by Lord Jellicoe, a member of the House of Lords and the Medical Research Council, to enable parliamentarians to 'see for themselves' what new assisted reproduction techniques can offer. Similar eye-witness testimony was often referred to in debate, as in

the extract above, as a conversion experience. Doubts were dispelled in the face of the immediate evidence of medical science in the service of would-be parents.

By definition, women who are attending the clinic are still 'living in hope' for a successful pregnancy. The clinic is the site of this technological promise and potential, *and it is this 'hope' which is the most important value signified by the image of the desperate infertile woman.* In this sense, the image is metaphoric: it stands for a belief in scientific progress and faith in technological enablement. It is a symbolic image of hope for an improved future, and of faith in the ability of medicine to alleviate human suffering. It is an image that powerfully unites traditional family values with faith in the power of science, technology and medicine to improve the human condition. In this sense, the image stands for much more than the woman herself. It is not only an image of individual needs, or even the collective needs of a group of similarly deprived individuals. Above all, it is hope that this description valorises.

It is very noticeable in the extract from Baroness Llewelyn-Davies that she has *not* seen the outcome of the scenario she describes. She has not witnessed a miracle, and her testimony is not based on having done so. What she has witnessed is *hope for a miracle and faith* in the capacity of medical technology to provide one. All she has witnessed is conviction, dedication and belief. That in her view this is sufficient grounds to be convinced of the value of a technology which she has not even seen be successful precisely demonstrates that success is not only, or even mainly, what it offers.[3] The most important feature of the image of 'desperate' infertile woman is the hope it signifies

for the joy of a miracle birth. Here again, we encounter IVF as a 'hope technology', but this time in the context of the hope it *symbolises.* The hope of the individual woman described can function as a symbolic hope because it is so widely shared. It is not only *her* hope that is at issue, but the shared collective hope invested in the promise of science and technology. The effectiveness of such imagery is that it stands for instrumentality as an end in itself. *It is for this reason it does not even need to be stated whether or not this woman succeeds.* Her success is not what is at stake. It is her hope which is the important component.

Indeed, in the explicit way in which women's bodies became the hoped-for conduit for a technological miracle, it might even be suggested a religious comparison is not inappropriate. The kind of image invoked by Baroness Llewelyn-Davies is not only symbolic: it is *iconographic.* It is a *devotional* image. This woman (a dedicated nurse) has devoted herself to hope in a technological miracle. We bear witness to her devotion through her suffering, and also through her dedication. But importantly, we also bear witness to her *faith.* As she says herself, this faith alone makes her ordeal 'worth it'. It is this same faith with which scientists and clinicians 'devote' themselves to devising more effective means of reproductive management.[4]

The power of eye-witness testimony to the benefits of IVF played a crucial role in overcoming opposition to the technique, particularly from parliamentarians who opposed IVF on the grounds that it involved production of embryos that are not reimplanted. Especially for parliamentarians opposed to abortion, to which assisted conception technology was linked throughout the proceedings, the compelling nature

of descriptions such as those provided by Baroness Llewelyn-Davies proved a constant source of annoyance. That such descriptions played a key role in parliamentary, as in wider public, debate was explicitly noted by more critical commentators. It was precisely the effectiveness of such imagery that was of concern to those who sought to challenge it. That such images, and their 'special place' in the argument was both noted and challenged in Parliament provides a measure of their disproportionate influence and persuasive capacity:

> The joy of those who achieve fertility or are able to achieve a baby through IVF has been described from all sides of the House. It is developing a special place in this argument.
>
> (Lord Kennet, House of Lords, *Official Record,* 7 December 1989, col, 1028)

This comment, also taken from the critical Second Reading in the House of Lords at the outset of parliamentary consideration of the Human Fertilisation and Embryology Bill, attests to both the 'special' character of the experience of 'those who achieve fertility or are able to achieve a baby through IVF' and the frequency with which such descriptions were employed in parliamentary debate. In the face of such evocative and emotive imagery, it is difficult to voice opposition: who would want to deny this hope or prevent this joy?

At one end of parliamentary debate, then, is the concrete image of the 'desperate' infertile woman who has invested her hopes in technology, and the couples who have

experienced the joy of successful pregnancy. At the other end of the spectrum is what the technology itself represents. In the following triumphant plea for legalising embryo research, Sir Ian Lloyd makes explicit the basis for faith in scientific progress, and the wide scope of the hope it offers:

> The discovery of DNA, the very blueprint of life, is certainly aweinspiring, and when the full map of the human genome is known, probably within a decade, we shall have passed through a phase of human civilisation as significant as, if not more significant than, that which distinguished the age of Galileo from that of Copernicus, or that of Einstein from that of Newton. Its political significance is almost beyond our comprehension. We have crossed a boundary of unprecedented importance…. There is no going back…. We are walking hopefully into the scientific foothills of a gigantic mountain range. Hitherto, man has had no option but to come to terms with a serious burden of genetic impairment, but now he can look ahead, perhaps a long way, to its eventual elimination…. For us to forswear the assistance which science can provide in modifying that code to the advantage of the human race would be an indefensible abdication of responsibility. It would cross the portcullis of this place with a most sinister and destructive bar.
>
> (Sir Ian Lloyd, House of Commons, *Official Record,* 23 April 1990, cols 96–8)

Although this extract concerns the use of new genetic technologies, the reference is also to IVF, in so far as an important justification for the use of IVF was the proposed implementation of gene therapy via this technique.[5] Two

primary groups of ‘afflicted persons’ were foregrounded in arguments based on experience. One was of the infertile, and the other was of carriers of genetic disease who could be helped to have healthy children via IVF, such as those referred to here.

However, the most important component of this extract is again the reference to hope: of ‘walking hopefully into the scientific foothills of a gigantic mountain range’. The hopefulness expressed towards technology is given much fuller explication in Lloyd’s description. It is, for example, given a moral imperative. Not to pursue scientific inquiry is described as ‘indefensible’, ‘sinister’ and ‘destructive’. Scientific progress is described as inevitable: ‘there is no going back’. There is no stopping this advance, we cannot ‘close the doors’ on the ‘frontiers of human knowledge’, to do so would not only be ‘unenforceable’, but would ‘merely inflame curiosity’, claims the speaker. The will to know is described as an intrinsic human need and an essential moral good.

The hope and faith invested in technological progress is here proclaimed in its most expansive and exalted form. The entire future of the human race is seen to be at stake. The imagery of scientific pioneers entering new terrain, the foothills of ‘the gene age’, whose significance is ‘almost beyond our comprehension’, is again almost mystical. The image is of scientific knowledge lying in wait to be discovered. There is no sense of choice or options within this depiction of scientific progress: it is as eventually inevitable as it is morally imperative to proceed forward.

Interestingly, this counter-image to that of the 'desperate' infertile woman-martyr also introduces her saviour in the form of the heroic scientific pioneer. On the one hand is the devotional woman figure *(mater dolorosa)* beckoning miraculous technological impregnation, whilst on the other is the forwardmarching scientific pioneer devoted to the cause of fathering invention. Both images have powerful symbolic resonance within Judaeo-Christian doctrines of divine creation. It is man's fate to have eaten from the tree of knowledge and been burdened with mortality. It is woman's fate to suffer in childbirth and to be subservient to patriarchal authority. As the potency of the Father and the Holy Ghost were realised through the vessel of Mary's womb in the miraculous conception of Christ, so are women's bodies in the context of IVF the symbolic repositories of a profound faith in the moral and historical imperatives of scientific progress.[6]

Similar religious symbolism attends the use of foetal imagery which, it has been suggested, make of the fetus a Christ-like figure. As Faye Ginsburg has noted in her analysis of foetal symbolism in the context of the American abortion debate, 'the aborted fetus becomes a sacrifice offered for the redemption of America' (Ginsburg 1989:107). Similarly, as Barbara Duden has argued in the context of the abortion debate in Germany, the fetus becomes a 'public sacrum', a sacrifical object of worship symbolising a wide array of social ills (1993b). A kind of religious mystery surrounds the tiny, perfectlyformed fetus in its private inner sanctum which has been converted into a powerful source of overdetermined symbolic rhetoric by rightto-life campaigners. As Rosalind Petchesky argues:

> ‘The foetal form’ itself has, within the larger [American] culture, acquired a symbolic import that condenses within it a series of losses— from sexual innocence to compliant women to American imperial might.
>
> (Petcheskey 1987:268)

In Britain in the 1980s, the joy and hope of those who sought to achieve a miracle baby through the power of science and technology served as a similar condensed image, not of losses, but of potential gains. Through the mobilisation of a potent form of reproductive imagery, the promise of scientific progress was affirmed and celebrated.

That such religious parallels appear in the context of evocative imagery concerning reproduction is hardly surprising given the importance of beliefs about conception to cultural accounts of human origins or genesis.[7] As anthropologists have been quick to discover elsewhere, beliefs about conception are inseparable from questions about what it is to be human, how a human comes into being and the ‘miracle’ of this creation. In the long history of western scientific accounts of generation, from Aristotle’s writings on the subject in the fourth century BC through the contributions of William Harvey in the seventeenth century and up until the present, conception has been inseparable from metaphysics and cosmology (Dunstan and Sellers 1988). There is no reason to assume that increasing knowledge about ‘the facts of life’ over the past two centuries has entirely dispelled this legacy. To the contrary, the celebration of the joy of miraculous births in the British House of Commons in the 1980s wholly corresponds to the ‘awesome mystery’ of life’s

creation and the transcendent cultural values with which this potency has long been symbolically associated.

In the iconographic image of the 'desperate' infertile woman, and the equally important symbolic figure of the 'miracle baby', are evident not only a devotion to the ideals of scientific and technological progress, *but their capacity to be embodied.* Through IVF, science and nature are unified in an act of pro-creation. This is a critical interface. Symbolically, this union and its 'fruit' not only signify, but actualise, the potency of natural science in the service of the natural family. Where there was no family, technology has enabled one, through an act of miraculous creation, at once the product of nature and of science. The 'miracle baby' is both the 'fruit' of knowledge, and of the germline: it embodies their unity, it confirms their potency, and ensures their continuity.[8]

It is in this way that the desire for assisted conception functions as a sign in public debate. Far from being a literal description of the experience of IVF, in which hope plays a far more complex and less enabling role, the truncated description of the hope and joy of infertile couples is the repository of condensed signification referencing collective cultural hopes and faith. The joy occasioning the birth of a miracle baby is a sign: a sign of embodied progress.

FAITH IN PROGRESS

Like the 'virgin birth' debates described in Chapter 1, the parliamentary debate about human fertilisation and

embryology in Britain in the 1980s was defined by a structuring absence. In both the 'virgin birth' and in the parliamentary debates, this absence was of 'correct' knowledge of the 'facts of life'. For anthropologists debating 'virgin birth', the presence of an absence was seen to require explanation in terms of core features of social organisation and cultural belief. The same can be said of the parliamentary debates. Here too, an absence of complete knowledge reveals the presence of core principles of social and cultural life. Both the traditional family values invoked by the spectre of infertile couples' disenfranchisement from society, and the cultural value of belief in scientific progress and technological innovation, emerge as the direct referents of incomplete knowledge of 'the facts of life'. It is *because* these facts are incomplete that faith in scientific progress is a moral necessity, and once they are more complete ('once the complete map is known'), the value of hoped-for progress is confirmed.

An important implication of this similarity is that the meaning of 'the biological facts of reproduction' is not simply literal. Not only are the 'facts' of biology symbolic in the sense outlined by Schneider, as symbols of 'diffuse, enduring solidarity' or kinship ties. They are also symbolic of possession of a particular form of knowledge, which offers a particular access to truth. This explains why questions of knowledge and truth were so important to the 'virgin birth' debates. The 'biological facts of human reproduction' not only signify the 'truth' of reproduction, they signify *the power of science to determine this truth.* Moreover, this knowledge is attested to by its instrumental power, that is, its power to generate or to create. In this sense, an implict analogy links 'biology' with *knowledge of* biology: they are

both endowed with generative power. I suggest this has important implications for the metaphor of genealogy.

Put another way, the argument can be restated. In the event of reproductive failure, or infertility, no one argues that it doesn't really take an egg and a sperm to make a baby. The response is that a sperm and an egg *should* create a baby, and that technological assistance can *help* them produce a baby. In other words, the biological function of fertilisation is seen as capable of being assumed technologically. That is what the world of achieved conception is all about. Similarly, when IVF fails, which it does most of the time, the response is not to abandon the attempt to assist conception, but to improve the technology to achieve a better outcome. Technology can provide what nature fails to deliver: it can bridge the gaps, make the connections, and assist nature in doing what it should have done 'naturally'.

The point is that 'nature' and 'technology' in the context of IVF are not only commensurate, but substitutable. Just as IVF clinicians 'learn' from nature how to improve their techniques, so 'nature' can be improved by scientific and technological assistance. Much as the domains of science and nature have been positioned in historic opposition, it is equally true that the development of science depended upon the invocation of nature as a separate, lawlike, mechanical realm of phenomena *which was compatible with scientific representation and intervention.* In this sense, they became the same thing.

Schneider points to the specificity of the modern western model of 'nature' when he argues that the Yapese do not assume that people and pigs reproduce in the same manner. It

is the assumption that people and pigs *do* reproduce in the same manner which enables Darwin to 'borrow' the analogy of kinship to describe nature as a system, thus instantiating the modern biological definition of nature, or life itself, as a single unity. Darwin defines nature as a system of consanguinity, just as Morgan does, in proposing a distinction between descriptive and classificatory kinship, as Strathern points out. IVF extends this 'loan' yet again: instrumental knowledge can be substituted for biological function in the context of reproduction, still one of the most 'naturalised' domains of human activity. Moreover, this instrumental capacity can be seen as 'just like' nature, as confirmed by the 'natural' and 'normal' birth of a child as a result of their coupling.

It is the creative potency of this substitution, the ability for science to assume and thus become part of the reproductive process, which is signified by the denomination of such a birth as miraculous. Possession of 'accurate' (modern biological) knowledge of the 'facts of life' is thus not simply about the 'literal' truth of physiological events leading to conception, for possession of this form of knowledge signifies something much more than the literal truth itself. It signifies a power of instrumentalism, and indeed faith in its enabling capacity. 'Nature' is not only knowable through techniques of observation, representation and intervention, but it is thus appropriated as an extension of these techniques, to become instrumentalised. This is what the absence of accurate or complete knowledge of 'the facts of life' in the context of assisted conception reveals by effecting an immediate shift into the language of hope, faith and miracles—all of which refer to the power of science and technology to transform

‘natural facts’ into culturally-desired outcomes, including progeny.

POSTMODERN GENEALOGY

The conflation of scientific knowledge with life itself, which is the conflation I argue IVF materialises, is evident in Sir Ian Lloyd’s elaborate defence of scientific progress. Like DNA itself, scientific knowledge has been passed from generation to generation, from Copernicus, to Galileo, to Newton and to Einstein, he suggests. The discovery of DNA offers to extend this progress into ‘the very blueprint of life’. This promises the ‘eventual elimination’ of ‘genetic impairment’ which he describes as a moral necessity: ‘For us to forswear the assistance which science can provide in modifying that code to the advantage of the human race would be an idefensible abdication of responsibility.’

In the midst of a legislative effort to establish ‘human fertilisation and embryology’ as juridical territory, this statement expresses not only the capacity for science to ‘assist’ nature, but the imperative for it to do so. Any other option, in Lloyd’s view, would be no less than ‘sinister’. As in the context of IVF, the analogy used by Lloyd is of the ‘assistance’ science can offer, in this case to ‘modify’ human heredity. The suggestion is of ‘assisting’ genealogy.

Assisted conception already anticipates the direct modification of heredity, in so far as it comprises a form of assistance to intergenerational transmission. The ‘eventual

elimination' of genetic 'impairment' would require more elaborate 'modifications'. These are already becoming available in the form of genetic therapy for 'inborn errors of metabolism' such as cystic fibrosis. Often, gene therapy is proposed for severe childhood diseases, and the same admixture of hope for success and preparedness for failure characteristic of would-be parents in the context of IVF is likely to be the experience of families of children who are candidates for genetic assistance. Assisted genealogy will become an increasingly widespread kinship dilemma.

This study offers a perspective on this dilemma, both at the level of how it is experienced, and in terms of its implications for understanding 'what kinship is all about'. I have argued that the parliamentary debates concerning human fertilisation and embryology can be seen as a context in which the reproductive hopes, desires and joys of infertile couples functioned not only as evidence of the good that new reproductive technologies can achieve, but in addition that these hopes symbolised the broader cultural value of belief in scientific progress. I have suggested that the belief in scientific potency in the context of new reproductive and genetic technology is increasingly seen as commensurate with the generative power of life itself, so that they are substitutable for one another.[9]

Looking back at the 'virgin birth' debates, it is clear that the concern with 'the biological facts' of human reproduction was also a concern about a specific *form* of knowledge, not just its content. Implicit in this concern is the status of anthropological knowledge as itself scientific. The ability of anthropologists such as Malinowski, Leach or Spiro to interpret the conception models of the Trobrianders or the

Australians in terms of deep structural, or hidden psychological, or structural-functional meanings accessible to the trained observer articulates a belief in science as a way of knowing. In the same way that the Judaeo-Christian model of paternity expresses a particular view of the power to create, the modern biological model of the 'facts of life' expresses a particular view of the power to know.

One of the meanings I propose here for postmodern kinship theory is the sense in which it is no longer possible to assume this particular view of the power to know unproblematically. This is a contested claim, and much of the resistance to postmodernism derives from the view that it is anti-scientific, relativist, or even nihilistic. There is a widespread sense of anxiety that 'abandoning' the claim to be scientific will be accompanied by a loss of evaluative standards. I suggest that these standards have already been lost: their bases in a particular worldview have already been made explicit, and this is itself an effect of increasing cultural diversity (See Marcus 1995). Anthropology is in a unique position to turn such insights to its advantage. It is not the case that evaluative standards will be lost. They will simply change, as they have already done.

Kinship theory has also to be 'after the biological facts' for the simple reason that biology itself continues to change, as it has always done. For Malinowski, the possibility remained open that certain cultures do not 'know' the causal relation between coitus and pregnancy. This was the verdict of Ashley Montagu, whose assessment Malinowski described as the most fully scientific ever achieved. By the time of Leach and Spiro's dispute, the possibility of 'ignorance' had been rejected, and the 'facts of life' were assumed too obvious for

anyone not to know at some level. In a sense, for Leach and Spiro, this knowledge was itself naturalised as so selfevident as to preclude non-recognition by any human group. For Schneider, Weiner and Delaney, modern biological knowledge of the 'facts of life' was simply irrelevant to the kinds of questions about culture anthropologists needed to ask. For these same theorists, it was the importance of biology *within* western culture which required attention, as a means of challenging ethnocentric and gender bias—a task to which Strathern's work remains the most comprehensive response.

As anthropologists have turned to the question of the significance of biology *within* Euro-American society, however, the task of defamiliarisation has also been aided by biological science itself. It is a direct result of advances in reproductive biology that parliamentarians in Britain spent many hours debating the meaning of 'mother', 'father', 'conception', 'fertilisation' and the legal status of embryos stored in liquid nitrogen tanks across the country. This process itself denaturalised 'the facts of life' by specifying precisely how they could, or could not, be 'assisted'. Far from being *semper certa,* reproductive biology has increasingly become a site of contestation.

In terms of kinship theory, then, the 'genealogical grid' once assumed to be a fixed point of reference, authenticating both a set of 'biological facts' and the power of science to produce accurate knowledge of them, can no longer be assumed *even on its own terms.* Not only is it now visible as an historic artefact of 'folk European' models of relatedness, but it has been rendered artefactual *within biological science.* The advent of transgenic organisms, trans-species hybrids, patented immortal cell lines and genetically modified strains

of plants, bacteria and livestock augers a major departure from the Darwinian genealogical grid.

As contemporary Euro-American, and increasingly global, kinship debates, the many redefinitions of genealogical connection at issue in debates about biodiversity, the human genome project, genetic screening or molecular evolutionary studies can usefully be approached as both post-natural and postmodern conception stories. It is not necessary to resituate the genealogical grid: it has already been relativised. We are already 'post' the modernist model of consanguinity: it has been geneticised, technologised, instrumentalised, commodified and informationalised and reproduced as virtual sequence data alongside the genomes of mice, dogs, worms, yeast and fruit-flies. Neither can 'science' be unproblematically assumed to be extra-cultural any longer.[10] Likewise, 'kinship' can no longer be defined as a question of 'natural', 'biological' or 'reproductive' facts, as these criteria are no longer 'given' in the context, say, of paternity disputes over artificial life forms. The anthropological task lies in understanding what kinds of cultural phenomena such disputes comprise, and what an anthropological perspective on such questions looks like. Postmodern kinship theory is one way to describe such a project.

CONCEIVING THE FUTURE

The population described in this study are also 'post' the modernist model of the 'facts of life'. Although some, such as Rabinow (1992), argue that assisted genealogy (or

conception) represent the apotheosis of modernity—its intensification rather than transformation, I suggest this would be a more accurate description of the route in to IVF than the route out. The will to take action, to do something, indeed to try everything is the classically modern mentality out of which the choice to opt for IVF emerges. Belief in progress, and hope for improvement are the defining features of the quest for conception in the context of IVF. Coping with failure by renewing hope for success might well be described as exemplifying a modernist attitude towards the possibility of an enhanced future through ingenuity and innovation.

For most of the people who encounter the world of achieved conception, however, it is eventually necessary to abandon this hope, to abandon a belief in progress and to come to terms with having failed to achieve their goals. Moreover, one of the features of this experience I have tried to show in some ethnographic depth is the flipside of the 'hope that keeps you going' in the way that this hope can become disabling. It is none the less also a finding that many people who fail at IVF continue to believe in the potential of the technique to improve over time, as some of the comments recorded in the previous three chapters attest. However, the postmodern turn does not require abandoning belief in progress, nature or scientific authority, it merely requires the acquisition of an additional layer of doubt concerning their effectivity.[11] It is the specific admixture of continuing belief in the tenets of modernity, and increasing uncertainty about precisely these goals which is the sense of the postmodern condition I would claim describes most people's experience of IVF.

The dilemma of 'embodying progress' thus describes the kinship situation derivative of technological assistance to

reproduction and heredity. This will continue to expand in social, cultural, political, economic and moral significance as consanguinity becomes increasingly geneticised, medicalised and instrumentalised.[12] Much as forms of human connection may continue to be naturalised, the simple determinism of 'natural facts' and traditional biological models of conception are already outdated in such a context. Helpfully, this anachronisation of the 'biological facts of reproduction' is complemented by the possibility of rediscovering their significance in the conceptual apparatus of anthropology itself, now newly available as a cultural field in its own right. This combination of circumstances offers a greatly expanded scope for kinship study, which might usefully be redefined as the study of vital signs and their connections, including those that connect bodies of knowledge with the peoples who are constituted in and through their many agencies and constraints.