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Body and knowledge. Kinship, new reproductive technologies (NRT) and public values

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Since February 1998 we have been conducting ethnographic research into the social and cultural implications of infertility treatments (specifically *in vitro fertilisation*, IFV) in the Reproduction units of two hospitals in Barcelona, one public and the other private. The aim of this paper is to present for discussion some of the topics that have emerged from our research.

Ideas on reproduction have become the concern of a vivid debate not only among clinicians, biologists and present and future users of NRT, but also among religious and feminist groups and citizens in general. Modes of reproduction are powerful narratives integrated in a cosmological and social order, so much so that biological facts do not necessarily have an ontological priority over representations and beliefs. The anthropological analysis of NRT enables us to see how the body becomes the centre of a set of experiences and social representations.

On the basis of the narratives of different communities and social agents involved in the experience of infertility and its treatment (specifically for the results that we present: clinicians, biologists and NRT users) we have identified different themes and we present some of them for discussion:

1) The tension between nature and culture.
2) Dynamics between tradition and modernity in the public representations of NRT.
3) Conceptions of life and personhood: the meaning of life.
4) Ideas about kinship: maternity, paternity and heredity (to have one's own child).

1. The tension between nature and culture

One possible discussion is how NRT can blur distinctions. Mothers are not mothers, fathers not fathers, etc. The plot of the narrative is sustained by the technological intervention of the biological facts of reproduction (gametes, embryos, etc.). Intervention is confronted to nature because it is artificial and technological. Nature is not yet uniform. It differentiates and becomes artificial (frozen life, etc.). When nature is artificial, it is not recognised by society. Or we can imagine a future with two kinds of human beings: one genetically modified and the other natural. If you like to imagine, you can think of them not only in terms of different classes, but different species. Nature shifts into culture; is nature "artificial" (technology) and does culture become "natural"? Can the facts of nature, remade as technologies of reproduction, be the symbols of kinship relations that are so taken for granted? If not, what is taken for granted? Life? Nature? Or such less abstract things as interaction and relations? Another related narrative is that of "helping nature". Infertility is a biological problem and technologies enable problems to be solved. The plot of the narrative could be "market centred": a relation between a demand (social, individual, etc.) and a service (clinical, scientific knowledge). Consumerism and choice could be the main issues. The narrative is in terms of "problem solving": there are demands, there are risks, etc. And there is the need to minimise costs (social, personal, economic, etc.). This is the narrative of the technician and the clinician. It can be a narrative of hope (and therefore of miracles). Technology helps families to overcome problems in nature. By so doing, it solves psychological and social problems. Infertility is a source of individual stress and of social exclusion (there is pressure to be a parent). NRT try to solve these problems.

2. Dynamics between tradition and modernity in the public representations of NRT

Another possible discussion is that of the "novelty" or "oldness" of these technologies. They are "old" and "new". In biology they are not absolutely new and in society they are completely old (patriarchal, male chauvinist). What makes them "new" or "old"? The question can be analysed in terms of the organisation of the narrative. From one point of view they can be "new", they represent "changes". From another point of view they are "old", "traditional". What are the narrative points of view? I think that, in this case, the narrative oscillates between an epic narrative (progress in

sciences versus power in society) and a sceptical narrative (nothing under the sun is new). New technologies may be seen as a quiet revolution. Changes are neither visible nor dramatic; they are changes by analogy to the "old". We see changes at the end of the process. After the facts.

The standard narrative of human conception stories – sperm meets an egg in the woman's body – changes when NRT are involved. Uncertainties about fertilisation – sperms do not always meet eggs – are replicated in NRT – a successful in vitro fertilisation does not always mean an evolutive embryo in the uterus. Scientific progress is based on "trial and error". Truth always has to be falsified in order to be scientific. It is formulated in probabilistic terms. It is a statistical truth. Scientific progress is translated into uncertainties; risks must be run and new decisions taken (i.e. genetic screening of the embryo means that decisions have to be made – abort voluntarily, run the risk, etc.). Scientific knowledge is not complete and it is translated into uncertainties in the genetic make up of the embryo. We could do another test in the future we could do other tests, etc.

The standard narrative of normal conception follows the idea of sperm meeting an egg in the woman's body. Sperms are released into the vaginal cavity, they go into the uterus and in the fallopian tubes they meet a mature egg, which comes down from the ovary in order to be fertilised. When a fertilised egg begins to subdivide and develop, it implants itself onto the walls of the uterus and pregnancy is established. An interesting question is how culture shapes how the facts of procreation are seen. The old ideas of seed and soil depicted the woman's uterus as the mirror image of the male genitals. The more recent idea of sperms and ovocytes were merged in a narrative of an active role of the sperm and a passive role of the ovocytes and the more interaccionist relation in which both gametes play their part (a sperm-oocyte interaction) implies a narrative of autonomous elements merging together.

This standard narrative is becoming more complex because clinicians need to know the gaps that make conception difficult. Couples who follow treatment need to know more about this simple standard narrative. They need to know how the ovaries work, how sperm is made, how hormones work, what elements make it possible for the sperm and the oocyte to fuse, what role endocrine control has in procreation, the genetic make-up of the embryo, etc. The scientific gaze divides the sequence into smaller and smaller stages or the process is scrutinised in different elements: oocyte retrieval, semen analysis, insemination, embryo culture, the first stages of development, embryo transfer, implantation in the uterus, etc.

The standard narrative of IVF can also be simple: eggs are removed from the woman's body, they are fertilised in vitro in the laboratory with the male sperm, and they are returned to the womb so that they can follow the natural course. This way of seeing the story is in analogy with the standard narrative of conception. In vitro is equated to in vivo. Technology helps nature. However, these narratives do not stand if the failure rates are as high as statistics show and mainly if the clinic gaze tries to see the causes of the failure and the obstacles to conception. Human reproduction is not as efficient as it is supposed to be.

It is a narrative that confronts a desire – to have one's own child – to an experience in the body that prevents one from achieving it. Reasons range from a low production of sperms to obstacles in the physiology of the woman's body. Paradoxically stories of IVF merge two kinds of knowledge: accurate knowledge of the parts of the body involved in conception and uncertainty about how to achieve conception. Increasing amounts of information about the process of conception is related to greater uncertainty about conception. If the procedure fails, the causes have to be analysed and another procedure tried. If we know a lot of things, it means that a lot of things can be wrong. The clinical gaze has to isolate a cause sequence, and try a new procedure.

3. Conceptions of life and personhood: the meaning of life

In biology life means the capacity to reproduce itself, but in culture, life means moral concerns, values, etc. Not far from the "meaning of life" is the idea of "life as a cycle", which naturally aims at reproduction. Obstacles in the path of this life cycle can be overcome by NRT. "Destiny" is an important idea for conceptualising life. The desire to have offspring is embedded in nature. There is a conflation of language between evolutionary genetics and destiny when it is said that life organisms have a biological drive to reproduce themselves, to reproduce their genes. If it is natural to have offspring, infertility is a natural problem. If it is natural to have children in a biological family, infertility is a social problem. As in kinship we have both "natural" and "social" elements. But these questions of infertility and destiny are normally thought of in a very primordialistic way (before social convention: a question of emotions and nature) and kinship language is a powerful source of primordialistic appeal. We have, then, infertility as a "social" and "natural" fact. It is inside kinship: a hybrid

artefact of modern thought. Faced with this hybrid, narratives suppress one of the following aspects:

1. The domain of reproduction is naturalised and the introduction of medicine in this domain is proof of it. It helps nature.
2. The domain of reproduction is a social convention and NRT, as a technique in culture, can help to enhance social convention – lesbians with children, single mothers, etc Biology helps social conventions.

One is based on the idea that family is natural (before the social contract) and, so, science gives nature a helping hand. The other is based on the idea of alternative ways of having a family – family comes after the social contract – and science helps nature to follow alternative social conventions.

Moral concerns about abortion can become embroiled in moral concerns about NRT. In the research and manipulation of human embryos, the meaning of the life of embryos (or pre-embryos) is related to moral concerns about the meaning of human life and to the idea of the formation of a human person. The problems related to IVF are the implantation of three embryos (and the possibility of voluntarily aborting if all of them evolve) and the crytopreservation of embryos. They can be donated to a bank. The question is about rights: the right to use technology, the right to use genetic material, the right to "own" children, parts of the body, etc. Property rights and limits of science and knowledge are the main concern. This is the main issue of ethical and legal discourses. Another question is that of "population" (birth rates, mortality, etc.). This narrative deals with class or global politics of reproduction and wealth distribution. Who has access to these technologies? The main concern is political or politico-economic.

4. Kinship beliefs: maternity, paternity and heredity: to have one's own child

Kinship

For the common Western understanding, kinship is a hybrid of two different elements: social and natural. Human kinship is regarded as a fact of society rooted in the facts of life. Variability depends on how the facts of life are socially recognised and immutability is rooted in nature. Kin are a combination of substance and code of conduct. They are related by blood and acknowledged by a form of conduct. The idea of blood ties symbolises the fact that relatives have social claims by virtue of their biological relation. It means that biological relations have significance for human rela-

tions. They are taken-for-granted reference points and they are seen prior to everything. For the Western common sense, society takes after nature and kinship relations are considered primordialistic ties.

The narrative about NRT can be seen in terms of the experience of kinship. The way to imagine NRT is through analogies to kinship. On the basis of their kinship expertise, people interpret the possibilities offered by reproductive medicine in a highly personal and ironic fashion. They "deconstruct" the "facts of NRT" in terms of kinship relations. If kinship means "roots" or "primordial ties", how can the future of gametes in a bank be envisaged (without roots)? Analogies can be drawn in terms of adoption, foster parenthood and wet-nursing available in the domain of kinship. The language of the gift is a mediator between the anonymous donor (without roots) and the thing donated (life), as well as between abstract bodies (a bank) and concrete people (a genealogy).

If kinship means a future project, how is "biotechnology" to be envisaged in reproduction? Analogies can be drawn in terms of management of life (social and biological engineering) and in terms of enterprising families (technology helps to overcome infertility). Related to the experience of kinship is the personal narrative of women who have been taking therapeutic treatment for infertility. (For us it is our main concern and the object of our research). NRT is a "choice", but it becomes an individual necessity. It "takes over" individual life. Following different cycles is personal proof that one has tried everything available to overcome infertility. The emplotment could be a subject who wants something and she has obstacles in nature and in technology. It is an obstacle course. The result is love or despair.

It can also be a rich experience which reveals the body, its limits and the limits of science. Trying to create a new relation recreates old relations. Kinship becomes reflexive. Our problem is not to solve the main dilemmas that every body has in these narratives. Our problem is to analyse (like the old anthropologists) the "cosmologies" of the "reproductive model" in Barcelona through some questions that arose because of the displacement of NRT. We try to "denaturalise" reproduction, i.e., not to think in terms of a taken for granted fact of nature and establish "biology" and "technology" as symbols for social relations.

Changes in the ideas about human reproduction (the facts of life) imply changes in the ideas about kinship (after the facts of life). As Schneider reminds us, and in reference to American culture, kinship is whatever the biogenetic relationship is: "If science discovers new facts about biogenetic relationships, then that is what kinship is and was all along, although it

may not have been known in the past" (1968: 23). Kinship is a powerful model of knowledge: If we now know more (or differently) than before, we can see the knowledge of the past from a very privileged point of view. We need to place social agents in the context of their knowledge. So, we know more (or differently) than them (the famous omniscient narrator of the ethnographies), but we also know the limits of our knowledge – we know that in the future others can know more (or differently) that in the present – (the famous reflexivity of the ethnographic accounts). If we add knowledge to the fact of biogenetic relations (the facts of life), we need new categories of relatedness – i.e. "genetic" parents is a new distinction within the old category of "natural" parents. We refer to a "genetic parent", even if we don't know anything about him/her except his/her genetic make-up. In our culture a kinship relation is a relation based on procreation – blood is not only a symbol, it is also literally true when it refers to genetic ties. If we add knowledge to the facts of procreation we need to create new distinctions in kinship relations. This distinction may not be socially relevant. We need to make another distinction: procreation is the biological process of producing new children while reproduction is the perpetuation of personal identities over time. In Western kinship both aspects were blurred, but advances in knowledge about procreation may envisage conceptual distinctions that were not visible before.

Concepts of fatherhood and motherhood

There have been two main shifts in the Western categories of reproduction. The first one was the separation of intercourse from reproduction by birth control – in the West this aspect of voluntary infertility is a social good and it is related to sexual autonomy and liberty.

The second was the clinical treatment of involuntary infertility and it implies that conception becomes possible without preceding sexual intercourse. Technology supplies sexual intercourse. The main symbol of kinship (sexual intercourse) is displaced by biotechnology. It implies also that the identity between the foetus and the mother or between the embryo and the father can no longer be assumed. Technology disperses concepts of parenthood.

This separation brought about by technology is united again by a process of symbolic reconstruction:

1) "Sexual intercourse" is a symbol in kinship of a biologically related descent. Trying to have a "genetically related child" is one of the main motivations of the technologies. IVF with the parents' gametes supplies "sexual intercourse".

2) The idea of family is complete if we put children in the picture. In spite of different alternative choices, two adults with children is still the normative idea of family. Technology tries to complete this normative idea.

3) Kinship is a hybrid of two realities: genetic and social. These two elements are simultaneous; genetics does not come before the social. Genitor is father and genetrix is nurturant. Maternity means genetic identity with the child, giving birth and giving nurturance. Paternity means power to create and engender life and socialise new life. When technologies separate one aspect of this continuum, the other is stressed. In ID, the father stresses the social aspect of his role in relation to the natural aspect of the mother. Life means social life added to natural life. IVF transforms the wife into the genetrix and the husband into the genitor and provides a child that is biologically related to both of them, the symbol of their bond (a complete family). What technologies separate, "sexual intercourse" and the process of getting a child unite. The difficulty of nurturing the embryo and of giving birth will be stressed instead of the "artificial process of the conception" (not in the woman body and not after sexual intercourse)

Having one's own child

Having one's own child is one of the main motivations behind infertility treatments. "Own" means different things. The context defines the meaning of this relation: genetically related, giving birth, and having gestated it. But "own" means mainly a biological relation of some kind. Note that in our culture self-knowledge is considered fundamental to personal identity, and it includes knowledge about biological origins and biological parenthood. This knowledge is figured out by means of genealogical trees and continuity in the family chain. The "own" child implies continuity in the genealogical chain. Notice that genealogy is related to biology and that a kinship relation is a literal translation of biological relatedness. The other relations are (as old anthropologist used to say) "fictive". The basic relation is the biological one; the others are metaphors – God-parenthood, foster-children, adoptive parents, etc... Even "in-laws" are relations that become kin (my sister-in-law is the aunt of my children). For an ego in the present they are "in-laws", but for the future (ego's children) they are kin.

The Western modernist reproductive process is conceived in terms of temporal relations that were biological or that would become biological: "roots" and "primordial ties" come from the past and are conceived in biological terms. Nature is a basic element in the conceptualisation of identity and nature in modernist times is conceived mainly in terms of biology. The future is also conceived in terms of producing new relations. The continuity of these new relations is conceived in terms of genealogies. And genealogies in Western modernist times also mean biological ties. Some modernist primordialism and some utopias are conceived in terms of biology. Pri-

mordial ties of community come from a common nature of in-breeding and future utopias are the result of genetically modified in-breeding. Identity is the common sentiment of culture rooted in the past and, since culture comes after nature, identity is rooted in nature. In the process there is an appropriation of nature: culture owns nature. The reproductive process replicates this modernist cosmology of nature in the microcosm of the individual: parents "own" children.

Related to the idea of having a child of their own is a discourse related to personal will. In public discourse "personal will" can be attributed to causes. The autonomy of the volition is the attribute of a mature person able to chose between different options. Volition can be attributed to others – a perverted volition induced by the clinic in order to regulate women's sexuality, a cultural mandate to be a mother, a natural drive to reproduce, a self-mandate of reproductive technologies. The character of these discourses is the negation of an autonomous volition that sees motivations in different domains – culture, technology, society, nature, etc. These discourses induce an image of the middle class woman "obsessed" with suppressing her infertility through the technology of IVF. Notice that even if not all the questions related to infertility are solved by IVF, this clinical technique has become the icon by which infertility can be overcome.

In contrast to this discourse of external causes perverting the volition to overcome infertility, there is another discourse that focuses on personal responsibilities (low-fat diets, exercise, smoking habits, etc.). Personal choices can prevent or cause diseases. In the case of infertility, the personal choice of postponing the decision to have a child can be seen tempting the fate of infertility. Fertility rates go down with age and one becomes aware of infertility too late. NRT have come to an era of birth control and low fertility rates.

In one discourse, volition is the result of external causes and in the other volition is the cause. A person is the result of previous kinship relations and is the centre of present kinship relations.