Crumbling Motherhood:
Reproductive technology creating
women's procreative alienation.

Dr. Robyn Rowland

Social Psychologist

Senior Lecturer in Women's Studies

School of Humanities

Deakin University

Victoria 3217

Australia

Presented to: La Matetnité au Laboratoire (Maternity in the Laboratory), an International Forum on New Reproductive Technologies, Concordia University, Montreal, October 29-31, 1987.

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All human life on the planet is born of woman.
The one unifying, incontrovertable experience
shared by all women and men is that months-long
period we spent unfolding inside a woman's body ...
most of us first know both love and disappointment,
power and tenderness, in the person of a woman ...
we carry the imprint of this experience for life,
even into our dying.[1]
(Adrienne Rich, Of Woman Born).

Crumbling Motherhood

The woman-mother is being transformed into an object of male controlled science; a living laboratory for the purposes of medical experimentation. This is part of an ongoing process both of using women as experimental subjects and of increased masculine control over birth, pregnancy and now conception itself. New reproductive technologies feed men's desire to control procreation, usurping women's power. In this process women are becoming alienated from their bodies and motherhood, losing choice, and control of themselves as mothers. Developments toward ectogenesis (the artificial womb) and male 'mothers', are representations of this process.

Motherhood and control.

Most societies are pro-natalist: they hold that having children is good, and defines the mature person. It is 'the existence of structural and ideological pressures resulting in socially prescribed parenthood as a pre-condition for all adult roles'2. But men who control the institutions of society such as the government, decide when, where, how many and with whom women may have these children.

Motherhood is said to be the true fulfilment of femininity. For many women internationally, it brings little power in real terms, but is often the only power-base from which they can negotiate the terms of their existence. Women learn to like themselves in a motherhood role because it allows them experiences of love and power, not easily found in other situations. The ideology of romantic love dictates that it is a woman's greatest desire to present her husband with his offspring.

Mandatory motherhood is reinforced through the negative attitudes shown towards childless, and particularly childfree people. If women choose not to have children they are labeled unlikeable, selfish and uncaring child-haters.3 These kinds of ideological pressures on women to 'choose' motherhood, create a strong need within women. This ideology and this need are reinforced by economic structures, such as the nuclear family.

Adrienne Rich has analysed the institution of motherhood which has been distorted under patriarchy, distinguishing it from the experience it might be if women controlled it. She writes of the 'alienated labour' of childbirth.

> The experience of lying half awake in a barred crib, in a labour room with other women moaning in a drugged condition where 'no-one comes', except to do a pelvic examination, or give an injection, is a classic experience of alienated childbirth. The loneliness, the sense of abandonment, of being imprisoned, powerless, and depersonalised is the chief collective memory of women who have given birth in American hospitals.[4]

The patriarchal definition of motherhood is one of unpaid and unrecognised labour, self-sacrifice, isolation and domestic and physical servicing. Yet women continue to resist it, mothering under the most difficult conditions, in a state of powerlessness. As Sarah Ruddick writes:

> Throughout history, most women have mothered in conditions of military and social violence and often of extreme poverty. They have been governed by men, and increasingly by managers and experts of both sexes, whose policies mothers neither shape nor control.[5]

The strength of the ideology of motherhood is reflected in the constant pursuit of it by women in the face of mounting evidence that men are increasing their 'rights' while relinquishing responsibility for their children.[6] It is seen in the queues of women awaiting IVF, an assaultative process which they themselves describe as humiliating and emotionally draining, and which is known to be unsuccessful.

Statistics indicate that the 'success' rate is around 8 percent. For every hundred women on a program, about 92 will never take home a baby. Only 61 percent of pregnancies on the program result in live births; there is 20 percent spontaneous abortion rate; 27 percent of babies are born prematurely; there is a 40 percent multiple pregnancy rate; and a 46 percent caesarean delivery rate. Caesarean delivery carries a two to five times higher risk of maternal death.[7] This figure alone indicates the objectification of women on IVF programs as doctors increasingly deliver children in their own fashion rather than allowing a vaginal birth. The mortality rate for babies is twice that of the normal population.[8]

The ideology of motherhood determines that women should produce offspring for a particular man. Previous pregnancies are reported in almost half the women on the programs, some of which have resulted in live births. But these women now need to satisfy the desires of a second man for his own biological offspring. In Australia, six percent of couples are there due to sterilization.

Men have worked to control the experience of motherhood for women physically, through, for example, medicine and science, and institutionally, by tying it to heterosexuality and the family.[9] Western family structures reinforce this control by

ensuring women's economic dependence due to child-bearing and her enslavement in the unpaid domestic sphere, servicing the physical, emotional and sexual needs of men.

But it is to science that we turn our attention today. Medical science has been used by men to develop control over women as mothers. Men have envied women's procreative power. Azizah Al'hibri argues that historically it has been documented that men envy the ability of women to reproduce and the complexity of women's organs and capacities with respect to child-bearing.[10] Psychoanalysists have developed the theory of womb-envy to account for this. Some of Freud's case studies document fantasies on the part of men and boys for possession of women's organs and functions. Many cultures have symbolic representations of this envy. For example, Athena sprang from the head of Zeus after he had swallowed her mother. She was a goddess known to be harsh towards women.

Not only are there symbolic appropriations of women's procreative power by men, but science has constantly created theories to disempower women. In the seventeenth and eighteenth centuries sperm was claimed to have carried miniscule versions of man, and woman was merely the vessel that housed the seed. The gradual consumption by male medicine of midwifery and the introduction of the harsher elements of birth, such as forceps or 'hands of iron', have evidenced man's attempts to stop himself from becoming dispensible within the procreative process. It is exemplified in the way TVF researchers are called 'fathers' of the children born. In Perth, Dr. Peter Yovich, who was involved in setting up a commercial enterprise was described thus: 'He produced his first pregnancy in 1986'[11].

Mary O'Brien in her Politics of Reproduction discusses the differing experience of reproductive consciousness for women and men. Women's continuity in the process is assured: they know they conceive, labour and give birth. But men, once they deliver the seed are unnecessary. They experience alienation. In a desire to end this alienation men have established structures of control and ownership, such as the family or relevant legislation.[12]

Men are the dominant social group. It is characteristic of those in power to resent, and try to break, any exclusivity on the part of groups they dominate. Women's friendships and bonding, and lesbian relationships which exclude male sexuality, are seen as threatening male power. Men attempt to break these bonds. So women's procreative ability is seen as excluding men, who then desire that from which they are excluded. The relationships of power, dominance and subordinance are being played out through reproductive technology.

The key word here is control and this is part of the scientific ethic. Science and medicine are concerned with pushing the boundaries; with the control, domination and exploitation of nature, instead of cooperation with it. One example of this is a control element in IVF itself. Women are stopped from ovulating by being thrown into premature menopause, then they are super-ovulated 'under control' to produce many eggs at the 'appropriate' time (monday to friday preferably). Science is concerned with a narrow laboratory tunnel vision. It refuses to be socially accountable, its members pushing ahead in competition for international kudos and financial profit.[13]

Men are overcoming their alienation from procreation through the new reproductive technologies. In the process they are changing fundamentally the identity of women as life-creators. That alienation began with the harvesting of eggs from women's bodies on IVF programs.

There is also a greater push for genetic screening of embryos. This would involve the flushing of embryos from a woman's body to check it for imperfections, and then the reimplantation of the 'approved' embryo. It would be done on TVF programs for what doctors reporting to the Senate Hearings in Australia called 'at risk' groups, a definition which continually expands.[14]

One doctor wrote that embryo flushing and transfer such as this would replace amniocentesis for checking embryo abnormality. He was suggesting that with the development of 'new gene altering techniques' doctors could remove an embryo from a woman, check it and return it if approved. Lawrence Sucsy of Fertility and Genetics Incorporated, a for-profit company in Chicago declared that embryo transfers will become 'commonplace' in spite of the moral and legal objections because 'the power of motherhood will overcome the flack.'15 As the push for greater genetic screening of embryos becomes widespread, women's alienation will increase. These women like those on IVF programs, will no longer know with certainty that the embryo implanted in their body came from their body.

The process of reproductive technology is distancing women from our bodies, from our own procreative processes, and from birth. It is segmentalising women into

wombs, eggs, fallopian tubes, and 'uterine environments', leading to an easy conscience on the part of male medicine when it cuts us into our respective bits.[16]

The Construction of Women's Alienation

This alienation and objectification of women begins with the language itself; the language of dismemberment. Women are discussed as body parts - 'uterine environments' which need to be 'harvested' - dissected like animals. And the animal analogy recurs. Professor Carl Wood and Dr. Alan Trounson, leaders of the Monash IVF team in Australia have written: 'the human female is capable of having substantial litters under certain circumstances'.[17]

The language surrounding fetal surgery also ignores the mother as if she is merely a window through which the scientist can experience sonographic voyeurism. The glee with which this is done emerges in Michael Harrison's paper on the fetus as patient. He writes:

> The fetus could not be taken seriously as long as he remained a medical recluse in an opaque womb; and it was not until the last half of this century that the prying eye of the ultrasonogram rendered the once opaque womb transparent, stripping the veil of mystery from the dark inner sanctum, and letting the light of scientific observation fall on the shy and secretive fetus.

The fetus is 'he' and the most important thing about him is that 'he seldom even complains'.[18]

But it is surrogacy in which language has most successfully divorced women- from their children and acknowledgment of their labour. Couples can 'buy the services of a woman's womb' or use a woman as a 'suitcase really, an incubator'.[20] It is reproductive technology which has encouraged the development of surrogacy because it has represented woman as womb and capsule space. It has made the social context more conducive to using women as incubators (as in surrogate embryo transfer)[21] or as breeding machines (as in surrogacy).[22] Twomey writes of a reproductive technology and surrogate agency in the United States: 'Harriet Blankfield's company has five babies on the assembly line and a further twelve women on insemination standby'.[23]

And finally, the word surrogacy is a misnomer. The woman is in fact the birth mother. She is called a surrogate, or in one case an 'illegitimate mother'24 so that she can easily be torn from her child. So mothers lose their fragile status as such. while technodocs become 'fathers'.

Women on IVF programs themselves speak of their objectification, one of them noting that 'you feel like a piece of meat in a meatworks'.[25] A woman interviewed by Dr. Renate Klein writes: 'I felt like a baby machine, no one was interested in me as a person, I was just a chook with growing eggs inside - and if they didn't grow properly then it was my own fault'.[26] This relationship reflects the traditional doctor-patient power dynamics which women constantly agitate against. The women speak of the lack of dignity of the process, the lack of information given to them, the lack of concern from the medicos involved, and the fact that doctors ignore their experiences with the various drugs given to them.

In a study by Burton women reported the inability of doctors to talk to them about their experience of the failure of the technology, which was blamed on the women: 'I would really have like to have gone back and taked to [my gyneacologist] after it didn't work, but as [the IVF scientist] says "you're history, we're onto the next one, we haven't time for you now, we want to get on with it"' This same IVF scientist also commented: 'One way the teams cope with failure is to avoid follow-up contact with failed patients'.[27]

Many of the women were anxious about being used as guinea pigs. As one said: 'I sometimes get concerned about what's going to happen to us in ten to fifteen years time. Our generation were guinea pigs for the Dalkon Shield, and now we are guinea pigs for a new form of modem technology'.[28] This concern is justified. Women are used as living laboratories by medical scientists. A recent medical textbook overtly claims IVF as a great testing ground for new drugs because women form a controlled testing population.[29]

One example of this is the use of hormonal drugs to induce super-ovulation. Doctors need to implant three to four embryos so they super-ovulate women to produce more eggs than the normal one per cycle, usually five or six but at times up to eleven.[30] The most commonly used drugs are clomiphene citrate (Clomid) and a gonadotrophin, Perganol. Dangers include maternal risk through hyperstimulation of the ovaries, thrombosis, and polycystic ovaries. [31] There is a higher rate of multiple births using these drugs. It has an unexpected low pregnancy rate and a higher incidence of ectopic pregnancies. [32] Hennet et al comment that 'superovulation is not a simple multiplication of a normal ovulation'.[33]

Long term clinical trials are not being conducted on these drugs. Doctors repeatedly advise that there are no side-effects but many women have reported them. One woman said she felt ‘depressed, spaced out, lethargic and over emotional’ on Clomid, but her gyneacologist said that this was an unusual response. After six months, she had chronic diarrohea, nausea, headaches and depression. She had to have an ovarian cyst removed.[34]

A Dutch woman wrote that Clomid had negative mental and phsyical effects. After a year on the drug she said: ‘I couldn’t see sharply anymore. ‘I saw lights and colours and I felt kind of strange/funny inside my head. I also suffered from a pain in my belly which dragged on and on. Emotionally, I wasn’t stable anymore’.[35]

Women speak of the refusal of doctors to hear them when they speak of these symptoms. They are invisible and voiceless, just as women are who suffer from Depo Provera, IUD’s, and the pill. As one woman said:

> The professor tells us that according to the labels and his books they don’t have side effects. Once someone comes out and is brave enough to say you get side effects, other women say so too. I think that’s what he’s worried about, that side-effects are catching.[36]

A study in the American Journal of Obstetrics and Gyneacology found that Clomid has a chemical structure almost identical to that of DES (a synthetic hormone, Diethylstilbnoestrol) a drug used from the 1940s to 1971 for pregnant women prone to miscarriage.[37] Some of these women were told the drug was a vitamin tablet.[38] But there was a time-bomb effect and the daughters of these mothers are now suffering cancer of

the vagina and cervix at a rate higher than that of the female population of their own age. There is a higher than normal rate of infertility in daughters and sons. For the daughters there is an increased incidence of spontaneous abortions, premature deliveries, and ectopic gestations'.[39] And TVF is now offered as the solution to DES daughters for the medical mismanagement practiced on their mothers.[40] The mothers are now, twenty to forty years later, suffering forty to fifty percent more breast cancer than other women their age.[41]

Superovulation is also showing possible carcinogenic effects. In the Journal of In Vitro Fertilisation and Embryo Transfer, a case report on a twenty-five year old woman indicated rapidly developing cancer which covered the uterus, bladder, both ovaries and appendix after such treatment. The authors conclude that these hormones 'can act as promoters in the process of carcinogenesis'.[42] Incessant ovulation may increase the risk of cancer by not allowing the ovaries a non-ovulatory rest period or by creating rapid cell growth which might generalise. Three such cases have been reported in the medical literature.[43] Like side-effects - how many go unreported?

Commenting on the 'explosive cocktail' given to women, French doctor Ann Cabau bemoans the extension of the use of these drugs to many other groups of women, including those who have irregular menstrual cycles, successive abortions or husbands with defective sperm.[44]

And the dangers of these drugs will be generalised to women in the normal population if embryo experimentation is approved. Scientists cannot get enough eggs for

embryos from IVF women, who were reluctant to give their approval[45] so they are hoping to induce healthy, fertile women who are being sterilised to donate.[46]

The pain of infertility is primarily caused by the loss of control a woman feels. Ironically, women enter IVF in an attempt to regain that control.[47] But control is not theirs. They are ignored, treated as experimental animals, given dangerous drugs, dismembered into fallopian tubes or wombs, and most end up childless.

The invisibility of women and their objectification is represented in fetal surgery. In this new development the fetus is being treated as a 'patient', with 'rights' which may override those of the mother. Women are represented as merely the 'capsule' or 'container' for the fetus. This attitude has led, for example, to eighteen cases of enforced caesarean section in the United States of America.[48] In these instances women have been forced to undergo surgery because a judge and a doctor judged the woman ill-equipped to make decisions. They decided that the fetus as a 'patient' had rights over and above the woman. One resisting woman was described as 'uncooperative and biligerent'.[49] One woman had refused the caesarean on religious grounds but gave birth before the order could be executed. In at least two of the three cases compared in one study, the medical diagnosis was incorrect based on a faulty prenatal screeing.[50]

At a panel discussion on ethical dilemmas in obstetrics at a seminar at the Maricova Medical Centre in Phoenix, doctors debated the treatment of a pregnant woman against her wishes.[51] They suggested, that a woman could be incarcerated if she smoked during a pregnancy or be prevented from physical activity if it might lead to a premature delivery. In a paper in 1985 doctors Chervenak and McCullough have argued the right of

the physician to coerce the mother into accepting the doctor's orders. They write that * there is no clearly convincing moral argument that the woman's life is more important than that of the fetus.'[52]

In these discussions the woman is deemed to have prior rights up to twenty-eight weeks during which most abortions are carried out, but the last trimester is a battleground. A situation of conflict is being created by medicine between the mother and the fetus. Cases of 'fetal abuse' against mothers are the beginning of the law's collusion with medicine in this area.[53]

Fetal medicine extends the control of women by medicine. Surgery on the fetus while still inside a woman or outside her but still connected by the placenta, is a new area of threat. This surgery has a high failure rate as indicated by statistics from the International Fetal Surgery Registry.[54] The problem of how to deal with a difficult and resisting mother has been raised. Coercion in fetal surgery would violate women's rights to bodily integrity and autonomy.

The personalisation of the fetus will lead to increasing social controls on women, particularly in the workplace. It has already led to sterilisations of women who wanted to work in certain 'hazardous' places. At Willow Island, U.S.A. a plant of the American Cyanamid Company gave all women in eight of the plants ten departments the 'choice' of losing their jobs or being sterilised. Five agreed to be sterilised. Ironically the department concerned closed a year later, so the women were Jobless and sterile.[56]

A quote from the National Council on radiation protection, which is a private non-governmental organisation that helps to set radiation exposure levels, sets the tone of 'protective' statements in this field:

> The need to minimise exposure of the embryo and the fetus is paramount. It becomes the controlling factor in the occupational exposure of fertile women ... For conceptual purposes the chosen dose limit (of radiation) essentially functions to treat the unborn child as a member of the public involuntarily brought into controlled areas.[57]

These kinds of exclusionary protections for women ignore reproductive hazards for women in traditional jobs, for example in hospital work. They ignore the fact of harmful agents being transmitted to the fetus through sperm. But most importantly, they treat all fertile women as potentially pregnant and therefore potentially vulnerable. This ties women's destiny as childbearers into employment rights and makes the rights of women for employment and the rights of the fetus diametrically opposed. So the medical profession, in alliance with corporations, begins to assert a protective relationship to the fetus.

If men as a social group are seeking to control pregnancy and conception, and if they are convinced that they do it in a much more effective and efficient fashion than women do, there are two possibilities which they might pursue in gaining ultimate control of the 'problem'. The first possibility is that of men or transsexuals as 'mothers'. This possibility has been seen in two precedents.

In May 1979, a New Zealand woman, Margaret Martin, gave birth to a baby girl having undergone a hysterectomy eight months earlier. The fertilised egg had lodged in her abdomen on her bowel, where it received enough nutrients to grow to term without the aid of a uterus. In about one thousand eases a fertilised egg has worked its way into the abdominal cavity of a woman which can expand to accommodate the fetus. Approximately 9 percent of these women have actually given birth to healthy babies. The mother runs an enormous risk during this process and can often die from a massive haemorrhage. Secondly, Dr. Roy Hertz has had success with transplanting eggs of a female baboon into the abdominal cavity of a male baboon, though he did not bring the fetus to term.[58] It appears that a fetus may be able to attach itself to any site which is rich in blood and nutrients.

The possibility of implanting a fertilised egg in the male abdominal cavity has been discussed. It would involve the administration of hormones to the 'male mother' to 'mimick that of a pregnant woman', and delivering the baby through a laparotomy. It has also been suggested that a woman could conceive a fertilised egg which would be flushed out of her womb and implanted in the man.

In the last two years in Australia at least six popular magazines and newspapers have carried stories of a transsexuals' 'right' to have children on IVF programs. By July 1984 a group of at least six male-to-female transsexuals had requested admittance to the IVF program at the Queen Victoria Medical Centre.60 There were suggestions that they could have their sperm frozen before the conversion operation and use a donor egg with their own sperm. They would then be both mother and father to the child. As Dr. Shettles,

who has done pioneering work on IVF, comments: ‘I don’t think it’s going to take as long as it did with the in vitro program. I think anyone who really wanted to get on with it now could achieve success’.

Published interviews with transsexuals who want to be involved in these kinds of programs are constantly reappearing, indicating the beginning of the phase of softening up the public to the idea before attempting it.62 What they want is to be fulfilled in the stereotypic view of femininity. As one article said, ‘Phillip McKernan wants to give birth to prove something to himself - that he has finally made it as a woman’.[63] In a 1986 article, transsexual Estelle Croot said: ‘I am a woman. And like any woman I want to feel complete. I want to be fulfilled and for me that means having a baby. I can’t believe that the majority of Australians don’t want me to have a baby’.[64] Professor William Walters, at that time a member of both the Monash IVF team and Director of the Transsexual Conversion Clinic in Melbourne, said it is a ‘natural corollary that they should want to have children.’.[65]

Janice Raymond has argued convincingly that transsexualism represents the final colonisation of women.[66] Through a male-to-constructed-female sex change, men are able to possess women’s bodies, women’s creative energies and women’s capacities. These are the most feminine women. Woman made by man to be as feminine as man deems fit. And through this process the man-made woman becomes both mother and father to a child - the patriarchal dream/myth becomes reality.

The second possible control route for medicine is the development and growth of the fetus outside the womb - ectogenesis. At Standford University in the United States,

scientists developed an artificial womb or fetal incubator. Oxygen and nutrients were pumped into it, and young human fetuses that were products of spontaneous abortion have been kept alive for up to forty eight hours.[67]

From the birth end of the continuum of pregnancy, younger and younger premature babies are now kept alive in increasingly sophisticated artificial environments, possible from twenty-four weeks into the pregnancy. If we consider the process from the other end, that is, from the point where an embryo is created in vitro, it is possible to keep them alive at least until the thirteenth or fourteenth day. Researchers need only find an artificial environment that would bridge the gap of fourteen days to twenty four weeks. The real problem is perfecting the artificial placenta, but work proceeds in this area. When this succeeds, an egg could be fertilised and brought to term within an artificial or 'glass' womb.[68]

Development of the artificial womb has been promoted as having the following advantages; fetal medicine would be improved; the child could be immunised while still inside the *womb*; the environment would be safer than a woman's womb; geneticists could program in some superior tray on which society would agree; sex preselection would be simple; women would be spared the discomfort of childbirth; women could be permanently sterilised; and finally, a man would be able to prove beyond a doubt that he is the father of the child.[69] Children may then be created who are neither borne by, nor born of, woman.

Women must resist this rapidly developing encroachment into conception, preconception, pregnancy and birth, and the personalising of the fetus. They must realise

that the technologies discussed in this forum do not just affect women on such programs, but have an impact on all women and on all societies. We should bear in mind that conception and birth has up until this time been a uniquely female experience, owned by women. It is a special experience, sometimes negative, sometimes positive, but one which women would choose to maintain. In their desire to end their own procreative alienation, men are creating that alienation for women. Women must resist.

Footnotes

1. Rich, Adrienne, Of Woman Born: Motherhood as Experience and Institution (London: Virago, 1977), p.11.
2. Gimenez, Martha E. 'Feminism, pro-natalism and motherhood'. In Joyce Trebilcot (ed), Mothering. Essays in feminist theory. (New Jersey: Rowman and Allanheld, 1984), p.287.
3. Jamison, P.H. Franzini, L.R. and Caplin, R.M. Some assumed characteristics of voluntarily childfree women and men, Psychology of Women Quarterly. 1979, 4, 266-273; Calhoun, L.G. and Selby, J.W. Volunary Childlessness, Involuntary Childlessness, and Having Children: A Study of Social Perception. Family Relations. 1989, 29. 181-183.
4. Rich. Ibid. p.176.
5. Ruddick, Sara. 'Maternal Thinking' in Trebilcot, ibid, p.222.
6. See for example Sutton, Jo. and Friedman, Sarah, 'Fatherhood: Bringing it all back home', in Sarah Friedman and Elizabeth Sarah (eds). On The Problem of Men (London: The Women's Press, 1982).
7. See Ob/Gyn News. 1986, May 1-14, 21, (9), p.14.
8. For all these statistics and more details see the report 'In Vitro Fertilization Pregnancies Australia and New Zealand 1979-1985', National Perinatal Statistics Unit, Fertility Society of Australia. University of Sydney, Sydney, 1987.
9. See for example Rich, op cit; Alien, Jeffner, 'Motherhood: The Annihilation of Women' in Trebilcot, op cit.
10. Al'Hibri, Azizah, 'Reproduction, Mothering, and the Origins of Patriarchy' in Trebilcot, op.cit.
11. Catherine Martin, A new and fertile field for investment, in The Bulletin, June 24, 1986 p.60

12. O'Brien, Mary, The Politics of Reproduction (London: Routledge and Kegan Paul, 1981).

13. Two commercial reproductive technology companies have been formed in Australia to date - IVF Australia and Pivet. See for example Catherine Martin, A new and fertile field for investment. The Bulletin. June 24, 1986, p.60-61. Medicine and commerce are so strongly linked in this area that prevention of infertility is being overlooked. Doctors need a ready market of infertile people to continue commercial success.

14. Doctors reporting to the Australian Senate Hearing on the Embryo Experimentation Bill indicated that for thalassemia for example, large populations of Mediterranean people would need to have their embryos screened. Evidence to the Senate Hearings on the Human Embryo Experimentation Bill 1986. Gena Corea has indicated that as early as 1978, one of the leading research scientists in the United States was already listing 'genetic asthma' among the 'severe genetic defects' which could be improved by genetic manipulation. See Corea, The Mother Machine. From Artificial Insemination to Artificial Wombs, (New York: Harper and Row, 1985).

15. Sucsy, Lawrence, Quoted in an article by Fernschumer Chapman in Fortune, 17 September, 1984, 41-47.

16. Ann Oakley in her book The Captured Womb.A History of the Medical Care of Pregnant Women. (Oxford: Basil Blackwell, 1984, p.254) writes that the medical control of women with its various specialties represents the segmentation of women's bodies; obstetrics, gyneacology, paediatrics, neo-natal paediatrics, fetal medicine, reproductive medicine. She points out that 'womanhood and motherhood have become a battlefield for not only patriarchal but professional supremacy'. And I would add that women's bodies are also a battlefield for commercial profitmaking enterprises which are part of the medical control which operates in this area.

17. Wood, Carl and Trounson. Alan, (eds) Clincial In Vitro Fertilisation. New York: Springer-Verlag, 1984, p.54, my stress.

18. Harrison, Michael R, Unborn: Historical Perspective of the Fetus as a Patient, The Pharos, Winter, 1982, 19-24, pp.29 and 23.

19. Twomey, Lucy, 'Surrogate Motherhood: A Blessing or Exploitation?', The Australian. May 2, 1983.

20. A sister discussing the use of her sister as a surrogate in Timmins, Nicholas 'Why I am having a baby for my sister'. The Times (England), November 23. 1984, p.10.

21. See for example, Rowland, Robyn. 'A child at any price? An overview of issues in the use of the new reproductive technologies and the threat to women', Women's Studies International Forum. 1985, 8, (6), 539-46.

22. Rowland, Robyn. Surrogate Motherhood, Who Pays The Price?, unpublished manuscript.

23. Twomey, op.cit. my stress.

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25. Burton, Barbara, 'Contentious issues of infertility therapy - a consumer's view', paper delivered at the Australian Family Planning Association Annual Conference, March, Lorne, 1985, p. 5.

26. Klein, Renate, 'When choice amounts to coercion: experiences of women on IVF programs', paper presented to the Third International Interdisciplinary Congress on Women. Women's Worlds, Dublin, 1987, July. N.B.'Chook' is an Australian term for chicken'.

27. Burton, op cit.

28. Burton, ibid.

29. Cited in Laborie, Francoise, 'New Reproductive Technologies: News From France and Elsewhere ...', paper delivered at the Third International Interdisciplinary Congress on Women, Women's Worlds, Dublin, July, 1987, p.15.

30. Wood, Carl, ‘In vitro fertilization - the procedure and future development’, Proceedings of the 1984 Conference on Bioethics, St. Vincent’s Bioethics Centre, Melbourne, Australia, May, 1984. At a recent meeting at Monash University on July 21, 1986, Dame Mary Warnock indicated that she knew of incidents when a woman had been super-ovulated to produce fifteen eggs per cycle.

31. See for example Kovacs, Gabor et.al. Induction of ovulation with human pituitary gonadotrophins, The Medical Journal of Australia. 1984, May 12, 575-599; Bamford, P.N. and Steele, S.J., Uterine and ovarian carcinoma in patients receiving gonadotrophin therapy. Case report, British Journal of Obstetrics and Gyneacology. 1982, November, 89, 962-964.

32. Birkenfield, A. et.al. Effect of Clomophene on the uterine and oviductal mucosa. Journal of In Vitro Fertilization and Embryo Transfer. 1984, 1, (2) p.99.

33. Henriet, B: Henriet, L; Holoven, D; and Seynave, V. The letal effect of super-ovulation on the embryo, Journal of In Vitro Fertilization and Embryo Transfer. 1984, 1, (2).

34. Personal communication from a woman in Geelong.

35. Personal correspondence from a Dutch woman.

36. Burton, op.cit. p.9.

37. Cited in Direcks, Anita and Bequaert-Holmes. Helen, Miracle Drug, Miracle Baby, New Scientist. November 6, 1986,

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