Ethics and reproductive medicine

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This article surveys relevant moral and ethical implications of reproductive medicine, excluding any aspects of contraception. To maintain the methodological priority of a moral perspective, it focuses on moral theory and ethics in general before looking at the impact of ethics on the different techniques applied in reproductive medicine. We suggest that discourse ethics should be centre-stage among the moral perspectives, since it has a unique capacity to synthesize, gauge and emulate other moral perspectives without necessarily replacing them. Questions of spousal fidelity, parental identity, sexual relations, reshaping of family ties, preimplantation diagnosis, discarding of human life, up to the question of what kind of life is generally acknowledged as worth living, and which is not, all these are morally significant topics. As well as providing a description of the techniques used in reproductive medicine, our article presents a rationale for charting potentials for moral problems. This renders it possible to elucidate the moral costs of each of the options offered by reproductive medicine in the light of whatever moral view one identifies with.

Key words: discourse/ethics/reproductive medicine

Introduction

Reproductive medicine (RM) as an interdisciplinary applied science is obliged to meet two rather contradictory requirements. On the one hand it should assist in avoiding pregnancies, that are undesired because of quite different reasons. On the other hand RM is urged to provide and create all prerequisites for fulfilling peoples’ desire to have their own children. Several articles give a good impression of the complexity of this topic (Edwards, 1980; Körner, 1992).

Most societies in which RM techniques are available are pluralistic societies with different conceptions concerning the possibilities and limitations of RM. These conceptions depend on criteria such as informational level, world-outlook, perception of what is a human being, personal interests and affection of each individual (Maier, 1995). Remarkably, the application of new techniques of RM has been far ahead of its ethical reflection. In the beginning, ethical issues of RM were discussed only among professional groups. However, since the birth of the first child as a result of in-vitro fertilization (IVF), ‘Baby Brown’, in 1978 the matter has gained more and more public attention. This, of course, has resulted in an increasing involvement of the mass media, which in turn has exerted a growing influence on the character and course of the public discussion. Concomitantly the conception of medicine has changed. The terms ‘disease’ and ‘therapy’ are no more limited to cure or alleviation of a certain illness. Medicine, and the new techniques of RM in particular, are increasingly seen as a kind of ‘médicine du désir’. This has considerable social implications and modifies deep-seated conceptions of a doctor’s role with as yet unforeseeable consequences (Bondolfi, 1992).

What is the role of ethics in this context? What are its benefits and where do its limits lie? How can ethics help to cope morally better with emerging moral perplexities?

There already exist various papers which contribute to this topic, some of which might also serve as a guideline if one wanted to get an insight into possible ethical problems arising with certain RM techniques (Ethics Committee of
the American Fertility Society, 1994). However, most of these articles give a lot of information and insight about certain techniques while saying only a little about their operative concepts of ethics. Moreover, they are not suitable for assessing possible ethical implications with developing or as yet merely utopian techniques of the remote future. Therefore, an alternative approach has been chosen that focuses on moral theory and ethics in general before looking at the impact of ethics on the different techniques applied in RM. This article surveys relevant moral and ethical implications of RM, excluding any aspects of contraception, and concentrates on those RM techniques in which spermatozoa, ova and/or (pre)embryos are handled in vitro.

**Moral responsibility, discourse ethics, moralizing practices**

Ethics, properly understood, is neither intuition nor a naïve sense of right or wrong. Rather, ethics deals with reasonable action requirements, validity claims, and the moral judgements that are woven into the fabric of our cultural practices and personal virtues. In what follows we do not present ‘the ethical questions’ in RM nor their ‘solutions’. Instead, we present a rationale for charting potentials of moral perplexities arising within the medically well-known terrain of the various techniques of RM. We acknowledge that the medical and the moral point of views, though usually coordinated, are logically distinct: it is possible that something is medically problematic but morally unproblematic, and vice versa (Snowden and Mitchell 1981; Warnock 1985, 1988). RM is not per se a moral project but a field of activity shaped by many forces, some moral (e.g. medical ethics), some non-moral (e.g. commercial interests). Hence, adopting a moral perspective is certainly no privileged shortcut to all-things-considered judgements about the desirability of our target, the techniques of RM.

There are many different actions guiding normative systems (e.g. law, religion, prudence, expert practices like medicine), none of which is identical with, although each is somehow related to, morality as we know it. Moreover, there are many different morally normative systems. Moralities are complex socio-evolutionary constructions: a morality or ethics is a more or less integrated yet open-structured web of knowledge, emotional dispositions (‘moral feelings’), action skills (‘virtues’), motivational propensities (‘altruism’), and interpretative resources (‘moral thinking’) (Castaneda, 1974; Brennan, 1977; Mackie, 1977; Gibbard, 1990; Dancy, 1993; Copp, 1995). To say that a morality is ‘a normative system’ for regulating action by classifying it for ‘praise and blame’ would thus be overly general. In this context, it is helpful to consider the notion of moral responsibility (Ladd, 1982; French, 1985). Bearing moral responsibility consists in taking seriously how the outcome of one’s conduct, i.e. of possible actions or omissions, affects oneself and others for good or ill. Different interpretations of the variables (‘seriously’, ‘outcome’, ‘conduct’, ‘self’, ‘others’, ‘good or ill’) yield different moralities. This fact of moral heterogeneity is crucial (MacIntyre, 1984). To the extent that a morality is practically or theoretically insensitive to its own impact, it fails to fit the modern condition. A truly credible morality must not impose its moral principles unreflectively on a moral world of heterogeneous moral points of view even if they may be, or appear at first to be, unacceptable. By the standards of a fully rational morality it would even be morally wrong to buy uniformity at the cost of dogmatism or paternalism whenever such costs possibly could be minimized. But how to find out? Relativizing one’s moral claims totally to one’s cultural peers (calling it ‘tolerance’) is no solution since this would foreclose any moral progress by cross-cultural learning (Colby and Kohlberg, 1987; Outka and Re redeemers, 1993).

A moral point of view M discloses what ‘moral costs’ (according to M’s interpretation of responsibility) accrue to people’s transactions. By taking a moral point of view, one assesses impacts of, and reasons for, actions with an eye to minimizing whatever their moral costs are seen to be. Being a moral point of view, it discloses what is right or wrong (as judged by its avoidable moral costs) and what thus ought to be done or ought not to be done (on moral grounds). Being a point of view, no moral perspective is all-encompassing. Being a point of view, any moral perspective, to the extent that it can be called rational, admits of controversy and consensus, questions and answers, argument and counter-argument. We assume that discourse ethics is centre-stage among moral perspectives since it need not displace or debase them but unleashes the communicative power that is necessary for constructing how much common ground is possible between reasonable people with heterogeneous moral horizons. The central contention of discourse ethics is that the reasons on which people can claim moral rightness must be such as to be acceptable from the first-person plural perspective (‘we’) of everyone concerned by the practice, activity or regulation whose moral rightness is at stake. The validity of claims to moral rightness rests on the cooperative practice of free and open argumentative discourse (Apel, 1980, 1989, 1993; Habermas, 1993; Kettner, 1993, 1996a,b; Rehg, 1994). This principle (the ‘practical discourse demand’) constrains the application of other, more determined but less flexible rational moral principles as are
found, e.g., in deontologism (O’Neill, 1989), utilitarianism (Hare, 1981), and contractualism (Gauthier, 1990).

Practical discourse operates on subject matters which are always already preinterpreted by whatever moral intuitions the participants happen to bring to the fore. Discourse is the medium to modify and reshape them. In this medium, whatever action guiding norms people would want to adopt is constrained by respect for the capacity of people to reach a common understanding about how they want to treat and be treated by others, regardless of egocentric positional differences. Hence, discourse ethical consensus-building is not equivalent to an unanimity requirement, nor to majority vote, nor to any preference-aggregative decision procedure, e.g. bargaining. The dynamics of consensus-building in practical discourse does not guarantee a unique ‘solution’ to all moral issues. Staking out a range of permission is often the best we can come up with. No morality is an algorithm for solving problem cases.

Discourse ethics transforms extant interpretations of moral responsibility into the complex responsibility (a) to care about whatever activity A one is in a position to influence; (b) to represent fully and truthfully to oneself and others A’s total impact on anyone’s well-being that one ought to take seriously in the light of one’s moral commitments; and (c) to act in ways that would be impartially justifiable, given that anyone on whose well-being the activity in question impacts had been able to debate in a consensus-building process their respective concerns over (a + b) on an equal footing. Notions like ‘total impact’, ‘consensus of all concerned’, ‘debate on an equal footing’ are critical idealizations, i.e. aspirational standards for real discourse processes. Idealizations are as indispensable in ethics as they are in, for example, science (Emmet, 1994).

We find moral problems when we find people in doubt about whether a course of action is right or wrong. Hence, to understand moral problems, we must find out the rationale as to why people are perplexed about what is right or wrong. We are convinced that in order to chart moral problem areas of a practice x (e.g. IVF), ‘the facts’ about x have to be introduced as a function of some already adopted moral point(s) of view. Starting with a ‘neutral’ description of the facts about x (e.g. ‘what is IVF medically?’), as is often done, leaves one at a loss as to how to nonarbitrarily bring in morality later. Therefore, we take as our starting points (i) a profile of RM’s intrinsic moral vulnerabilities, and (ii) a morally loaded characterization of procreation as the practice targeted and modified by RM. Starting from the ideology of ‘normal’ procreation in RM (‘the usual experience of reproduction’) as a moral baseline, we reconstruct how medico-technical progress in RM yields major technical innovations and how these in turn modify already existing potentials of moral perplexity in human procreation. What counts as a problematic modification (i.e. worse than the baseline) is, to repeat, relative to the adopted moral perspectives. Ours is the consensusalist principle of discourse ethics. This commitment is not arbitrary, since the discourse principle, unlike more ‘substantial’ moral principles, is always already acknowledged by whoever sets out to argue against its validity.

**Moral soft spots of reproductive medicine**

RM is obliged to fashion its own ethical outlook from the medical profession’s generic profile. Common to all medical branches is a medical ethics tailored to the clinical situation of the dyadic physician–patient relationship (Ladd, 1983; Beauchamp and Childress, 1994). The pervasive moral key values of medical practice are nonmaleficence, beneficence, the autonomy of persons and justice. These values are interpreted in various ways and degrees of specificity in terms of moral reasons or norms. In RM, beneficence is defined in terms of two such reasons: RM professionals ought to alleviate infertility problems and ought to contribute to the prevention of the transmission of known genetic defects; autonomy as the injunction to do all this only on the basis of informed consent of the subjects or objects of medical activities; nonmaleficence as the duty to minimize risk and harm for all parties that are affected by RM activities; and finally, justice justice demands the requirement to give medical criteria priority in determining to whom and how RM resources should be made available. To this standard view we will now add more RM-specific moral features that we think are important.

**Mortal decisions**

RM is directed at helping people overcome their medical problems with procreating, i.e. creating new human life. However, as long as some RM techniques produce technically superfluous pre-embryos, RM has to deal with life-and-death decisions about inchoate human beings that are in a developmental phase about whose moral status hardly anyone has well-grounded intuitions or generalizable beliefs. If we acknowledge pre-embryos to count as persons, proto-persons, or persons-in-becoming (Edwards, 1980; McCormick, 1991; Robertson, 1991), then some of our person-protective moral norms must cover human beings in these phases already. But whether they are persons is notoriously disputed. A case can be made that the concept of personhood is irreducibly normative. Then the limits of tolerance become the moral key issue. [Consider: If adherents of Farakhan get away with asserting publicly their belief that God created mankind 66 billion years ago, why
Biological naturalism

For any morality supporting human rights or human dignity, it is vital to keep distinct the viewing of human beings as actual or potential persons and the viewing of them as biological organisms. RM de-emphasizes (some say: threatens) this distinction. Human spermatozoa and oocytes under the microscope do not appear essentially different from those of other higher animals. RM professionally engenders biological naturalism. But this perspective cannot countenance moral claims, except as illusions. (Consider the analogy: an assessment of a tasty meal in proper chemical terms fails to capture any of the properties which make this meal tasty as assessed in proper food-appreciating terms.) RM clients desiring morally legitimate treatment become clients of an enterprise they may know or suspect to subvert morally significant distinctions that they otherwise cherish. This observation partially explains why strongly ambivalent moral appraisals of RM prevail. Many people (especially people without fertility problems) judge RM as offering immoral means for morally worthy aims. The keenness of many RM professionals to foster an outside perception of the utmost moral integrity of RM is an intelligible but inadequate response to this ambivalence.

Non-autonomous co-patients

The doctor–patient relationship in RM exceeds the set of autonomous parties to the treatment. Encumbent on RM is the anticipated perspective of about-to-be patients and would-be persons who are not yet conceived, but whose intended conception and development is supported by RM. Moral responsibility discursively interpreted requires of the autonomous parties to the treatment contract that their consensus take sufficiently into account all consequences of their contract for some future person of whose identity and life that very contract, if successful, will have been a necessary condition. Medically considered, this means anticipating as well as one can how the lives of RM-created people will fare in terms of all health-related values in comparison to the lives of ‘normally’ created people. Considered from the would-be parents’ perspective, such anticipations and comparisons must encompass all values which they take to be morally relevant, which usually include health-related values. Nevertheless, the question as to what is in the best interests of the couple is equally pertinent to the question what is and what is not ‘in the best interest of the child’.

High tech and artificiality

RM operates at a top level of technological innovation. Techno-hype concerning procreation brings a clash of intuitions since procreating indelibly retains from its lifeworld context an air of ‘naturalness’. Procreation mediated by medico-technical practices appears morally dubious to many people, a Frankensteinian hubris of sorts and a degradation (real or symbolic) of parenthood (Kass, 1972). But, the artificiality or technicality of an intervention I that modifies a practice P does not per se alter the moral assessment of P without I, unless, of course, I changes some of the properties of P on which the moral rightness or wrongness of P supervene. The reason that in RM procreation is technical, not coital, can be marshalled as a wrongmaking reason against RM in the Catholic-faith morality which puts a moral premium on certain natural facts of reproduction, valorizing them as ‘normal’. However, such claims are unlikely to win assent beyond the community of those who share the particular religious reasons that constitute this particular fact–value–norm nexus. The consensualist moral norm for this kind of constellation is a requirement of fair open alternatives: whatever regulation of RM is adopted, its design must aim at not putting a non-marginal disadvantage on the option for religious opponents of RM to ignore or reject RM altogether (and mutatis mutandis with regard to proponents of RM). The technological nature of RM has led others, most notably feminist critics, to view RM as part of a patriarchal bio-politics intrinsically hostile to women. This critique, though much broader than a merely moral perspective, reflects a moral concern with the perplexity that medical means purport to be in the service of the couple but turn out to serve men’s aims much better than women’s aims.

should e.g. a Christian be obliged to draw the line of ‘empirical’ (= non-normative) questions where non-Christians say it ought to be drawn? Even if we bracket the personhood question, intentionally ending a human life requires some special justification in all moralities. RM must produce some such general justifications in terms that reflect at least the intention to be acceptable to everyone no matter of which moral persuasion. Excess (pre)embryos are not part of an emergency situation and the vicissitudes of (pre)embryos come to depend on the client’s or professional’s intentions. Consequently, the taking of human life flies in the face of the medical profession’s general duties of beneficence and nonmaleficence. Hence RM’s inescapable corporate moral responsibility.
**The moral authority of the ‘normal’ desire to have a baby**

To elucidate the moral profile of particular RM techniques, it is helpful first to address the morally relevant features of the ‘normal’ desire to have a baby, to whose fulfilment RM purports to contribute. ‘Normal’ reproduction already is the source of much moral perplexity and is not morally sacrosanct as such. However, the intervention of RM into ‘normal’ procreation modifies this moral perplexity—some moral problems might disappear, some new ones are likely to crop up.

RM ‘encourages reproduction which otherwise would not have taken place’ (Snowden and Snowden, 1994). Hence, any moral problems attributable to RM will have to be analysed in terms of the interaction of moral problems concomitant already with reproduction as it would otherwise take place (‘normal’ reproduction) and moral problems of reproduction as modified by RM in order to take place. However, the acceptability of the ‘normal’ desire to have a baby is constrained by a number of reasons that have some weight when considered from a moral perspective: (a) transmission by one or both would-be genetic parents of serious disease to offspring, (b) unwillingness of the would-be gestational mother to provide decent prenatal care, (c) inability of (both) would-be parents to rear children, (d) anticipation by the would-be parents that the particular circumstances of procreation will engender massive identity problems or other serious impediments to normal psychological development for the offspring so created, and (e) strain on scarce resources of the community on which the would-be family is dependent (Ethics Committee of the American Fertility Society, 1994, p. 18S).

Considerations (a–d) embody the idea of preventing preventable harm. Undoubtedly there are different recognized value-interpretations of the concept of harm. In RM it is usually framed in terms of responsibility for the best interests of the child. Nevertheless, parents also bear responsibility for themselves both as individual persons and for their ongoing relationship as a couple. Consideration (e) embodies the idea that from membership in a larger existential community derive responsibilities for members to take seriously how their actions affect the sustainability of solidarity in that community.

Procreative intentions consist of an enormous variety of reasons why people wish to have children (e.g. to psychologically secure their afterlife, to repair or support their relationship, to create heirs to their fortunes etc.). Should it be part of RM (e.g. in pre-treatment counselling) to assess morally the reasons why? We think not. Since RM has no specific moral resources bearing on this question, the authority of RM professionals’ moral assessments of procreative intentions is on an equal footing with that of their clients. This is a far cry from the value neutrality which is often, and falsely, claimed for ‘nondirective counselling’ (Gervais, 1993). An RM professional would have just as good a moral reason as anyone else to repudiate, for example, the procreative intention of a client who wants children in order to grow, extract and subsequently sell organs. However, it is part of RM’s professional duties to ensure that the medical facts of the offered RM options square with the clients’ individual desires to have a baby, as constrained by considerations (a–e). It would be unethical for RM professionals, for example, to offer donor insemination (DI) treatment to a couple when they know the man’s procreative intention is based on a desire for genetic immortality.

### Intentionalizing fertilization

Procreative intentions are complex. They also contain considerations about how the desire to have children should be realized. This part of the procreative intention can be rendered in the following standard format of the desire to have a baby:

- **Woman:** ‘I want to conceive by sexual intercourse with my male spouse, get pregnant and give birth to a healthy baby of our own.’
- **Man:** ‘I want to impregnate by sexual intercourse my female spouse so that she will deliver a healthy baby of our own.’

By its impact on a procreative intention so construed, RM modifies the moral profile of that intention, redrawing the lines of moral legitimacy and moral perplexity. The main techniques of present-day RM display an order of increasingly artificial support of the fertilization process. RM techniques might change only the behavioural male contribution to the fertilization process, i.e. insemination by the husband (HI); in ICSI, however, the artificial support extends to the fusion process of the spermatozoon and ovum.

The fertilization process is represented in women’s standard format as wanting ‘to conceive’. DI and HI replace its ‘by sexual intercourse with my partner’ component. DI appears morally meritorious for any couple whose shared moral viewpoint renders spousal fidelity a morally significant value. DI’s medical rationale allows couples (i) to
uphold that moral value, and (ii) to realize as much as possible the standard format while circumventing precisely that part of it that would otherwise pull towards giving up (i). The price of DI lies in the ‘baby of our own’ part of their desire: with DI, the baby will be the couple’s own baby socially, but, for the male spouse, not genetically. HI’s medical rationale allows couples to uphold spousal fidelity and have a baby ‘of their own’ both genetically and socially.

That the means employed in this circumvention are morally right in their fidelity-preserving aspect does not, however, imply that they are morally right in all their other morally significant aspects. For instance, if the fact of having or being a DI-conceived child will make it notably more difficult for the couple to develop a sufficiently good parental identity, and for the child to develop a satisfactory account of his or her origin, then considerations of kind (c) and (d) give reasons for advising against the use of DI. Of course, such reasons may eventually be defeated in an ‘all things considered’ moral judgement when confronted with the relative merits of RM treatment as against giving up the desire for having a baby altogether. Nevertheless, ignoring their moral significance would be a moral failure.

In all the RM procedures we discuss, some sexually significant action gets replaced by some medically significant procedure. This simple observation leads to a wealth of psychological questions. It might have a supportive or detrimental impact on the kind and quality of the personal relationship of the couple or the would-be family, and thereby acquire moral significance. Again, reasons relating to such impact may turn out be defeated in ‘all things considered’ moral judgements when compared to the alternative of childlessness, but the weight they carry must not be dismissed off-handedly.

Consider now the bit represented by ‘a healthy baby’. Knowledge of a high risk of procreating an abnormal child gives a couple a good reason for an in-depth effort of thinking through the reproductive options open to them and for representing fully to themselves the moral costs of each of these options in light of whatever moral view they identify with. Taking ‘normal’ reproductive practice for determining the base-rate for genetically caused health-deficits in newborns, proper acceptance of the ‘normal’ contingency in procreation is part and parcel of a morally right desire to have a baby: one cannot want to have a child, in a morally appropriate way, and not accept the inherent risk of this endeavour. Before RM, there simply was not much to do in the way of caring for an intentionally procreated, or just conceived, child until the pregnancy was well under way. RM enhances options for diagnostic knowledge and the powers of intentional action based on such knowledge. To the expanding arsenal of prenatal diagnosis, RM today specifically contributes diagnostic techniques applicable prior to implantation. Prima facie, empowering on-going parents with respect to the ‘healthy baby’ aspect of the standard format is morally unobjectionable. So what is it about RM that makes such empowerment morally ambivalent?

Presuming that parents bear a moral responsibility to care generally for the well-being of their child and presuming that moral responsibility is forward-looking; then why should the factual difference of being born versus not yet born make a morally significant difference in that responsibility? It appears much more plausible to regard this responsibility as a function of the intentional power parents have, and know themselves as having, over the conditions that are relevant to health-related values in whatever phase of actual or potential development of their offspring (i.e. even prior to conception).

How narrow or wide is this moral responsibility? Any answer will depend on our concept of health in our judging whether people take seriously, or fail to take seriously, how they affect the health of their intended children by acting, or failing to act, in certain ways. As the increasing amount of jurisdiction about child-hurting behaviours of pregnant mothers shows, there are already legal and customary conventions fixing the scope of that responsibility. But how narrow or wide ought that scope to be when we assess from a moral perspective the moral and non-moral reasons that do the fixing? And how can we judge the determination of that scope to make changes for the morally better or worse? Given the fact of moral diversity, some of us will draw the lines differently than others, and for different moral reasons. A morally sensible response to this condition is a position of moral pluralism capable of tolerating justified dissensus. Discourse ethics is such a position.

A momentous moral reason contra preimplantation diagnosis (PD) derives from the eventuality of abuse. Application cannot absolutely be confined to cases where it is governed by morally legitimate health-related diagnostic intentions. Use invites abuse, e.g. using PD for sex selection. What follows from this argument is not, however, that PD is morally wrong. Rather, the argument establishes that it is morally irresponsible to use those techniques within social practices which are ill-designed to cope with foreseeable abuse. Whether the provision of PD is right or wrong, then, depends on RM’s resources for preventing abuse, i.e. it depends on the shape of RM as a professional field of social practices (Walthers, 1987; Kommission für Öffentlichkeitsarbeit und ethische Fragen der Gesellschaft für Humangenetik, 1995).

Can PD be wrong per se? Where PD is done on pre-embryos, i.e. on already individualized (though not yet personal) human beings, a momentous moral reason against
the use of this RM technique may derive from the fact that such techniques at present require separating one totipotent cell off from the rest. A new individual is thereby created (namely the cell separated) only to be subsequently destroyed in the diagnostic process. The morally significant contrast here is between taking cells from an individual at a stage where irreversible differentiation has already occurred (e.g. in amniocentesis) versus taking a cell which is an individual at a stage where irreversible differentiation of the cells of the individual has not yet occurred. Other things being equal, the former clearly seems morally unobjectionable, the latter not. Why?

The reasons seem close to those marshalled against embryo-consuming research. People who object to the latter do so not on grounds that research, as opposed to treatment, is being done. Rather, their objection appeals to a recognition of human dignity in human individuals. Human dignity (they maintain) prescribes respecting the vital integrity of any human individual (German ‘Embryonenschutzgesetz’, 1989). If human life has human dignity in virtue of its very individuality, such individuality ought to be preserved. Multiplying the individuality would likewise be destroying it. Hence dignity-based moral reasons against the techniques of PD and embryo-cloning. The moral significance of discarding human life, albeit in pre-embryonic form, is also at stake in the combined RM techniques of IVF, cloning and PD. An IVF (pre)embryo may be divided at the 2- to 8-cell stage and each cell will develop into a separate individual or clone with identical characteristics and genetic make-up to that of its siblings derived from the same (pre)embryo. ‘Cloning could be used to investigate the chromosomal normality of human embryos conceived by a couple who have a high chance of procreating an abnormal child’ (Warnock, 1988).

Expanding options means expanding moral perplexity too. The social definition of health is inextricably linked with value-of-life questions. How such distinctions are drawn and how they are normatively interpreted are questions are whose moral significance is obvious. Getting a grip on these collective definitional processes through RM at the very level of incipient human life renders RM a powerful party within those definitional processes. In virtue of constraint (e) above, RM as a profession bears moral responsibility for taking seriously how the empowerment of some people’s intentionality (namely those who enlist RM services for the fulfilment of their desire to have a baby) affects, even if indirectly, the well-being of other people in the larger society for good or ill (e.g. persons with handicaps).

Cryoconservation and the temporal order of reproduction

Owing to the discarding of ~3300 (pre)embryos just recently, cryoconservation has gained public attention. Some other moral perplexities concern property rights and their inheritance. The vicissitudes of frozen embryos with one or both of their parents defunct has provided the drama of many a newspaper story. Setting aside the complex legal questions involved, a moral rationale for dealing with such cases can perhaps be developed from the following consideration:

Storage institutions bear a professional responsibility for proper storage. Unlike pregnant women and their partners, they bear no responsibility for the proper continuation of the unfolding of the life already developing. If parents’ powers to intentionally influence such processes cease (e.g. if both die without leaving a corresponding will), then so cease the storage institution’s obligations. Just as fertilized oocytes might die, and are morally permitted to be allowed to die, due to certain accidents happening to the mother’s body, so fertilized oocytes whose further development is arrested by certain accidents happening within the freezing environment (e.g. long-term degradation of the biological material, or economic need for re-renting the storage place taken that is no longer being paid for) will die, and should be morally permitted to be allowed to die. However, freezers are not equivalents of wombs, and storage institutions are not equivalents of gestating mothers and their partners. Hence, whatever moral responsibility concerns the latter does not automatically transfer to the former. It is part of the RM profession’s responsibility to find the requisite consensus among the people most directly concerned (e.g. the RM professional prescribing treatment and the would-be parents) concerning such matters when treatment contracts are made.

A quite different source of moral perplexity in cryoconservation (in conjunction with other RM techniques) concerns its impact on the temporal composition of kinship, as we know it. Consider the following mind-boggling possibility: a woman wants to have a child from spermatozoa that were cryoconserved before the death of her husband. Being unable to bring to term a pregnancy herself, she decides with her consenting 18 year old daughter that they will act as surrogate gestational mother. Oocytes taken from the spouse are fertilized with the deceased husband’s spermatozoa and then transferred to the daughter. The daughter becomes pregnant and delivers a baby who is genetically her brother or sister and socially might be her son/daughter as well as her brother or sister.
However, that something is mind-boggling does not make it morally wrong. Our established kinship system has evolved gauged both to the biologically determined rhythm of average generational lifetime and fertility phases and to socially determined sets of legitimate family lines which differ in different cultures. Any established kinship order is a valuable tradition and yet open to modification. Conventional morality may well confer on all ‘proper’ kinship relations a moral status similar in strength to the conventional moral prohibition on incest. Discourse-ethically qualified consensus-building, however, looks at the well-being of everybody concerned. This means that the appearance of moral outrageousness of some practice $P'$, differing from its established form $P$, is not enough to judge $P'$ as morally wrong. Instead, moral assessment of $P'$ must be based on the articulation of reasons. Such reasons must point out the differential impact of $P'$ as compared to $P$ on values whose moral significance is accepted by all concerned. From the discourse ethics point of view, there is no better way to determine and evaluate such reasons than by way of an ongoing free and open public debate (which is bound to be unruly), properly feeding (through intermedi ary institutions of civil society) into more procedurally bound to be unruly), properly feeding (through intermediary institutions of civil society) into more procedurally organized deliberative bodies (e.g. ethics commissions, parliamentary debates, health-law making agencies) (Harris et al., 1993; Habermas, 1996; Kettner, 1996a,b).

Modifications created in a socially established kinship system by disturbances of its temporal order might well be very problematic. Nevertheless, an impression of unnaturalness alone fails to be a good enough reason for moral condemnation. Neither is an impression of naturalness sufficient for assenting to the judgement that the practice in question is morally right.

**Reshaping family ties**

According to the kinship model that has dominated all European cultural traditions, a family consists of mother, father and their children, conceived by sexual intercourse and genetically related to both parents (Warnock, 1988). This entrenched nuclear family model is captured in the phrase ‘baby of our own’ of our standard format. Many adoption laws make it impossible to adopt a child immediately after birth; hence adopted children are ‘our own’, but, not ‘babies of our own’. Children and babies brought into the marriage are ‘of our own’, however, not in the sense of having originated in shared sexual acts of the couple, nor in the sense of being genetically determined through the genetic information of both the couple’s partners. From the general acceptance of the conventionalized nuclear family model derives a good deal of the attraction of IVF techniques: once implantation has taken place, in an IVF family children are born after a pregnancy like any other and are usually, though not necessarily, genetically the offspring of both their parents. With the psychologically significant exception of the sex-procreation nexus, IVF can perfectly dovetail the culturally entrenched standard format.

It is fascinating that IVF possibilities range from a next to perfect match of our standard format to new-style family planning which departs drastically from the conventional nuclear family model. This departure is most obvious when IVF is employed in procreative intentions involving surrogate mothers. Once DI and oocyte donation are admitted into this scheme, it becomes possible to envisage families where five different people coordinate five different phases of parenthood. The ‘healthy baby of our own’ may have a genetic, a gestational, and a rearing mother and a genetic and a rearing father.

Overlap between such distributed parenthood and our standard format is only marginal, namely in the desired result of having a baby. Depending on one’s value interpretation of kinship matters, this fact can provide reasons to condemn practices that engender distributed parenthood, or conversely, to hail them. Distributed parenthood may constitute a maximal emancipation of the individual desire to have a baby from the social, psychological and physical contexts connected with its intrinsic phases as these phases are realized in the conventional way. It becomes feasible in principle to recombine and recompose such contexts and phases as individuals please. Many people worry about this threat (as they perceive it) of disrupting the vital social tissue of established family values and kinship formation rules. To many others, such worries are but expressions of repressive family and kinship ideologies.

Interesting as discussions of such radically opposed interpretations are, we must point out that the main moral consideration apposite to the matter within the discourse ethical stance is a rather simple one to pose, though not to answer. The key moral question is how everybody involved in the changing practices of parenthood fares, for better or worse. The battle of interpretation is, of course, about which aspects to include and which not. (i) Should it be judged permissible, for example, for a homosexual or a lesbian couple to further their particular values of sexual well-being and nonetheless become parents by enlisting elaborate RM services of the more ‘exotic’ kind? (ii) Should a woman’s desire to maintain her bodily beauty (given that she thinks this beauty would be ruined by a pregnancy) be considered reason enough for morally permitting her to try to enlist the service of a surrogate gestational mother? And how about (iii) people who choose living alone, without a partner? What should we think
morally of (iv) a woman’s interest to serve as surrogate mother simply because she likes the experience of pregnancy but dislikes the toil of rearing children? As these examples make clear, there are complex questions of (biological, psychological, social etc.) fact involved in any specific valuation position one takes with regard to such matters. And it is not enough to simply take one position or another (‘singles just shouldn’t have children!’); rather, one is morally responsible for acquiring a reasonably clear view on who gets in what sense morally wronged, concerning the particular practice up for consideration in comparison with the ‘moral costs’ of the conventional family model. This is to say, one has to get a fairly clear assessment of the reality of that model within the real society one lives in.

There is a tendency in public debate about such matters to argue all too easily with what is presumed to be the ‘best interest of the child’. Against this it has to be maintained that procreative intentions imply a twofold concern and two joint responsibilities: concern for the good life of the child (why else would it be worthwhile to bring a new life into being?) and concern for the good life of the parents (why else would it be worthwhile to become parents rather than not?). What might be good for the child is not necessarily good for the parents, and vice versa. Will babies conceived and born by new reproductive-health techniques (such as surrogacy) be as happy and healthy as children conceived and born by more conventional means? And do we want them to be? This is a morally significant but only partial question. Will adults (couples or singles) who become parents by virtue of RM techniques be as happy and healthy as children conceived and born by more conventional means? And do we want them to be? This question is every bit as important. And both questions require extensive psychological and medical research which has barely begun.

Conclusion

RM as a medical branch shares with all other medical practices the moral key values of nonmaleficence, beneficence, autonomy of persons and justice. However, several very particular properties of RM create a unique moral profile with a very special combination of potentials for moral perplexities. To analyse the ethics aspect in the different RM techniques, the morally relevant features of ‘normal’ (unassisted) reproduction have been compared with their modifications caused by the various methods of assisted reproduction. This renders it possible to elucidate the moral costs of each of the options offered by RM in light of whatever moral view one identifies with. RM bears an inescapable collective moral responsibility to care about the moral perplexities arising from its steadily increasing medico-technical innovations.

To support deliberations in which one can determine what anyone ought to do, and to sustain the ability to take seriously in a morally qualified way how our actions affect the well-being of ourselves and others for good or ill has been a major objective of this article. If the present article serves to promote and facilitate such ethical reflection as a consequence of the sketching of a rationale for charting potentials for actual and future moral problems in RM, it will have fulfilled its purpose.

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