

# Philosophy Now

a magazine of ideas

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## Articles

### Off-The-Peg Offspring in the Genetic Supermarket

**Colin Gavaghan** asks how seriously we should take Gattaca's dread of genetic screening.

Viewed solely on its cinematic merits, few are likely to evaluate Andrew Niccol's film *Gattaca* as great art. As a vehicle for stimulating debate about serious social and moral issues, however, it shows up well against *Independence Day*, *Jurassic Park*, and most other attempts to translate science fiction onto the big screen. Relying heavily on less than subtle imagery (the staircase which the paraplegic Jude Law must struggle to ascend is sculpted in the likeness of a DNA molecule) it paints a vision of a dystopian future in which prospective parents can obtain genetic profiles of their *in vitro* embryos and, based on that information, decide which to implant. In effect, they will be able to choose – to some extent – the kind of children they will have.

Unlike most cinema sci-fi, the technology of *Gattaca* is not speculative or fanciful – pre-implantation genetic diagnosis (PGD) has been with us for the last ten years. And the ethical questions that it poses are considerably more intriguing than those raised by rampaging veloceraptors. But is *Gattaca*'s overwhelmingly negative view of PGD actually justified? Or is it just another example of a serious subject distorted by celluloid sensationalism? In short: is there anything wrong with being able to choose our children?

### What are the options?

Before embarking on an ethical examination of any new technology or practice, it is perhaps advisable to consider what options we (as a society) will face with regard to that technology. Broadly, two options present themselves. On the one hand, a restrictive approach could be adopted, the most obvious form of which would be a ban on PGD, either outright or in certain circumstances. Alternatively, PGD could come to be viewed as so overwhelmingly beneficial – to society in general or to some of those who comprise it that a degree of compulsion is introduced. A scenario in which PGD was compulsory is not inconceivable. But in view of present attitudes toward genetic technology in the popular media, and of the fears most commonly expressed by academics and special interest groups, it seems more likely that any restriction in the near future would be of the prohibitory variety. Indeed, as things stand, the practice is subject to a variety of restrictions, preventing its use for, e.g., sex pre-selection.

On the other hand, a laissez faire approach could be taken. In *Anarchy, State and Utopia*, Robert Nozick considered the possibility of a "genetic supermarket", where prospective parents could freely select traits for their future children. Were this approach to be adopted, the state would neither force prospective parents to use PGD, nor would they prevent them from using it.

### The liberty presumption

Nozick's rather extreme brand of free market libertarianism is certainly not to everyone's philosophical taste. But it may be that a 'hands off' approach to genetic screening can be defended on grounds which enjoy considerably wider appeal, such as a general presumption in favour of liberty. This derives from the belief that, ordinarily, what an individual chooses for himself is more likely to further his own interests than what anyone else would choose for him. This popular presumption was developed in detail by John Stuart Mill in his famous essay *On Liberty* (1859). Mill went on to assert that any act by the state which restricts an individual's control over his own life will to some extent constitute a harm to that individual, and must be justified by preventing some

greater harm. This is not to adopt the extreme libertarian position that state restriction of individual liberty is never justified, but merely to stress that any such state restriction requires justification in order to rebut the presumption in favour of liberty.

If no interests are being safeguarded by the restriction, and it is accepted that some harm is caused by it (even if we regard the harm to the prospective users of PGD as fairly trivial, they are still harmed to some extent by having their choices curtailed), then a restriction would cause more harm than it prevented, and would therefore be unjustifiable. So who precisely stands to be harmed by PGD? After all, if (as *Gattaca* asserts) PGD is so obviously the stuff of nightmares, it should be a relatively easy task to demonstrate precisely who this technology is bad for.

### **The argument from 'Nature'**

The contention that PGD, and reproductive and genetic technologies in general, are in some sense 'unnatural' is never far away from such discussions. Whether such practices may be said to be 'unnatural' will not be investigated here; the view that 'natural' is synonymous with 'morally good' or 'desirable' has been shown over the centuries to be highly suspect (by, most notably, David Hume and JS Mill) and another attack upon it would be superfluous.

But while the view that the 'natural' is intrinsically good has been largely discredited, the fear that 'tinkering with nature' will give rise to bad consequences remains real. For obvious reasons, genetic technology causes anxiety even among those who have no interest in fetishising 'Nature'. In particular, much has been made by environmentalists of the supposed dangers of a rogue Genetically Modified Organism (GMO) laying waste to crops or spreading some new disease.

Whatever the merits of such fears though, such unnatural disasters will not be brought about by PGD. While consequentialist objections to genetic engineering of crops and animals, and the release of GMOs into the environment, remain troubling, the same cannot really be said of PGD. For the embryos which are implanted after screening have not been genetically modified in any way. They still comprise half the genetic material of each parent, just like the rest of us. No novel genetic material will be introduced into the environment. Were this our only concern, there would be no reason to rebut the liberty presumption by banning PGD.

### **Death in a petri dish: the discarded embryos**

Since the essence of the choice offered by PGD lies in the ability to implant only selected embryos, it follows that the technique requires the creation of more embryos than will ever be implanted. The respective fates awaiting the two groups of embryos could not be more dissimilar. For those which are selected, the possibility beckons that they will one day be born into an environment where they are presumably much wanted, while for the 'unsuccessful' candidates, the future holds only the prospect of destruction, perhaps after experimentation.

While the availability or otherwise of PGD will certainly have an effect upon the embryos, however, this is not the same as saying that the embryos have interests which will be affected thereby. It is widely agreed that interests can only meaningfully be attributed to beings which are, or have been, conscious. Without a minimum level of awareness as to what is happening to it, it would be nonsensical to aver that an entity is capable of caring about anything. This is not to say that, in order to have interests, a being must be capable of formulating abstract thoughts or long term goals. Nonetheless, a minimum level of awareness is what separates those living things which have interests from those which do not.

The question of when precisely a human being attains a level of consciousness sufficient for us to attribute to them even the most basic of interests has still not been answered to the satisfaction of all, but although this is of great importance in any consideration of the ethics of abortion, for example, it may be seen that ascertaining the precise timing of the onset of consciousness is not necessary for the present discussion. For while doubt may exist as to when consciousness is first present in a human being, no-one would seriously seek to attribute that quality to an eight-cell embryo. Indeed, even Elizabeth Peacock of the Parliamentary Pro-Life Group does not allege that the capacity for pain exists prior to ten weeks. (*The Guardian* 22 July 1996). It appears beyond dispute, then, that they do not and cannot in any sense be said to care about what

happens to them, or indeed care about anything at all. To speak of their being harmed is meaningless. If anything is wrong with PGD, it is not wrong from the perspective of the embryos.

### **"Withering on the vine"?**

Another objection which arise from time to time concerns those potential future children who might have been born but for the 'screening out' process; as it was once put to me by an opponent in a debate, those who are left to "wither on the vine". That such a concern is philosophically muddled becomes quite apparent when we consider who we are seeking to protect in this case. We are, it would seem, being asked to protect the interests of potential future persons who will never exist, beings who cannot be said to have been harmed or benefited in any way, since they never had, and never will have, any interests to be affected one way or the other. To say otherwise would seem to involve recognising an interest, possessed by non-existent person, in being brought into existence.

Perhaps such a way of thinking would make sense were we to believe in some sort of extracorporeal waiting room, occupied by disembodied consciousnesses awaiting earthly lives. My opponent in the debate denied believing in such a place – he seemed to find the notion as unlikely as I did. Equally, however, he was unable to explain where the vine was, and who, precisely, was doing the withering.

### **Harm to the handicapped**

Perhaps the most widespread concern about free access to PGD involves those disabled persons who already exist or who will be born regardless of the availability of PGD. This concern arises from the strong suspicion harboured by many that, given a choice of characteristics, the vast majority would select from a fairly narrow grouping, resulting in those who do not conform to these standards coming to be viewed as 'defective'. The possibility of the Genetic Supermarket giving rise to a genetic Master Race seems to linger at the back of the minds of many critics.

This harm to the handicapped may take a variety of forms. On a practical level, the fear has been expressed that a disabled population reduced in number by PGD would have less ability to draw attention to its members' needs. Certainly, it may be easier to ignore the disabled if their numbers are reduced; and it is not easy to refute the suggestion that this would lead to their unique problems being given less attention. That this possible outcome is sufficient to justify banning PGD is less certain. Consider the partially analogous case of those disfigured by thalidomide. Like the genetically disabled, such people have had to struggle to find acceptance within a society which stigmatises any deviance from the perceived norm; they have had to battle to have their unique experiences and difficulties recognised. It is probably equally true of both groups that, as their numbers diminish, so will their political 'clout'. Equally, their very rarity may increase their social alienation, their 'freak' status.

But is this sufficient reason to continue using thalidomide? Should doctors continue to prescribe it, ensuring the birth of successive generations of babies with withered limbs, so that the plight of those who already exist will not be made worse? And if not, is there any more compelling reason to force prospective parents to risk giving birth to disabled children by denying them access to genetic screening?

There is also the argument that the very existence of PGD constitutes an 'insult' to the disabled. The implicit but obvious message of PGD, some claim, is that had it been available to previous generations, today's disabled populace would simply not exist. They would have been 'screened out' as unfit for life, cast aside like defective goods. It is not difficult to imagine how distressing this perceived message may be to some existing disabled persons. Believing that your parents would have chosen not to bring about your existence had a choice existed could very well have a detrimental impact upon both self image and family relationships.

Yet in a very real way, we all owe our existence to the absence of choice available to our ancestors. When I consider the number of variables which had to coincide in just the right way to bring about the birth of Colin Gavaghan, from my parents' meeting to their mating, and indeed for all the generations before them, it is difficult not to be struck by the staggering odds against 'my' ever existing at all. And it is equally difficult not to believe that, had all those ancestors had information about and access to effective

contraception, some might just have used it, thereby ensuring that I never came into being. I owe my existence to their absence of choice, as, almost certainly, does everyone reading this. Does that fact entitle us to impose a similar absence of choice on today's potential parents?

The interests of existing disabled persons present some of the more troubling questions about PGD. It is hardly surprising that many of those affected by genetic disorders are reluctant to pop the champagne corks at the news of a technology which would have screened them out of existence. Yet the knowledge, or suspicion, that their own parents would have preferred a different, healthy child had the choice existed will continue to disturb some whether or not PGD is an option for a new generation. Our society may be lacking in the provision it makes for the disabled, not only in the practical sense of providing wheelchair ramps or whatever, but in creating an environment in which they can feel accepted and welcome. When certain disabled activists seem to be insisting that prospective parents have a duty to add to the ranks of the disabled, when for whatever reason they wish to avoid doing so, it is more difficult to sympathise with their demands.

### **Those actually born after PGD**

As with those children born to post-menopausal women or same-sex couples, concern is frequently expressed for those children born as a result of embryo selection. What will be the effects of this unusual origin upon their mental and emotional well-being? Arguably, the knowledge that they were selected in this way will burden the child with unrealistic expectations. Jude Law's character in *Gattaca* is so haunted by his failure to live up to the quality of his premier-quality genome that he several times attempts to take his own life (for those yet to see the movie, I won't reveal whether he is successful).

Yet both literature and real life are replete with accounts of children who have been unable to conform to their parents' Willie Loman-esque expectations. A couple of years ago, the newspapers carried tragic tales of Japanese schoolchildren driven to suicide by parental pressure to succeed at school. I personally know of several cases of parents unable to accept that their capital outlay on the best fee-paying schools has not guaranteed academic excellence. PGD may be used to prevent cystic fibrosis or Tay Sachs Disease, but it cannot prevent bad parenting. By the same token, though, it will not invent it.

Of course, there may be unique and unforeseeable burdens associated with being a 'designer baby'; the technology is still too new to be certain. Equally, though, there are unique burdens associated with being born into a mixed race family. Or a family with a history of criminality. Or a history of notable achievement in some area. As Derek Parfit has famously illustrated though, it is difficult to identify precisely who is harmed by the birth of a child into such 'difficult' environments. For such children, after all, the alternative of being born into a 'normal' family was not on offer. Rather, the only alternative for this particular child was never to be born at all. Unless we are willing to say that the lives of such children will predictably be so blighted, that their quality of life will be so wretched that their very existence is an injury to them, then it is difficult to see how we protect them by preventing them from being born.

### **The spectre of eugenics? Some grit on the slippery slope**

For many, though, what is objectionable about the Genetic Supermarket lies not in the immediate risk of harm it poses to any identifiable person(s), but in the possibility of where it will lead. In particular, the ubiquitous spectre of the eugenics movement overshadows every debate on the subject of genetics. So appalling were the attempts at genetic engineering carried out in the first half of the century in the USA and Europe – and, most tragically, Nazi Germany – so blatant the ignorance, prejudice and brutality associated with it, that the mere mention of the word 'eugenics' is for many reason enough to fear the new genetics.

While to some extent understandable, there is something ironic about a fear of eugenics being used to justify greater restrictions on reproductive freedom. At its core, the eugenics movement involved the relegation of the interests and freedom of individuals beneath those of some vague concept like the nation, the race or the species. In contrast, the Genetic Supermarket promotes individual reproductive choice. Rather than their reproductive autonomy being encroached upon by the state, prospective parents will be able to choose for themselves whether to make use of this technology.

It is not impossible that totalitarianism will return to Europe once more, and that genetic screening may be imposed upon the unwilling. What is more improbable is that the Genetic Supermarket, with its emphasis upon individual choice, will bring this possibility nearer. If PGD is to be banned, if that particular option is to be closed to us, some more rigorous objection is surely required than speculation about how it might be abused in a hypothetical future world changed beyond all recognition.

### **Conclusion: Where is the harm?**

This discussion may seem unduly skewed in favour of PGD, or, more accurately, the option of PGD. In so doing, I have sought not to make light of the very real ethical questions and concerns posed by these and other new reproductive technologies. Rather, my objective has been to provide a counter-balance to the unwavering negativity manifested in movies like *Gattaca* – and a reminder that, if we take the liberty presumption seriously, we need stronger justification for a ban than gut-level unease and kneejerk conservatism. Like so many products of the reproductive revolution, PGD is strange, alien, and, for many, frightening. It involves humans assuming control of an area of life which previously lay beyond our hands, and we are right to ask searching questions about how that control will be exercised. It is vital, though, that these questions be addressed in an informed and level-headed manner.

Andrew Niccol's business is excitement, entertainment, and sensationalism; it would be unrealistic to expect his depiction of the future to be particularly consistent, balanced or even plausible. Decisions about the availability of PGD taken in the real world, however, have to be all of these things. If we need guides through the new moral maze of genethics, let's look to philosophy, sociology and science rather than Hollywood. Jude Law and Uma Thurman are beautiful and talented young people. As bioethicists, however ... they make very good actors.

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