

REITH LECTURES 2009: A NEW CITIZENSHIP

Presenter: Professor Michael Sandel

Lecture 3: Genetics and Morals

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SUE LAWLEY: Hello and welcome to the Centre for Life in Newcastle on Tyne. It's a place dedicated to a greater public understanding of science, and it brings together leading authorities from all over the world to discuss issues arising out of medical research. So it really is an ideal venue for the third of this year's BBC Reith Lectures, the subject of which is Genetics and Morals.

Last week's lecture outlined the case for a more robust moral and spiritual debate in our broad political life. Today, we're looking at the ethics of genetic technology. Ladies and gentlemen, please will you welcome the BBC's Reith Lecturer for 2009: Professor Michael Sandel.

(APPLAUSE)

MICHAEL SANDEL: Thank you, thank you.

SUE LAWLEY: Michael, just a relevant bit of background before we start. I know that you were on George Bush, President Bush's Bioethics Committee from 2002 for about four years, weren't you? Was there vigorous debate on that committee, or were they a rather conservative lot?

MICHAEL SANDEL: On the whole, it was a conservative group, which is to be expected since it was appointed by President Bush. I was surprised when I was invited to be a part of it. (LAWLEY LAUGHS) I think they knew I wasn't among his foremost supporters, but I think they did want - and they ultimately did get - a range of views.

SUE LAWLEY: And what about different religious persuasions because we know that George Bush's opinions were very much informed, are very much informed by his Methodist faith. You're of the Jewish faith. Did your religious opinions come into it at all? Were they put on the table?

MICHAEL SANDEL: Not directly, but I think it's fair to say that there were a range of religious backgrounds as well as professional backgrounds represented. There were people who came from theology; others who came from science, from law, from public policy, and from philosophy.

SUE LAWLEY: But in the end, you found yourself in the minority, didn't you? You lost the debate as it were?

MICHAEL SANDEL: Well I did on the part of the debate that consumed six months of our work, which was the most politically contested area; and that had to do with the use of cloning technologies for embryonic stem cell research, and I did find myself among the dissenters. I was in favour of this kind of research going forward and the majority voted for at least a moratorium, if not a ban, on that procedure.

SUE LAWLEY: But you've pointed out since that George Bush said on several occasions that he regarded embryonic stem cell research - and I quote - as "the taking of innocent human life", and he didn't want public money spent on it. But he didn't stop *private* money being spent on it, so what does the moral philosopher say about that position?

MICHAEL SANDEL: I think if the reason for refusing federal funding for embryonic stem cell research is the thought, as some people conscientiously hold, that the early embryo is morally equivalent to a person - *if* one holds that view, then I think in consistency one should ban the practice, not just refuse to fund it.

SUE LAWLEY: Michael, we look forward to hearing what you have to say about the whole landscape of genetics and morals. The floor is yours.

(APPLAUSE)

MICHAEL SANDEL: Well thank you, Sue, and thanks to all of you for coming. It's a great pleasure to be with you here in Newcastle. My topic in this lecture, as Sue has said, is the use of genetic engineering. Is it ethical, for example, to create genetically enhanced bionic athletes? I understand that Newcastle United is looking to buy a few. (LAUGHTER)

But let me begin with parents and children. A few years ago, a couple decided that they wanted to have a child, preferably a deaf one. Both parents were deaf, and proudly so. Like others in the deaf pride community, the couple considered deafness a cultural identity, not a disability.

The prospective parents were a lesbian couple, so they had in any case to find a sperm donor. In hopes of conceiving a deaf child, they sought out a sperm donor with five generations of deafness in his family. And they succeeded. Their son was born deaf.

The couple was surprised when the story brought widespread condemnation. Most of the outrage

focused on the charge that they had deliberately inflicted a disability on their child. But the parents denied that deafness is a disability. They argued they simply wanted a child like themselves.

Is it wrong to make a child deaf by design? If so, what makes it wrong - the deafness or the design? Suppose, for the sake of argument, that deafness is not a disability, but a distinctive identity. Is there still something wrong with the idea of parents picking and choosing the kind of child they will have? Or do parents do that all the time, in their choice of mate and, these days, in their use of new methods of assisted reproduction?

Breakthroughs in genetics present us with a promise and a predicament. The promise is that we may soon be able to treat and prevent a host of debilitating diseases. The predicament is that our newfound genetic knowledge may also enable us to manipulate our own nature - to enhance our muscles, memories, and moods; to choose the sex, height, and other genetic traits of our children". Most people find at least some forms of genetic engineering disquieting. But it's not easy to explain what's wrong with it.

In order to grapple with the ethics of enhancement, we need to confront questions largely lost from view in the modern world - questions about the proper stance of human beings toward the given world. Since these questions verge on theology, modern philosophers and political theorists tend to shrink from them. But our new powers of biotechnology make these questions unavoidable.

Consider muscles. Everyone would welcome a gene therapy to alleviate muscular dystrophy. But what if the same therapy were used to produce genetically altered athletes? Researchers have developed a synthetic gene that, when injected into the muscle cells of mice, makes muscles grow and prevents them from deteriorating with age. These genetically altered, bulked-up mice have already attracted the attention of athletes. Although the therapy is not yet approved for human use, the prospect of genetically enhanced weightlifters, cyclists, and sprinters is easy to imagine.

So should the International Olympic Committee, should professional sports leagues ban genetically-altered athletes, and if so, on what grounds? The two most obvious reasons for banning drugs in sports are safety and fairness: steroids, for example, have harmful side effects. But suppose, for the sake of argument, that muscle-enhancing gene therapy turned out to be safe. Would there still be a reason to ban it? There is something unsettling about the spectre of genetically-altered athletes lifting SUVs or running a 3-minute mile. But what really is troubling about these scenarios? Is it simply that we find such super-human spectacles too bizarre to contemplate, or does our unease point to something of ethical significance?

Now you might be thinking that a genetically enhanced athlete would have an unfair advantage over his un-enhanced competitors. But the fairness objection can easily be met: if gene-doping were safe, it could be made available to everyone. So, if genetic enhancement in sports is morally objectionable, it must be for reasons other than fairness.

Genetic enhancement is possible for brains as well as brawn. Researchers have produced super-smart mice by inserting extra copies of a memory-related gene into mouse embryos. The altered mice learn more quickly and remember things longer than ordinary mice.

Today, biotech companies are in hot pursuit of memory-enhancing drugs, or “cognition enhancers” - as they call them - for human beings. One obvious market for such drugs consists of those who suffer from serious memory disorders, such as Alzheimer’s or dementia. But the companies also have their sights on a bigger market: us baby boomers over fifty who will soon begin to encounter the natural memory loss that comes with age. Meanwhile, drugs such as Ritalin and Adarol, prescribed for Attention Deficit Disorder, are increasingly used by college students seeking to boost their performance on exams.

As with muscles, so with cognition, the question is this: Should we devote our biotechnological ingenuity to curing disease and repairing injury, or should we also seek to improve our lot by re-engineering our bodies and our minds?

Perhaps the most alluring non-medical use of bioengineering is sex selection. For centuries, parents have been trying to choose the sex of their children. Aristotle advised men who wanted a boy to tie off their left testicle before intercourse. Other recommended methods have involved timing conception in relation to the phases of the moon. But today, biotech succeeds where folk remedies failed.

One technique of sex selection arose with prenatal tests using amniocentesis and ultrasound. These medical technologies were developed to detect genetic abnormalities. But they can also reveal the sex of the foetus, allowing for the abortion of a foetus of the undesired sex.

Another sex selection technique is embryo screening. For couples undergoing in vitro fertilisation (IVF), it is possible to choose the sex of the child before the fertilised egg is implanted in the womb.

And the latest technology of sex selection is sperm sorting. It makes it possible to choose the sex of your child even before it’s conceived. There’s a for-profit fertility clinic in the United States that

offers the procedure. It turns out it's possible to sort the X-bearing and Y-bearing sperm according to their weight. And the fertility centre licensed the technology from the U.S. Department of Agriculture, which had developed a process for breeding cattle.

Now one objection to sex selection is that it is an instrument of sex discrimination, typically against girls. In China, there are now 120 boys for every 100 girls. In parts of Northern India, the ratio of boys to girls is 140 to 100. But suppose sex selection techniques were employed in a society that *didn't* favour boys over girls, and that wound up with a balanced sex ratio. Would it *then* be unobjectionable? And what if it became possible to select not only for sex but also for height, eye colour, skin colour? What about sexual orientation, IQ, musical ability, athletic prowess?

There is something troubling about these scenarios of genetic manipulation. But what exactly is wrong with using genetic engineering to turn ourselves into bionic athletes, or our offspring into designer children?

Some people say the problem is that genetic engineering is a shortcut that undermines effort. An athlete who goes in for gene-doping evades the hard work that goes with rigorous training. Suppose we learn that the achievements of our favourite football star were due to genetic alteration? Our admiration for the athlete would surely be diminished.

But the problem with genetic enhancement is not simply that it undermines effort. The deeper danger is that it represents a kind of hyper agency - a Promethean aspiration to remake nature, including human nature, to serve our purposes and satisfy our desires. What this drive to mastery misses is an appreciation of the *gifted* character of human powers and achievements.

To acknowledge the giftedness of life is to recognise that our talents and powers are not wholly our own doing, despite the efforts we expend to develop them. An appreciation of the gifted aspect of life constrains the Promethean project and conduces to a certain humility. It is, in part, a religious sensibility. But its resonance reaches beyond religion.

Consider parenting. To appreciate children as gifts is to accept them as they come, not as objects of our design or products of our will or instruments of our ambition. Parental love should not be contingent on the talents and attributes the child happens to have. We choose our friends and spouses at least partly on the basis of qualities we find attractive. But we do not choose our children. Their qualities are unpredictable, and even the most conscientious parents can't be held wholly responsible for the kind of child they have. This is why parenthood, more than other human relationships, teaches what the theologian William F. May calls an "openness to the unbidden".

This resonant phrase, an “openness to the unbidden”, helps us see that the deepest moral objection to enhancement lies less in the perfection it seeks than in the human disposition it expresses and promotes. The problem is not that the parents usurp the autonomy of the child they design. (After all, it’s not as if the child could otherwise choose her genetic traits for herself.) The problem lies in the hubris of the designing parents. Even if this disposition doesn’t make parents tyrants to their children, it disfigures the relation of parent and child. And it deprives the parent of the humility and of the enlarged human sympathies that an “openness to the unbidden” can cultivate.

In caring for the health of their children, parents don’t cast themselves as designers or convert their children into products of their will. The same *can’t* be said of parents who pay large sums to select the sex of their child or who aspire to bioengineer their child’s intellectual endowments or athletic abilities.

Today’s debates about genetic engineering and enhancement are reminiscent of an older debate about eugenics - the misbegotten attempt to improve the so-called gene pool of humankind. Critics of genetic engineering argue that the quest for designer children is nothing more than “privatised” or “free market” eugenics. Defenders of enhancement reply that genetic choices freely made aren’t really eugenic, at least not in the pejorative sense that term conveys. Traditional eugenic policies were repugnant, they argue, only because they were coercive - involving forced sterilisation laws, for example.

This defence seems to me mistaken. Yes, the Nazis gave eugenics a bad name. But eugenics is repugnant even when it’s not genocidal and coercive.

Consider a recent eugenics policy that stops short of coercion. In the 1980s, Lee Kuan Yew, the Prime Minister of Singapore, worried that well-educated Singaporean women were producing fewer children than less-educated ones. Subsequent generations, he feared, would become “depleted of the talented”. So to stave off what he saw as this insipient decline, he instituted policies to encourage college graduates to marry and have children. Here were some of the policies enacted - a state-run computer dating service, financial incentives for educated women to bear children, courtship classes in the undergraduate curriculum (LAUGHTER) And free love boat cruises for unmarried college graduates. At the same time, low-income women who lacked a high school degree, they were offered something too: \$4,000 as a down payment on a low-cost apartment - provided they were willing to be sterilised.

Singapore’s policy gave eugenics a free market twist; rather than force disfavoured citizens to undergo sterilisation, it paid them to do so. But Singapore’s voluntary eugenics policy is

objectionable, nonetheless. Even where no outright coercion is involved, there remains something troubling with the ambition to control the genetic characteristics of the next generation. These days, this ambition is less likely to be found in state-sponsored eugenics policies than in procreative practices that enable parents to pick and choose the kind of children they will have.

In the age of the genome, the language of eugenics is making a comeback, not only among critics but also among defenders of enhancement. An influential school of Anglo-American political philosophers calls for a new “liberal eugenics”, as they call it, by which they mean non-coercive genetic enhancements that don’t restrict the autonomy of the child. *“While old-fashioned authoritarian eugenicists sought to produce citizens out of a single centrally designed mould”*, writes Nicholas Agar, *“the distinguishing mark of the new liberal eugenics is state neutrality.”* The idea is that government may not tell parents what sort of children to design, and parents may engineer in their children only those traits that improve their capacities without biasing their choice of life plans.

But removing the coercion does not lay to rest the moral objection. The problem with eugenics and genetic engineering is that both represent the one-sided triumph of wilfulness over giftedness, of dominion over acceptance. Now why, you may wonder, why should we worry about this triumph? Why not shake off our unease with enhancement as so much superstition? What would be lost if biotechnology dissolved our sense of giftedness?

From the standpoint of religion, the answer is clear. To believe that our talents and powers are wholly our own doing is to misunderstand our place in creation. It’s to confuse our role with God’s. But religion is not the only source of reasons to care about giftedness. The moral stakes can also be described in secular terms. If the genetic revolution erodes our appreciation for the gifted character of human powers and achievements, it will transform three key features of our moral landscape - humility, responsibility, and solidarity.

Let me explain. In a social world like ours that prizes mastery and control, parenthood is a school for humility. That we care deeply about our children, and yet can’t choose the kind we want, teaches parents to be open to the unbidden. Such openness is a disposition worth affirming, not only within families, but in the wider world as well. It invites us to abide the unexpected, to live with dissonance, to reign in the impulse to control.

It’s sometimes thought that genetic enhancement erodes human responsibility by overriding effort. But the real problem is the explosion, not the erosion of responsibility. As humility gives way, responsibility expands to daunting proportions. We attribute less to chance and more to choice. Parents become responsible for choosing, or failing to choose, the right traits for their children. Athletes become responsible for acquiring, or failing to acquire, the talents that will help their team win.

One of the blessings of seeing ourselves as creatures of nature, or God, or fortune is that we aren't wholly responsible for the way we are. The more we become masters of our genetic endowments, the greater burden we bear for the talents we have and the way we perform. Today, when a basketball player misses a rebound, his coach can blame him for being out of position. Tomorrow, the coach may blame him for being too short.

Paradoxically, the explosion of responsibility for our own fate, and that of our children, may diminish our sense of responsibility with those less fortunate than ourselves. The more alive we are to the chanced nature of our lot, the more reason we have to share our fate with others.

Why, after all, do the successful owe anything to the least advantaged members of society? One compelling answer to this question leans heavily on the notion of giftedness: the natural talents that enable the successful to flourish are not their own doing but, rather, their good fortune - a result of the genetic lottery. If our genetic endowments are gifts, rather than achievements for which we can claim credit, it's a mistake and a conceit to assume that we are entitled somehow to the entire bounty our talents reap in a market economy. We therefore have an obligation to share this bounty with those who, through no fault of their own, may lack comparable gifts.

So here's the connection between solidarity and giftedness: a lively sense of the contingency of our gifts - an awareness that none of us is wholly responsible for his or her success - this saves a meritocratic society from sliding into the smug assumption that success is the crown of virtue, that the rich are rich because they are more deserving than the poor.

If genetic engineering enabled us to override the results of the genetic lottery, to replace chance with choice, the gifted character of human powers and achievements would recede and, with it, perhaps, our capacity to see ourselves as sharing a common fate. The successful would become even more likely than they are now to view themselves as self-made and self-sufficient. The meritocracy, less chastened by chance, would become harder, less forgiving.

It is tempting to think that bioengineering our children and ourselves for success in a competitive society is an exercise of freedom. But changing our nature to fit the world, rather than the other way around, is actually the deepest form of disempowerment. It distracts us from reflecting critically on the world. It deadens the impulse to social and political improvement. So I say rather than bioengineer our children and ourselves to fit the world, let's instead create social and political arrangements more hospitable to the gifts and the limitations of the imperfect human beings that we are. Thank you very much.

(APPLAUSE)

SUE LAWLEY: Michael, thank you very much indeed. I'm now going to invite questions from the audience here at the Centre for Life in Newcastle. We've also been taking some written questions, as the lecture's been going on, so I hope to be feeding in some of those too. I'm going to start by inviting Matt Ridley here, the science writer and journalist. Matt Ridley, your question if you would?

MATT RIDLEY: In the past, more harm has come from the top down nationalising of reproductive decisions (as eugenics did) than from the individualising of them (as test tube babies did). Yet it seems to me you're apparently suggesting that decisions about genetic disease prevention be left to families, while decisions about genetic enhancement be effectively nationalised. Who will appoint the nationalised committee that decides, say, whether a mother of two boys may choose to have a girl as her third baby?

MICHAEL SANDEL: I do think this should be collectively, which is to say democratically, deliberated and decided. If we turn parenting into a kind of extension of the consumer society, then the shape and tone in the moral culture will be different. That's a big decision to make and it shouldn't be made by the market alone. It should be made democratically. How exactly to work it out - whether by an Act of Parliament or through the creation of commissions - would be a further question. I don't want to leave it to the market.

SUE LAWLEY: Matt Ridley, I mean do you believe that we should be able to choose the sex of our offspring?

MATT RIDLEY: On the whole, yes. I don't myself see these large social disadvantages. But my main issue is how we take the decision as to whether something is an enhancement or a cure.

SUE LAWLEY: Let's have a show of hands. Who in this room believes we should be able to choose the sex of our offspring if we want to? I think very, very few people - 5% in this room. Thank you very much, Matt Ridley. I'm going to move onto Alison Murdoch, who's Professor of Reproductive Medicine at Newcastle University. And in fact it was her team, Michael, which created the UK's first cloned human embryo in 2005. Professor Murdoch?

PROFESSOR MURDOCH: Many of the potential interventions that you've described are actually already prohibited in UK law ...

MICHAEL SANDEL: Yes.

PROFESSOR MURDOCH: ... such as sex selection, for social reasons, and genetic modification of an embryo. Others that you've talked of, I think perhaps slightly more comfortably fit with science fiction. I mean my great worry is that we actually end up restricting the availability of new technologies that have proven benefit because of sort of scientific fantasy that makes an interesting philosophical debate.

SUE LAWLEY: Which were the fantasies, you felt, that Michael mentioned in his lecture?

PROFESSOR MURDOCH: I think when you're talking about muscle enhancement and you're talking about intelligence or not, intelligence is far more important than just genes.

SUE LAWLEY: And lifting SUV's.

MICHAEL SANDEL: Right.

PROFESSOR MURDOCH: Yes. (LAUGHS)

SUE LAWLEY: Michael?

MICHAEL SANDEL: Right, intelligence - I agree - is something that's very remote from being real life genetically, though there are other forms of cognition enhancement that are feasible. Muscle enhancement in mice has already taken place. But I think what you said at the beginning comes close to the point that I would like to make, which is the regulatory system that the UK has, which restricts sex selection and other forms of genetic technologies that do not have a *medical* purpose, I think we in the United States would do well to emulate. Because what happens is in the absence of a regulatory system, it's easy to generate political opposition to legitimate science, including stem cell research.

SUE LAWLEY: Professor Murdoch?

PROFESSOR MURDOCH: If you look at the issue say of sex selection again, which you talked about - yes it's banned for social reasons in the UK, but that actually doesn't stop people selecting the child. As you mentioned, it's quite possible to have an amniocentesis and a scan, find it's the wrong sex, and then go and have an abortion, or to go abroad and have it done where it's *not* banned.

SUE LAWLEY: So it's a kind of free market eugenics?

PROFESSOR MURDOCH: And that potentially is driving down an even worse route than doing sex selection of an embryo before it's put back. And it only gives that option to people who can afford to pay.

MICHAEL SANDEL: Well let me give you a very concrete illustration of how some regulation actually helps science. In the United States, there is no ban on human reproductive cloning, which is to say cloning to create babies. And the reason there isn't is that the opponents of embryonic stem cell research insisted that the two issues be linked because they know that politically the best chance they have for restricting the research that I'm in favour of, and that you carry out in stem cell research, is to connect it with the spectre, the fear of cloning to make babies. So having that ban will create more political support, not less, for responsible science - including embryonic stem cell research.

SUE LAWLEY: Let me call Heather Ging. You've put in a written question. Would you like to tell us what it is?

GING: It's said that we have a growing underclass. Can enhancement of the kind you describe be used for them on their behalf?

MICHAEL SANDEL: It's a good question. If I really thought that the way societies like ours work would lead new and expensive biotechnologies to lift up those at the bottom rather than simply serve the consumer preferences of those at the top, then I would hesitate a little before arguing against their use. But I think this prospect is actually the biggest science fiction scenario that we've discussed tonight.

SUE LAWLEY: Steve Gater, you've put a written question in.

STEVE GATER: It's my experience that most parents want the very best for their offspring, so how can we deny them that if genetic engineering could actually provide that in some way?

MICHAEL SANDEL: I do think there's a problem, even before we get to high-tech genetic engineering of children - I think there may be reason to question some of the low-high, high-stress, high-pressure, hyper-parenting that actually is already taking place in our society. So my worry about using the genetic engineering is not that it's radically different from what we already do, but that it actually will accentuate a troubling tendency already present in our culture.

SUE LAWLEY: The problem would be, surely, if it were available - that kind of genetic engineering to make your child better at football or whatever it was - if one set of parents decided to take advantage of it and another didn't? And then of course you know your child would not be nagging you for a new set of trainers. It would be nagging you to say, "Why can't I have what his daddy's given him?"

MICHAEL SANDEL: I don't think that's the main objection though. There's another problem if you look at the collective effect. If parents went in let's say for height enhancement - and human growth hormone is already available to parents and paediatricians who want their children to be taller - even if they don't suffer from a hormonal deficiency, if you imagine people buying their way to taller kids, what you would get would be a changing standard of what counts as tall. Instead of having to be 6'5 to make the basketball team, you would have to be 6'11 or 7', and there would be a kind of hormonal arms race that in the end could be self-defeating.

SUE LAWLEY: We have an athlete here actually. Charlie Spedding is over this side. He's a former Marathon runner. He won bronze in the LA Olympics in the Marathon and he was the winner of the London Marathon in 1984. I think he still holds the record actually, Charlie, don't you?

SPEDDING: Yes, I'm pleased to say I do still hold the English record.

SUE LAWLEY: Your question?

SPEDDING: Where would you draw the line between the useful and the perhaps abhorrent use of genetics?

MICHAEL SANDEL: I would basically draw the line at health, at a medical purpose. And I agree that at the boundary, there can be disagreement, there can be close calls about what's for the sake of health and what's for the sake of satisfying consumer preferences or competitive desire. But I would say health is the basic principle. I wanted to hear your thought. What about the use of either drugs or gene doping for runners? What do you think?

SPEDDING: Well I am completely against it. It took me 16 years of hard work to reach my Olympic Games and if someone had just turned up having had an injection and beat me, I wouldn't be very happy about it. (LAUGHTER) I'm completely against it. I feel that it completely takes away the *point* of sport. I think the greatest thing in sport is when David defeats Goliath. And if everyone's Goliath, how will that ever happen?

MICHAEL SANDEL: Right, right.

SUE LAWLEY: I'm going to call Sebastian Sethe.

SEBASTIAN SETHE: We have umbrellas, we have clothing, we have houses, various means of sheltering from the elements. Why is it a gift to submit to the lottery of the genes, but not a Promethean aspiration to shelter from the elements?

MICHAEL SANDEL: Cars and umbrellas and houses - useful as they are - they are objects. Children aren't. So there's the risk that treating children as objects of our design and ingenuity will change the relation, the norms that govern the relation between parents and children. That's my worry.

SUE LAWLEY: Loss of humility, the hubris?

MICHAEL SANDEL: Yes.

SUE LAWLEY: That concerns you more than perhaps even what we might do to ourselves?

MICHAEL SANDEL: Yes.

SUE LAWLEY: It is that we should not in fact behave badly?

MICHAEL SANDEL: Yes. My worry about the erosion of humility as a social norm that informs our practice is a worry that springs from a certain idea of character and what a good character and a good life look like. And what I'm trying to do is to open up this part of our moral vocabulary without saying you must or you must not enter this discussion from the standpoint of religion.

SUE LAWLEY: But you *are* saying that we must leave these things to fate, we must not interfere with that which is the gift, that which we are. We must really be a slave, as Sebastian Sethe was saying, to the randomness of our genes, the genetic lottery.

MICHAEL SANDEL: Well I wouldn't say we should be a slave to the randomness because that buys into the idea that to be free is to be able to exert a kind of, I would say, consumer freedom, even with respect to the kind of children we have. I think that's a spurious idea of freedom, and I would argue here that the freedom of the consumer is only one small part of what it means to be free.

SUE LAWLEY: Now we have someone here we must hear from. He's a former Reith Lecturer.

He's Tom Kirkwood, Director of the Institute of Ageing Health, and he was our Reith Lecturer in 2001. Tom?

KIRKWOOD: You've said that you don't have much difficulty in accepting the need for enhancement where it is to overcome diseases. Now actually we live in an interesting world of enhancement because we're enhancing life expectancy day by day. The rate of increase is an astonishing five hours increase per day. So this is a journey where we are seeing dramatic change coming, and I think what I'd be interested to hear from you is what you see the end of this process?

MICHAEL SANDEL: To increase the lifespan, meaning the maximum lifespan, is not something that we should aim at as such - mainly because what we could very well wind up doing is create more years in increasingly debilitating conditions. That doesn't seem to me worth aiming at as a society. Our focus should be, in dealing with the question you raise, we have to have a public debate about what a good life consists in and not simply assume that longer is better.

SUE LAWLEY: And I'm going to ask for a question from Linda Conlon, who's the Chief Executive of the Centre for Life here where we're broadcasting from, here in Newcastle.

CONLON: I wonder if you could look into your genetics crystal ball and fast-forward about fifty years or so and describe to us what you think society would look like if parents actually could choose the characteristics of their children because I feel perhaps it could be argued that we all like different things now and it might just be as varied in fifty years as it is today?

MICHAEL SANDEL: Here's a test to see whether that scenario is right. Now you might think well people who go in for cosmetic surgery - everyone is different, everyone has different taste, different standards of beauty, so you would expect on that theory that people would go for vastly different looks. But if we actually look at what people go for in cosmetic surgery, it's really an instrument of cultural enforcement, of images of beauty that are promulgated in the consumer society and on billboards and by movie stars. Everyone wants 'the look' of the movie star, the celebrity of the day. I worry that there would be no more diversity and pluralism in the choice of genetically enhanced traits fifty years from now than we see today in the looks that people seek when they go in for cosmetic surgery.

SUE LAWLEY: They'd all be potential television presenters, would they? (SANDEL LAUGHS) Michael, it's fascinating stuff. Thank you very much indeed. And thank you, too, to our hosts here at the Centre for Life in Newcastle.

Next week we're in Washington where Professor Sandel will be joining together the threads that he's woven through these past three lectures and telling us why and how he believes we should

strive towards what he's called A New Politics of the Common Good. That's next week from Washington D.C. I hope you'll tune in then. Until then, goodbye from Newcastle.

(APPLAUSE)

MICHAEL SANDEL: Thank you.