

New Scientist and Greenpeace Science Debates

Science, technology and our future: the big questions

Technology: taking the good without the bad

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John Turney: Good evening. I'm not sure coming last where I'll line up. One of the spectrums, I think, we're positioning ourselves on is optimist versus pessimist. I'm not clear which I am. I'm going to interpret the question, can we have the good without the bad, really as saying, can we control technology and putting that fairly strongly, and my answer simply is, no. I'm going to give you just one example from one of these three areas we've been alluding to, to argue that in some detail and that is that, if I have time, I'm going to make one more general speculative suggestion and you can decide whether there's any connection at all between the two.

When I was a lad, I grew up with a politics of technology, where we talked a lot about control of technology and we quite often coupled that with the attitude democratic..... full of technology, not influence or restraint or regulation but meaningful control, what it would actually mean. And if you ask me today whether control of technology in any strong sense is actually possible, I say no or, at least, probably not. There are quite a few reasons for being sceptical about that but let me just pick up some through one example that's been in the press to some extent this

last week, through the good offices of the Guardian, bemoaning our increase in life expectancy, people not dying fast enough, shock, clearly turning good news into bad, and also through Francis Fukayama's book which is published in a few days, but I claim I started thinking about it before that.

I'm talking about increasing life expectancy and maybe life extension. As a society, we like medical research. We like it a lot. There are many hundreds of thousands of biomedical researchers worldwide. The annual budget of the National Institute of Health in the States now is over \$20bn a year, smaller than the defence budget by a couple of orders of magnitude. But it's pretty damned big and quite a few of those researchers are working on late onset diseases. Related to that, a fair number are working on ageing itself. And if you have relatives with crumbling bones or failing sight or worse, with Alzheimer's disease, chances are you'd like that work to go on. Most of us in the west now expect to live into old age actually and good health is probably the thing we'd most like to take with us, as well as the good health of our partners.

Now it looks, I'm not a technologist but it looks very much as if the way that biology will go is that much of the mental and physical deterioration we experience as we age is not really necessary and here I am, an optimist if you like. There's good reason to be optimistic, that more and more people can avoid most of the things, which can make the last years of life pretty miserable. But, obviously, as this research goes on, it raises a particularly challenging problem, which I've already eluded to – it easily shifts into understanding ageing in order to prolong life. This doesn't get talked about very much by the sponsors of research.

If you check out the National Institute of Health, an institute on ageing, or the research councils in this country about ageing, they talk about it as if they're interested in health span, not life span. But one is likely to lead to the other and, in genetics in particular, there's, I think, startling work on gene variants, which can extend life spans by 2 or 3 times in worms, which only live for a couple of weeks on average, but the same systems appear to be part of the metabolic machinery in fruit flies and there are now major efforts to show that those genes have similar effects in mice and maybe humans won't be far behind.

I'm not a futurist. I'm not going to predict that there will suddenly be a pill which makes us all live to be 200 but it's not daft to think that work like this will give us some handles on ageing which point towards actual life extension and fairly soon. What

should we do about that? I really have very little idea. On the one hand, it's quite difficult to think of anything more socially disruptive and probably environmentally undesirable than a technology to appear in the affluent world, which means it's citizens hang around longer. I'll start just with a conservative assumption. Say we could enable 25% of the population to achieve what we now regard as the maximum in a life span, which is about 120, instead of roughly 1 in a few hundred million people who makes it there now, I think you can see the consequences could be quite large. The saving grace would be we'd have a bit of time to deal with them, because it's in the nature of the beast that the results will take time to accrue and that would be just as well.

On the other hand, it seems safe to predict that if such a technology exists, people are going to want it. Any kind of ban would simply confine it to those wealthy or ruthless enough to circumvent the law and there are already plenty of trans-humanists and would be immortals, not just in California, who would welcome it as a crucial step in realising humanity's future destiny. They can't wait to get to the next stage of evolution actually and maybe see this as part of that picture. Who knows, they will say, what a society of people with that much time to pursue their goals might achieve? And the average age of legislators perhaps suggests they may be predisposed to the concept of technology more favourably than, say, the under twenty-fives who all believe they're immortal anyway, of course.

More important than that, the technology, even when it comes, will almost certainly be a crucial part of continuing medical efforts to relieve the pain of what we regard as normal ageing. There won't be any clear line between treatment and enhancement, between health span and life span. If you want the good, you're going to have the other consequences as well and that's why any call to stop such research is virtually certain, I would suggest, to have no effect. I don't want it to and you don't either. So what are we left with if that's the case? And this is just one technology of the assemble we've been presented with tonight. A serious increase in life span, adding to the average at least as much as we've already achieved in the last 150 years and maybe just for starters.

It's about the most disruptive product of the new genetics and biotechnology I can think of in the medium-term. We can just about see it coming. We may debate its implications if we want to. We may engage in the kind of new politics that Robin's called on us to try and invent, but at this point it seems to me there's actually very little we can do about it except wait and see what happens and then try and act for

the best when it does. And maybe that's the best we can hope for in general too. I don't know whether I shall feel happy about all the consequences in this particular case or whether my personal preferences will have much effect on the outcome. But there are lots of other things I can't know about the future either and that's just something I'm willing to accept. So that's my specific case. I'll just finish with a general thought, a couple of general thoughts.

Last year, when the Wellcome Trust and the Office of Science and Technology published a survey of public attitudes, they told us that 36% of people asked agreed with the proposition that "science and technology are changing so fast they're out of control and there's nothing anyone can do about it". Perhaps they'd all been listening to Ian Pearson. Maybe we should just... I suspect it will be thought by Lord Sainsbury to be a bad thing. Perhaps we should just ask, why would we expect it to be otherwise? One thing I think we learnt in the second half of the 20th century was the lesson taught us actually by the environmentalists, that the idea of controlling nature was a key feature of the history of the enlightenment project. That idea was actually misguided. Nature does not submit lightly to control. It just goes on doing its thing and efforts to exert control are liable to rebound on the controllers.

I just wonder if our wish to be assured that technologies under control is a hangover from the same kind of thinking and maybe we begin, in spite of the possibilities of new extinctions, to think about letting go of it. If, in fact, we'd do better to assume the most we can realistically aspire to is to keep a close watch on the technologies as they develop, and then do our best to reduce any ill effects as they appear. I hope that suggests that doesn't make me a late convert to some completely hands off, laissez-faire position. I believe we need to think hard about where technology might be headed and about how we might shape it's direction but if this adds up to an effort at control, I think we ought to have low expectations about what we can achieve. To control technology would essentially be to control history and we haven't got the mouse to do that just yet.

to us all never to think that way.