

# The choosy reaper

From the myth of eternal youth to the reality of unequal death

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Our increased understanding of the biology of ageing has revived prospects for radical anti-ageing medicine. Ethicists have often tried to argue against these endeavours, but with little success. Their arguments, which appeal to the natural order, are either circular or self-defeating. Invoking the invariance of the human condition cuts no ice as rational argument and often turns into an avowedly irrational appeal to the 'yuk reaction' that exotic technologies evoke. Does that mean that anti-mortality technologies are ethically innocuous? Not if we consider the reality of unequal death in today's world, in which differences in longevity highlight the gap between the haves and the have-nots. Even in affluent societies, in which the basics of food, shelter and medicine are widely available, the grim reaper is very much class conscious. Without returning to the concern for equality that was once the hallmark of the Enlightenment, radical life extension may well add to these existing inequalities, and create more resentment and strife in the future.

Many aspects of current biomedical research, especially in the more *avant-garde* areas of neuroscience and stem-cell research, are united under the alluring label 'regenerative medicine'. These developments fuel legitimate hopes for new treatments of degenerative diseases, which, in an age of increasing longevity, represent the main focal point for prevailing anxieties about ill health and the frailties of old age. But regenerative medicine is often taken more literally to mean rejuvenation—a genuine turning back of the clock—which leads to more florid speculations about massive increases in human

lifespan. These futuristic views are often criticized by scientists as daydreams that owe more to science fiction than to a sober appraisal of predictable advances. But they are taken more seriously by a different category of opponents, namely those who condemn these prospects on ethical grounds. For many conservative critics, there is no doubt that "human nature itself lies on the operating table, ready for alteration, for eugenic and neuropsychic 'enhancement,' for wholesale redesign" (Kass, 2002). In these critical discourses, life extension on a grand scale is thought to be a profound challenge to the natural limits of human existence. It is therefore considered ethically damnable, either because these limits embody essential ethical values or because humans do not have the necessary wisdom to challenge them.

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The old notion of hubris is commonplace in these discussions and clearly points to their religious overtones. Especially in a Judaeo-Christian context, with its insistence on a divine Creator, it is argued that to intervene massively in the inner workings of human nature is to exert God-like powers. It is for good reason that in the bioethics trade, these are called 'playing God' arguments. It is not the case, of course, that any academic theologian in

his or her right mind would ever assert such arguments literally. He or she would typically call them 'simplistic' and evoke the exalted role of humans as 'co-creators', with a *bona fide* job in the Divine Engineering Department (Peters, 1995). Nevertheless, when push comes to shove, and biomedical technology challenges the basics of the human condition, the gist of the argument is still that humans overstep their station in the God-given order of things.

**Today's controversies about radical anti-ageing medicine have all the ingredients of a moral crusade...**

This is not to deny that such arguments often take an apparently naturalistic turn. Especially when facing the more extreme interpretation of anti-ageing medicine as radical life extension or even the abolition of mortality, critics submit that this would run counter to the workings of evolution. Organisms must come and go if evolution is to work properly. For species that somehow evade the reaper, the death of death would therefore mean the end of evolution, as no new organisms would come forward to be selected for or against. So evolution 'needs' mortality. But who needs evolution? Not *Homo sapiens*, whom one would expect to dislike the prospect of being superseded by a 'new and improved' species, unless it is still *Homo* in some sense who does the superseding. Indeed, this is precisely the premise of current post-humanist utopias: the replacement of blind evolutionary chance by the



An engraving of a man being taken away by the Grim Reaper. Illustration by Pierre Daret in 'Doctrine of Morality' by M. de Gomberville. © Historical Picture Archive/CORBIS

self-directed re-engineering of human nature. Simply pointing to the historical fact that parts of human nature are an evolutionary product is no argument against escaping this fate in the future.

The fact that life-extension technologies somehow touch on basic characteristics of the human species is the starting point of critiques from secular thinkers. The influential philosopher Jürgen Habermas has attempted to mount an attack against 'eugenic' modifications of human nature, based on the ethics of the species (Habermas, 2001). Habermas

believes that certain technical interventions in human nature, especially human genetic engineering and, curiously, pre-implantation genetic diagnosis, undermine the very possibility of human freedom and function. This challenge, he argues, must be countered by an ethic that moves beyond deontological norms and their individual focus, and embraces the future of the human species. But on closer inspection, it turns out that Habermas's account of this ethic has little to do with the human species as such, and more with conventional ideas of modern democracy and its purported basis in

individual self-determination. Habermas does not argue convincingly that the survival of democracy as we know it and the deployment of the genetic technologies that he dislikes would be incompatible. Why should post-humans be excused from taking responsibility for their lives any more than we, the standard-issue humans, are? They took charge of their bodies, after all. Why should they be written off in advance as incompetent moral agents and citizens? In addition, Habermas assumes—without serious analysis—that biotechnological interventions will narrow the life opportunities of individuals on the receiving end of such changes. This assumption may carry some weight in exploitative dystopias à la *Blade Runner* (1982), a classic science-fiction film featuring the creation of robot-like quasi-humans who, predictably, revolt against their masters. However, the same assumption is plainly wrong in radical anti-ageing medicine, because life-extension technology does not impose a particular life course on its recipient. Whatever opportunities you have during a supposedly natural lifespan, an extended lifespan would just offer more.

Other discussants have noted that the species concept that operates in 'species ethics' is far removed from current neo-Darwinist ideas of what constitutes a species. They amount to the self-understanding of humans that is the stuff of culture and anthropology (Robert & Baylis, 2003). To derive ethical succour from these by pointing to features of today's species of *Homo sapiens* amounts to committing the naturalistic fallacy—deriving values from facts, or 'ought' from 'is'. The argument self-destructs as soon as some serious life-extending technology looms over the horizon.

Organized reactions against high-tech interventions in human nature come in many shades. They may be based on a 'yuk reaction' against these technologies, an instinctive recoil glorified as intuitive wisdom that is poised to preserve 'human dignity'; they may be battles in a wider culture war against 'scientism'—the high standing that the natural sciences and engineering have gained in our society relative to more genteel humanistic pursuits (Fukuyama, 2002); they may conduct philosophical polemics against



'post-humanism' or religious battles against 'secular humanism'. All in all, they are textbook examples of what social scientists have called 'symbolic crusades'. The classical example in the English-language sociological literature is the temperance crusade in early twentieth-century America (Gusfield, 1986), which was seen as a political move to assert the power of Protestant, rural and small-town America against both the Southern and East-European immigrants and the liberal secularized urban elites. Symbolic crusades are intimately linked to moral panics that are instigated as a tool to gain, or maintain, social influence (Becker, 1986). Today's controversies about radical anti-ageing medicine have all the ingredients of a moral crusade: they involve high-profile pundits who are ready to act as efficient 'moral entrepreneurs' because they have an intellectual but also political stake in the issue, and who rally against research for unusual and artificial interference with the natural order.

### ... cogent ethical argumentation against radical anti-ageing medicine is not in sight...

People who are familiar with the current American intellectual scene will readily recognize the situation, but it is also present in Europe. Here, the dispute between Jürgen Habermas and Peter Sloterdijk, a prominent European intellectual and philosopher, was extensively covered by the general media and, significantly, the moral standing of 'anthropotechniques' was the crux of the debate (Mauron, 2003). In addition, the strong presence of the Church and of academic theology in the public sphere of German-speaking Europe helped personalities with both a religious and an intellectual agenda to become efficient moral entrepreneurs. Writing opinion pieces in high-brow newspapers and appearing on talk shows, they tend to be conservative in outlook and to raise moral panics about eugenics—a term often used with little descriptive content, more like an operator of moral obloquy—'de-humanization', 'the complete instrumentalization of human life' and the like. This mindset, plus the spectre of the Nazi past, which is sometimes bizarrely reinterpreted as a hyper-rationalistic, 'scientific' techno-dystopia,

explains why emotions run high in Europe whenever futuristic anthropotechniques are discussed, and even when the topic for discussion is apparently more mundane, such as pre-implantation genetic diagnosis and human embryonic stem-cell research.

Oddly enough, if one looks at the other side in the controversy, namely the techno-enthusiast camp, one is struck by certain similarities. It is organized in ideologically charged, militant movements. A look at the internet sites of the World Transhumanist Association shows transhumanism touted as an all-encompassing philosophy, medical science, aesthetic and culture ([www.transhumanism.org](http://www.transhumanism.org)). Habermas dismisses these social movements as adolescent nonsense. Perhaps, but they are really the more extreme and fanciful expression of a deep-seated trend in contemporary society. In fact, transhumanism embodies the mix of futuristic optimism, individual assertiveness and libertarian denial of limits that has become the hallmark of the current entrepreneurial culture. In effect, it is an optimistic symbolic crusade by entrepreneurs who are selling morally uplifting beliefs, whereas the traditional gloomy and pessimistic discourses instigate moral panic. On either side, ideology and emotion reign supreme.

As we have seen, cogent ethical argumentation against radical anti-ageing medicine is not in sight, a situation that is further complicated by the ideological overtones of the symbolic crusades fought over it. Does this make radical anti-ageing medicine morally innocuous? Not quite, if we look at the social and demographic context in which it would be developed. During the past two decades, epidemiologists and social scientists have emphasized how social inequality manifests itself in terms of morbidity and mortality, and that this 'status syndrome' is only partially explained by the crowding of risky health-related behaviour down the social scale (Marmot, 1999). It is true that dire poverty and the lack of staples for a decent life—often compounded by ethnic strife and violence—still explain the shockingly stunted lifespan in the poorest countries today (Table 1). But for the many countries in which misery merely evokes the Dickensian clichés of a fading past, and where virtually nobody has to make do

**Table 1** | Life expectancy at birth in 2002 for selected countries (WHO, 2004)

	Male	Female
Japan	78.4	85.3
Switzerland	77.7	83.3
Greece	75.8	81.1
Cuba	75.0	79.3
Costa Rica	74.8	79.5
USA	74.6	79.8
Brazil	65.7	72.3
Bhutan	60.2	62.4
Russia	58.3	71.8
Uganda	47.9	50.8
Mali	43.9	45.7
Zimbabwe	37.7	38.0

As only a few countries are selected, numbered ranks for countries cannot be deduced from this table (although Japan ranks number one in terms of longevity).

without clean water, indoor toilets or safe food, and at least occasional access to healthcare, inequalities still mean that the vast majority of today's citizens lives shorter and sicker lives than they should.

Going back to Table 1, the mediocre performance of the USA is striking, since it fares hardly better than immensely poorer countries such as Cuba and Costa Rica. Epidemiologist Michael Marmot has a telling metaphor to explain why. Imagine a ride on a Washington (DC, USA) subway train: "Travel from the southeast of downtown Washington to Montgomery County, Maryland. For each mile travelled, life expectancy rises about a year and a half. There is a twenty year gap between poor blacks at one end of the journey and rich whites at the other" (Marmot, 2004).

The low average longevity in the USA is a reflection of massive social inequalities. This is not to say that the social gradient in longevity is absent from more egalitarian societies—far from it. The status syndrome, as Marmot calls it, is present in every developed country for which studies are available, although the slope of the gradient can be steeper or shallower. Furthermore, as illustrated by the initial Whitehall studies on British civil servants (Marmot *et al*, 1978), this effect cannot be attributed in full to obvious causes such as unsanitary living conditions or behavioural risk factors, such as smoking and overeating, even if the latter do tend to show up more frequently at the bottom of the social hierarchy (Marmot, 2004). Significant and

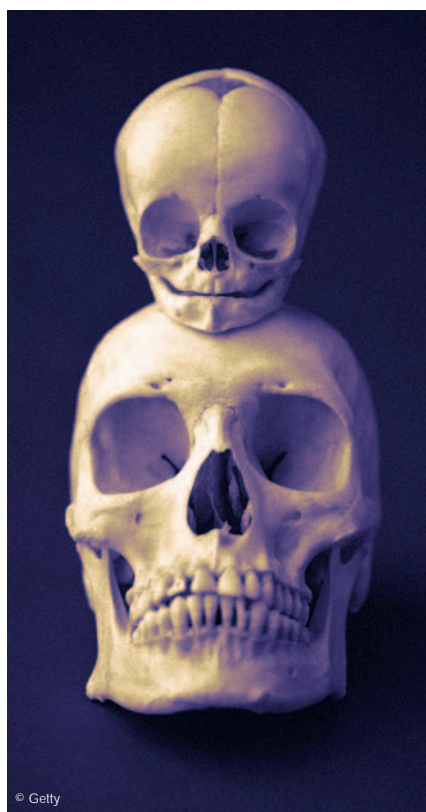
sometimes massive inequalities in health and longevity persist in societies in which the basic needs of clean food and water, sanitation, shelter and healthcare are available to the great majority of citizens. Disease and premature death are more prevalent as one moves down the social ladder. This cannot be explained solely by material circumstances, access to medical services or even status-linked behavioural health risks. This inequality cuts across all social strata, from the very top to the very bottom. It cannot be construed as an 'us versus them' issue that pits a middle-class majority against a minority of 'disadvantaged' people.

The explanation for this social stratification is certainly complex and to some extent controversial, but it seems that both psychological and physiological causes are important, in particular the differential expression of stress according to one's station in life and the degree to which one has control over one's life course. Life entails a series of more or less stressful transitions and the lower you are on the social ladder, the harder you are hit by each of them (Marmot & Wilkinson, 2003).

The social gradient in longevity encompasses everybody in society. Nevertheless, the independent variable against which longevity is to be plotted is not always obvious. Is it income? Educational achievement? Rank in the bureaucracy—for civil servants or large corporations? Having a prestigious or menial occupation? Each country may weigh these variables differently but the general rule holds true: there is a longevity gradient and everybody is involved, from top to bottom. If you have a PhD, you will be less prone to premature death than someone without an academic degree. The same applies, minus a few years, if you completed school rather than dropping out early (Marmot, 2004).

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The status-syndrome view of social inequality is radically different from both the class structure described by Marxist



theory and the self-understanding of modern market-oriented societies. The first view considers social classes to be well-defined entities that are the real actors of history, over and above the individual person. With the failure of Soviet socialism, this view of social class went into the dustbin of history and the ideology of individualism came back with a vengeance. Indeed, today's developed societies are class-blind, or rather, according to the prevailing ideology, we all belong to one big middle class. The upper crust are not ontologically different, they are seen simply as the fraction of middle-class individuals who have been more successful in playing the market game. Similarly, the poor are not a social group in themselves; they are the 'disadvantaged', those who are too unfortunate or too unwieldy to stay in the game and for whom the languages of social pathology and repressive control are deemed appropriate.

Ironically, our societies are both 'classless' and deeply class-ridden. Significantly, it is science—in this case epidemiology—and not political ideology that reveals this fact. It also shows the extent to which modern affluent society has veered away from equality as a guiding principle. Think of the

motto of the French republic, *Liberté, égalité, fraternité*, which embodies the political values of the Enlightenment. *Liberté*? Of course, we cannot have enough of it, especially of the economic sort. *Fraternité*? No problem, we just raised millions for the tsunami victims. Outbursts of generosity are easy—the unsentimental business of social justice is more difficult. But *égalité*? Too old-fashioned, and if you are really serious about it, you will soon be accused of bringing back communism.

Consigning equality to its current oblivion has important ethical consequences as regards radical anti-ageing medicine and ambitious biotechnological interventions in general. If we forget equality, all we get is more inequality. If, as a body politic, we ignore equality as a central ethical value, we are condemned to suffer increasing inequalities and to let technological progress aggravate them. The link is especially direct in the case of anti-ageing medicine. This is because it acts precisely on the biological parameter that most profoundly expresses social inequality, namely longevity. This is the biting irony of anti-ageing: the haves will have earlier access to it than the have-nots, just as for any innovative technology. But in addition, the technology will give them more of what they already have more of: disease-free years of life.

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Considering the nature of present social inequalities and their biological manifestation in terms of differential health and longevity, we can see that a pretty efficient anti-ageing medicine already exists. Its prescription is simple to articulate, if not to follow. Be born in an affluent, well-educated family in a Western country. Grow up to be a hard-working, successful entrepreneur. Above all, be convinced that the merit of your success is all yours, and that the unsuccessful have only themselves to blame. You may well experience stress, but to you it will be a life-extending vitamin, to the losers a toxic recipe for premature death.

We have seen that radical anti-ageing medicine shares with other innovative anthropotechniques the moral disapproval of the conservatives, secular as well as religious. Their arguments are vocal, but vacuous in terms of the moral framework of secular liberal democracies. Sociologically, the conservatives are waging a symbolic crusade, but then so are the more flamboyant proponents of anti-ageing medicine. The moral panic about this technology and the more extreme claims of its advocates are two sides of the same coin: a culture war about status. The conservatives defend their standing as moral entrepreneurs for the frightened, disconcerted, “back-to-good-old-morality” crowd. The techno-enthusiasts defend their status as trendsetters for the libertarian, entrepreneurial crowd. Both address the technology in a social vacuum, divorced from any consideration of the social context in which anti-ageing medicine would operate.

Once this context is considered, we see that anti-ageing medicine addresses a basic marker of inequality, namely longevity. The rich will have access to it earlier, but more importantly, it will give them a head start on the very scale in which social status has its biological foundation. Furthermore, as longevity is an essential indicator of inequality, our society may have few moral and political resources when it comes to implementing radical anti-ageing

medicine in a way that does not further aggravate inequalities.

As a result, the life-extending technologies of tomorrow may well increase inequality and the social disruption that will inevitably result. This is not because these technologies are evil in themselves—they are not—but because they will emerge in a world that has turned its back on equality. But there is no historical inevitability to this. As a society, we need to be more conscious of the facts of inequality, especially that it means a shorter and less satisfying life for the majority. We also need a stronger commitment to equality and the social arrangements that foster it. They might provide a more robust and defensible context for innovative enhancement biotechnologies, including anti-ageing medicine.

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