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The Good of Bioscience

This is a book about ethics, and about the biosciences, and about some of the things that the former can tell us about the latter, and – in one chapter, at any rate – whether the latter can help us satisfy the demands of the former.

Ethics is conventionally thought to be about discerning right from wrong, and perhaps advocating the former. Bioethics is a branch of ethics that is about discerning right from wrong and perhaps advocating the former in relation to the biosciences and medicine. This is not surprising: most people's contact with ethics or ethicists comes, if it comes at all, when those ethicists appear in the media to talk about the rightness or wrongness of this or that action, or about how such-and-such an innovation should be regulated. Nor is the view entirely inaccurate: thinking (and sometimes talking) about the rightness or wrongness or the need to regulate things is an important part of the ethicist's job; and if ethicists are reluctant to take on the role of advocate, this is only because ethics as a field of study in the Western tradition is still only a couple of thousand years old, and debates about what is right plainly can't have been settled definitively in that short a time.

But it is not the whole story. While it's true that ethicists do – at least sometimes – opine on rightness and wrongness, that isn't all there is to the discipline. (Elizabeth Anscombe famously argued in 1958, of course, that the view that ethics is concerned with the study and application of rules about rightness and wrongness is something of an add-on to what ethics was at the start of the Western tradition.¹)

Aristotle, for example, thinks that the scope of ethics is far wider than rule-setting. In the first couple of sections of the *Nicomachean Ethics*, he puts forward the hypothesis that all human activity is directed towards some good – the 'good for man' (I'll take the liberty of referring to it as the 'human good' from now on); and it follows from that that knowledge of that good is of great importance. The study of the human good, he continues, belongs to 'the science of politics'; political science 'lays down what we should do and from what we should refrain' in its pursuit. The investigation he undertakes within the *Ethics* is meant as a contribution to precisely that kind of political science.² The *Ethics* – and, implicitly, ethics itself – is concerned with securing the human good and (to take another of Aristotle's turns of phrase) *eudaimonia*: the flourishing 'good life'.³

We can take from this the idea that ethics may involve arguments about right and wrong; but that is as a part of a much less moralizing project, which is to get to grips with the contours of the human good, and make recommendations about what is and is not advisable in the pursuit of that good. It's this idea of ethics that's going to inform my claims over the coming chapters.

And because the biosciences – medicine, surgery, pharmacy, and so on – seem to take as their aim the human good as well, it would follow that ethics might have something to say about them. More, this something could well be richer than a set of claims about this or that procedure being permissible or impermissible: it would ask whether a given application of the biosciences really is conducive to the human good, and whether it's worth pursuing if the human good is its stated aim.

On the face of it, there is little question that the biosciences have contributed significantly to the human good. All of us could quite straightforwardly count ourselves as lucky to be alive today: at no previous point in human history have we had such power to combat illness and premature mortality. Illnesses that might have killed thousands every year not so many generations ago may well be almost trivially easy to treat now – assuming, that is, that they are still threats at all: smallpox is no longer a threat, and it's only politics that prevents the eradication of polio. Certainly, there are illnesses that we still struggle to treat: but there are reasonable grounds for optimism that at least some of them will become curable within the tolerably near future, and those that remain stubbornly incurable will at least be manageable. We understand a great deal about the causes and basis of a lot of illness; we can, at the very least, begin to map out what a definitive cure would have to do. For example, the Human Fertilisation and Embryology Authority recently (late autumn 2012) carried out consultation on 'mitochondrial transfer' – techniques for avoiding mitochondrial disease by, in effect, providing mitochondrial DNA transplants. Or – and this is my favourite current example of a future medical application for embryonic bioscience – we could use synthetic biology to realize the possibility of designing viruses to our own genetic blueprint that would destroy tumour cells without harming non-cancerous cells. (The AAV2 virus has been discovered to attack a large number of cancer cell lines without attacking healthy tissue;⁴ it (or similar organisms⁵) could conceivably be engineered to a higher degree of specificity and efficiency.)

Nor is the potential capacity of the biosciences limited to reducing morbidity. As we'll see in later chapters, we could imagine them being put to use in other ways – for example as strategies to increase athletic or cognitive ability. Were it to be found that there is a correlation between, say, a version of a given gene and increased mathematical ability, we might imagine parents-to-be selecting embryos that carry that gene – or, slightly more radically, having it artificially inserted into embryos. Such procedures are science-fiction at the moment – but they needn't be forever. If we think that the human good would be served by making use of such technologies, we might well think that they would be worth

our while investigating. Such investigations might, some argue, even turn out to be obligatory.

There are some bioethicists who do not share such optimistic visions of what can be provided to us by the biosciences – and who are, in fact, positively suspicious of the promises made by them or on their behalf. I'll give voice to some of these arguments in the next chapter – though I will, in the end, dismiss them. I shall take it as more or less axiomatic that just about all possible future uses of the biosciences to serve the human good are morally permissible. The main possible exception to this rule of thumb is presented by 'moral enhancement', which I discuss in Chapter 7 and which I believe risks sacrificing an important aspect of human dignity⁶ on the altar of too fragile a conception of goodness.

Still – if ethics is not just a matter of working out whether things are permissible or impermissible, assuming that the majority is permissible will not exhaust the scope of ethical debate. What remains to be seen is which applications of the biosciences stand a realistic chance of making a significant difference for the good, and whether that difference really does require bioscientific intervention. It's by asking this kind of question that I hope to be able to contribute to the bioethical debate that has come to the fore in the past few years concerning the promise that human lives can be made significantly better – and perhaps significantly different – by the application of recent advances in the biosciences and medicine.

My question will concern the ability of a range of possible things that might get done in the realm of the biosciences to contribute to 'the human good', or 'the good life'. I want to ask not so much whether this or that *ought* to be done, as whether there is much of a reason to do it.

And, though I reject the worries of the so-called 'bioconservatives' concerning the application of the biosciences, I shall also be distancing myself from some of the more optimistic voices. I shall be defending the claim that there is no particularly strong reason for any agent concerned with living the good life to pursue a significant number of the enhancements that are offered by the biotechnology of recent years or the expected near future; one doesn't really have to enhance to live the good life. In fact, more strongly, I suspect that there is at least one area in which we might well stand a better chance of living the good life by forgetting about what science might be able to do for us altogether: in this area, the benefits are not only illusory, but counterproductive. But that will have to wait: for the time being, it behoves me to say something more about how I understand the Aristotelian 'human good'.

Understanding the good life

Given my aim of assessing the contribution that the biosciences might make to flourishing or the good life in future, it is tempting to try to give a full account of what the flourishing or good life would look like – not least because of the

suspicion that it would be difficult or impossible to make any particularly claims or assessments of the place of the biosciences in securing it without one. This is a temptation that I want to resist – not least because such a task would probably turn out to be huge, and to have a great many pitfalls. And I don't think it's necessary to provide a full account – one can make some general claims about at least some of the characteristics that a good life would display without having a complete account to hand; such a general account is plenty to be able at least to begin to say something useful about the biosciences.

What matters is that words like 'flourishing' have a meaningful place in the language-game that we play. To this extent, 'flourishing' need be no more substantial than a Wittgenstinian 'beetle in a box'.⁷ Wittgenstein's metaphor for the relationship of words to ideas requires that we imagine a number of people, each of whom has a box into which none of the others can see; each agrees that the word 'beetle' refers to whatever is in the box. In this thought-experiment, it does not matter whether each box-holder actually does have the same thing as the others; it doesn't even matter whether there's anything in the box at all. However, we could imagine people comparing notes about their beetle's characteristics, and reaching a consensus about the appropriate use of the word. That is – they could work backwards from the role that the word plays in the language, and attempt to home in on giving it a precise extension.

It might be possible to say that certain things *aren't* a beetle quite easily. Indeed, it's only by excluding things that the word could be said to mean much at all, on the grounds that a word that means everything by that token means nothing. Some exclusions can be empirically informed (if we agree that beetles are characteristically found in matchboxes, they cannot be 75 feet tall); some conceptually informed (they cannot be vertebrate insects, given agreed usage of the words 'vertebrate' and 'insect'). Beyond this sort of thing, though, there can be debates about what makes a beetle that might never be definitively settled: the meaning of the word might be indefinitely contestable and contested – but this does not mean that the word is meaningless. It does carry some weight in language, and it doesn't seem to be completely incoherent.

As with 'beetle', so with 'flourishing'. The word's carrying weight in the language means we can start to look for something essential for it to mean if we want – but we don't have to; and we don't have to have access to its essence in order to be able to make claims about what it isn't, and to venture hypotheses about what is unlikely to contribute much to it. Questions of what constitutes flourishing (and what contributes to it) will then be matters for deliberation – which implies public debate and judgement according to standards of reasonability – and evaluation, based on how much from a list of desirable attributes and capabilities a life displays. That is to say, people can still articulate claims and hypotheses about the characteristics that one would expect within the good life; and these would still be scrutable by others. (This is an idea articulated and influenced by Martha Nussbaum's work.⁸)

The public aspect of deliberation is, actually, of crucial importance. This is for a couple of reasons. The first is that, since there is no reason to believe that individuals are infallible in their assessments either of what flourishing is or of how best to achieve it, anyone who cares about maximizing his own flourishing will have a reason to accept the possibility that his understanding of what the word indicates is flawed in some way. And this means that anyone who takes his pursuit of flourishing seriously would have a reason to subject his particular understanding of the concept to refinement from other minds. He may simply have overshot the mark on some occasions, believing that something is necessary for a good life that public deliberation might lead him to discover is not. (One of the things that I'll be arguing over the first half of this book is that a number of putative enhancements are all very well, but that they represent, at best, an inessential way of living the good life.) The second is that there may be lapses and lacunae in his reasoning; he may have missed some aspect of the good life or how to live it. Again, the process of public deliberation may make these gaps clear to him and help him fill them.

That someone may overshoot the mark in respect of his expectations concerning the good life is important, because – for reasons that I'll elaborate in the coming sections – one of the things that may hinder flourishing is the inability to realize the ideas about himself that an agent has. But even without pre-empting that discussion, it is fair to say that there could be some expectations that a person has about a good life that are simply unreasonable, and that public scrutiny and deliberation would allow them to be 'tamed'. Some things, for example, might be straightforwardly impossible for anyone to realize; to include these things as criteria for a good or flourishing life is therefore foolhardy.

At this point, it might be worth forcing a distinction between things that are 'radically' impossible, and things that are not possible in a more workaday sense. I'll take 'radical impossibility' to refer to things that are beyond the scope of human possibility, and the latter to refer to things that are merely not possible given the resources currently available. For example, one of the things that might make a person's life better and bring her closer to flourishing is that she should be fairly fortune-favoured. Immunity from bad luck might be something that would contribute significantly towards a good life; and yet to suppose that there could be some kind of prophylaxis against bad luck stretches credulity. Immunity from bad luck is, therefore, radically impossible. Immunity from cancer, on the other hand, is merely not currently possible. At least at first glance, it would be foolish for someone to think that immunity from misfortune is a criterion for flourishing, even though it might well be desirable; this is the sort of thing that public deliberation would be able to regulate. I'll come back to this point in a little while.

Another feature of the claims and hypotheses about the good life that might be advanced is that they are likely to draw on a web of other claims about

human nature – each of which is, in turn, open to scrutiny itself. Aristotle provides a nice example of how this kind of argument might work at the start of the *Politics*: granted the hypothesis humans are, by nature, social animals, it follows (he reasons) that they will flourish within a social context, but not without one. Famously, any creature that has by its nature no social ties is either a beast or a god;⁹ implicitly, anyone concerned to promote or pursue flourishing will have a reason to seek it within a social context. The same kind of reasoning could, *mutatis mutandis*, be produced in respect of any attribute whatsoever. Being animals, humans are by nature oxygen-breathing, which means that a reasonably good life will involve some, but not too much, oxygen; if humans were by nature aquatic, then the good for humans would involve water, and so on. Other claims about human nature might be more contestable, though the general point stands.

The point at the moment is simply this: to establish that it is possible to talk meaningfully about flourishing without having to have a complete positive account of flourishing present at hand. We can hope to be able to home in on it by means of deliberation and argument about what is reasonable – at the very least, by a process of elimination. As a placeholder, I offer here a hypothesis about what would constitute a good, or flourishing, life: the good life (for humans) is the life that could reasonably be held to be desirable (given a set of background claims about human characteristics). In slightly more detail, a good enough life is the kind of life that people could reasonably be expected to treat as acceptable; lives would be better the more they improve on being merely good enough, to the point at which the best life would be reasonably expected to be unimprovable.¹⁰ With this – admittedly minimal – hypothesis as a guide, we can begin to try to work out what is and is not likely to be a feature of the good life: it is better than *good enough*, but need not be unimprovable. We can dismiss immunity to misfortune as being a necessary component of flourishing, on the grounds that since it is radically impossible, it is absent from any life – but since almost all lives are at least good enough, it must not, *modus tollens*, be required.

Happiness and flourishing

Forced to give an initial hypothesis about a major characteristic of a flourishing life, one obvious response would be that it would be happy. This is quite possibly true: but we cannot deduce from that that increasing happiness is a straightforward route to a better life – and we can certainly dispute the idea that the best life is the happiest, in the sense of being the most pleasurable, life.

I think that it's fairly easy to establish this. Presumably, if flourishing were to be interpreted in terms of happiness, more happiness would mean more

flourishing. A person in a state of constant euphoria would be flourishing the most. So: imagine that someone is offered the opportunity to be wired up to some contraption that will stimulate the parts of his brain that produce happiness, and will either disable those parts of the brain that produce unpleasant feelings or modify them so that they are reliably and comprehensively overridden by happiness. In other words, imagine that he has the opportunity to spend as long as he wants with a guarantee of happiness and only happiness. Would this amount to an opportunity to flourish? I think that it would not.

One of the reasons for this is that the life on which he is about to embark is not recognizably human, and so does not seem obviously to fit the brief of providing human goodness: at least at first glance, it is odd to countenance the idea that catatonia and flourishing really inhabit the same sort of moral territory. I'm not sure that this is the best possible reason, admittedly; it seems to assume a great deal about human nature, and to be a little question-begging concerning the nature of the good life.

A more powerful reason is much more workaday, though, and it's that someone who was made no less happy despite any and all the things that might happen to him would have no obvious reason to eat, move to the bathroom before excreting, or attend to his bedsores. His life might be blissful, but it would likely as not be short and squalid. Not, admittedly, that he would care: but if people deliberating about the content of a hypothetically good life rejected this model as being the kind of life they would choose for themselves, it would be hard to maintain that they, rather than he, had made a mistake. So even if there is a reason for people to want this kind of pleasurable existence – and I'll accept that there is – it appears to me that pleasure will not suffice to establish flourishing. A flourishing life is one in which we might seek to eliminate hardships that we experience – but it is likely all the same to be one in which we *do* experience them. Those who would be lotus-eaters have made a mistake about what constitutes the good life.

At the same time, I don't think that it would be unreasonable for a person to think that a flourishing life would be one that doesn't attract the pity or contempt of others: but lying in one's own filth with a fixed grin on one's face could reasonably be hypothesized to do that. It's quite conceivably something that a reasonable person would want to avoid for himself; and it's therefore not a part of the good life.

So: a good life is not reducible to being a pleasurable life. While happiness may be an important indicator of flourishing, it ought not to be taken as the sole or sufficient indicator of flourishing. Is it a necessary criterion, though? It makes perfect sense to talk about the rosebush in the garden as flourishing, and it takes no pleasure from it. I think it likely that pleasure would be a part of a good life, inasmuch as that a good life seems to be by definition one that is better and more desirable than neutral. A neutral life would be one the end or continuation of which was a matter of complete indifference to the one

living it. Since I'm reluctant to commit to the idea that pleasure is the only characteristic of a good life, it might turn out that the goodness that pleasure provides is matched by the goodness that something else provides; and so someone could think his life worth living despite the absence of pleasure. (Perhaps a grim sense of duty for its own sake would fit the bill; or it might be that someone could say to herself that she is neither happy nor miserable, but wise, and that wisdom is worth having.) For sure, a life like this may be *better* for having pleasure in it, but there is no real reason to suppose that its absence is a deal-breaker.

The importance of projects

'But what do we do now, now that we are happy?'¹¹ asks Estragon in the second act of *Waiting for Godot*. It's not a bad question, really. Granted that a miserable life would not be a good life, it doesn't follow that happiness is enough; so what else has to be present to secure the good life? I contend that a necessary part of the good life is the presence of projects of one sort or another.

Humans are temporal creatures. Unlike at least some other animals, we have a sense of ourselves enduring, and the ability to survey our lives as lasting throughout time. This means that we have a stake in the future, and a corresponding interest in *our own* futures. Importantly, our ability to see our lives as stretching out into the future – more: our inability *not* to see that life stretching out into the future – means that we are susceptible to boredom. For as long as he could conceptualize himself as persisting for an indefinitely long time into the future, someone without any projects would not stand to derive any satisfaction from that life; rather, it would yawn ahead of him as something, at best, to be endured. And a life that does not promise any grounds for satisfaction is quite plausibly less good than one that does. (Being alive is not its own reward.) For this reason, it would seem that a person who lacks projects would not be one to whom we could ascribe flourishing; rather, his life would seem to be strangely listless.

(If this argument holds water, it implies that it is better to have things that one would like to do but which are yet undone, than it is to have realized all of your projects and have nothing more that remains to be done. I accept this implication, and it'll prove to be an important consideration when it comes to analysing the good of significant life extension when we look at that in Chapter 4.)

Relatedly, someone who has no projects at all, however minimal, would seem to have no particular stake in the future. Lacking any such stake would mean that he would have no obvious reason to be anything but indifferent about surviving to see that future.¹² Granted, he would be relieved of certain burdens – notably, the worry that his projects might founder. Yet this is only a

great burden on the assumption that the good derived from a project depends on its completion. Such an assumption is dubious: though a hiker ‘contains’ the idea of its completion, the hiker is interested in the walk rather than its termination, for example; the concertgoer wants to hear the music being played. It is not therefore obvious that seeking protection against projects being unrealized by having as few as possible is really the best move; a life lived according to this rubric would likely be more indifferent than particularly *good*.

Recognizing a role for projects helps us understand the place of happiness in the good life, too. The thought here takes its lead from a suggestion made by Bernard Williams in his ‘integrity objection’ to utilitarianism. Williams is dissatisfied with utilitarianism’s claim to be concerned with the promotion of happiness as the end to which actions are and should be directed, claiming that to emphasize happiness as an end misses something important. ‘One has to believe in, or at least want, or quite minimally, be content with, other things, for there to be anywhere that happiness can come from’,¹³ he reasons. We may derive happiness from the pursuit and occasional realization of projects – but that is not the reason why we embark upon a project or live that kind of life to begin with. Rather, the happiness generated comes from living a certain kind of life. Though the pursuit of projects is a source of happiness, neither hikers nor concertgoers do what they do *for the sake of* being made happy by it; if they did, they ought to be indifferent between that activity and a neurological implant that will assuredly beam just as much happiness directly into the brain. I’ve already argued that that wouldn’t be a reasonable thing to want; but we can now add to the reasons I produced earlier another: that such an implant would strip the euphoric life of its recognizable ‘mineness’. Happiness is undeniably a good thing – but it is found in a certain life. The point of being a hiker is the walking of hills; the pleasure derived is not (and is not supposed to be) substitutable for other pleasures.

So we can begin to understand Estragon’s question. Becoming happy and then wondering what to do shows that happiness up as the sham it is. But while there’s nothing to be done (he and Vladimir tell us as much twice each during Act 1), that’s all there is; and his life won’t be a good one. On the other hand, if there is something to be done, and that something is something with which Estragon can identify to the extent of being able to say that it’s what his life, or this part of his life, is *about*, then he stands a chance of being happy ‘by accident’ – and his life stands a chance of being good.

Function and the good life

What else may we come to expect to see in a good life? It would be a surprise not to see some recognition of physiological function there, inasmuch as that

it's tempting to think that a good life will be one in which the body behaves as bodies ought – but even here, things aren't necessarily as straightforward as we might think at first.

The problem is that talking about bodies functioning more or less well presupposes a great deal about the standard that we're supposed to be using to measure that function. Certain things might be fairly easy to agree: a wound that won't heal is pretty straightforwardly a sign of dysfunction, for example. But other things are harder to agree. Too naïve an account of function and dysfunction in relation to flourishing might well struggle to make sense of the fact that a lot of people seem to flourish despite some ostensible physical dysfunction, and would not obviously benefit from bioscientific intervention. For example: imagine that a person – call her Joanna – is deaf. We can stipulate that this is because of some congenital characteristic, and that modern bioscientific insights have given us the ability to give her the ability to hear. But it is not a given that Joanna's deafness prevents her from flourishing: there are plenty of deaf people who believe that their lives are different from, but no worse than, the lives of their hearing counterparts, for example. Joanna might believe that being able to hear would be a boon; but she might not. Either way, it is not obvious that she would have to think it worth the effort, and she might even think it undesirable. What will make a difference to whether or not any such intervention is warranted will have a lot to do with whether she misses the capacity to hear; this will have a lot to do with the kind of life she wishes to lead; and much of that picture will, in turn, be informed by the kind of projects that she has for herself. If it happens that Joanna does not miss hearing, we can say that her deafness is in one sense a dysfunction, without having to admit that it makes any particular difference to her flourishing. Therefore flourishing can't depend closely on function in this tight, and slightly scientific, sense.

Or imagine that Brian is infertile. On certain accounts, this is straightforwardly a dysfunction, and a characteristic that it would be better not to have. However, it is not clear why a bare description of this characteristic would allow us to say anything about how his life could be improved: there is no obvious logical link between a barely descriptive statement about a person's physical characteristics or attributes, and a statement to the effect that these characteristics or attributes matter. It is by means of appealing to certain projects – notably, the project of raising a family that is genetically related to him¹⁴ – that we can draw a link between a bare description of function, and Brian's flourishing. If infertility impacts on flourishing, that is, it does so only in the context of a particular kind of parental project that is not realized. Without such a project to make sense of that desire, it might be wholly unclear why providing it would make any improvement to his flourishing.

Neither of these examples deals with illness; but it might be possible to extend the account even there, to help us work out what is meant by words

such as ‘health’ and ‘illness’. Havi Carel is insightful here, suggesting that the healthy body is ‘transparent’, and that

while digestion, fluid balance and muscular performance are going well, we do not experience them consciously. They silently and invisibly enable us to compose symphonies, have coffee with friends and argue about politics.

It is only when something goes wrong with the body that we begin to notice it. Our attention is drawn to the malfunctioning body part and suddenly it becomes the focus of our attention, rather than the invisible background for our activities.¹⁵

The difference between illness or certain kinds of injury and a dysfunction such as infertility is that the former interfere with our lives on a much more pervasive level, and so their impact is felt in the context of much more mundane projects and activities that we are used to pursuing and performing ‘at a certain speed, in a certain way’ – things as mundane as chopping vegetables, or moving from one room to another. Carel suggests that

[i]llness distances us from the biological body, which becomes alienated and erratic, the source of pain and disability. The lived experience of this body becomes painful, unstable, treacherous. The distance from the biological body is not normally available to us while we are healthy. Illness (as well as other kinds of physical alteration) removes the body’s transparency and problematizes it.¹⁶

It’s in doing things that illness often makes its presence felt. As such, there’s a connection between illness and projects – or, more widely, doing things – just as there is between dysfunction and projects.

The naïve functionalist account would also potentially struggle with the fact that a lot of other people may apparently be helped to flourish by some intervention notwithstanding that that particular intervention does not address any particular dysfunction. If this help is not illusory, it undermines the possibility of drawing too neat an association between function and flourishing. Instead, we need to be able to give any such association a context; appeals to projects can do this, and also give us a reason to think that there are means in which the biosciences can help the non-dysfunctional to attain higher levels of flourishing. For example, in Chapter 5, I’ll consider situations in which a people might choose to take advantage of biomedical interventions to make their lives better without there being anything much wrong with them to begin with.

Of course, projects might not be the whole story. People do have a concept of themselves, and they might well be able to point to a sense of personal integrity as being important in their assessments of their flourishing. For example, women who have had a mastectomy are frequently offered reconstructive surgery, and one of the rationales offered for this is that it is of psychological benefit – that it may not assist with the cure for cancer, but that it does help with healing.¹⁷ A procedure such as gender reassignment surgery could also draw on this kind of

argument: if a person is convinced that they do not ‘fit’ their sexual phenotype, this can cause a severe diminution of flourishing – a diminution that we might legitimately hope to halt or reverse; and no further project would be necessary to make sense of how such an intervention would contribute to flourishing. So we might be able to enhance a person’s level of flourishing by modifying their body in some way in accordance not with any particular project, but rather in accordance with their vision of the kind of person that they are on a more existential level.

Still: the relationship between physical considerations such as (but not limited to) health and flourishing is potentially quite complicated. A person might be flourishing notwithstanding some characteristic that could, from at least some perspectives, be seen as dysfunctional; and their flourishing could be improved despite the absence of any dysfunction.

This appears to count against placing too much stress on the distinction between therapy and enhancement. If the justification of the use of the biosciences is to improve flourishing – to make lives better – then it ought not to concern us too much whether the intervention in question is aimed at rectifying some dysfunction or illness, or improving an already functional state. There are projects that a person might have that are hindered by the bare realities of their body even when that body is not dysfunctional in any relevant sense; and if having one’s projects hindered is capable of denting a person’s flourishing, and if the realization of those projects can be assisted by making use of the products of the biosciences, then that is at least *prima facie* all we need for there to be a warrant for using them. It makes no difference whether we are restoring or repairing in a person who lacks the capacities that most people do have, or whether we are giving them capacities that most people don’t. I will, however, return to the therapy/enhancement distinction in a little while.

The reasonable expectation standard

I’ve already indicated that someone without projects, though probably not living anything like a good life, would at least be able to ensure that she is never disappointed by their not having come to fruition. Similarly, a person with no particular conception of themselves as having this or that kind of life cannot be let down by its not having been realized. And it does seem reasonable to suppose that a life that is marked by disappointment will be less good than one that is not so marked. As such, disappointment is corrosive of flourishing. It is, in fact, ‘positively’ undesirable: though the value of a project and its contribution to the good life doesn’t depend on its having been realized, still, to be positively disappointed might well mean that one flourishes *less*. So this means that there is at least a possibility that a life without projects, though barely worth the

candle in its own terms, might be just-about better than a life characterized by systematic disappointment. Still, this is hardly a ringing endorsement of such a pessimistic life. More importantly, a person who withdrew from life in order to guarantee not being disappointed could, I think, be said to care less about the good life than about securing the least-bad life; as such, he'd be satisfied with a life that's just about good enough – not as good as some, though not as bad as others. I think we can assume that a person could justifiably aim higher than that.

I have already claimed that the nature of the good life is a matter for public debate; and, this being the case, it is likely also that the means by which we might try to attain it is also quite properly material for public debate; and just because a given project or view of the good life is pursued sincerely and in earnest, it doesn't follow that it can't be misguided. To this extent, claims about the good life can be treated as hypotheses, at least in principle falsifiable. For instance, in the example I gave above, Brian attaches a great deal of weight to becoming a parent and understands this to require that the child be formed from a gamete that came from his own body. But it's possible that he's mistaken in identifying this as a requirement: it's possible that he could be a parent in the most meaningful sense by means of adoption. His beliefs about the impact of fertility on the goodness of his life could have the status not of axioms, but of hypotheses, capable of being abandoned.

The lenses through which claims about the good life or the means to achieve it can be examined are several and various, but all contribute to an assessment of whether the proposed criteria for a good life are reasonable. So, for example, we could counsel against the simultaneous pursuit of two mutually incompatible or antagonistic projects (albeit projects that are in their own right perfectly admirable) on the grounds that it is impossible to do both, and so not reasonable to try. There could be times, then, when a person's notions of the good life and how to achieve it are tangled; it might therefore be necessary to prune the thicket. Performing this task might be easier with the help of others. If we're trying to secure flourishing, it might make sense to rein ourselves in from time to time; and it might make sense to allow others to help, too. Granted that we know ourselves to be fallible, we have at least a *prima facie* reason to allow our visions of the good life to be honed by public scrutiny.

If we take flourishing seriously, there is no particular reason to be chary about correcting (or having corrected) false claims about what constitutes a good life, or misguided or straightforwardly loopy strategies that people might adopt to live as good a life as possible. It would be appropriate – or, at the very least, not inappropriate – to recommend that some ideas of the good life and the projects undertaken to achieve it should be unceremoniously ditched. (There's an Aristotelian tinge to this claim, too: in the *Ethics*, Aristotle specifies that ends – such as the good life – are not subjects for deliberation, but the

means to those ends are: '[w]hat we deliberate about is practical measures that lie in our power'¹⁸; and 'while the end is an object of wish, the means to it are objects of deliberation and choice'.¹⁹)

As a general rule, a hypothesis about what makes for a good life is reasonable if it is not self-contradictory, or false, and possible. Hence thinking that a good life would have to be free of bad luck would invite falsification by having it pointed out that plenty of people have claimed, without obvious error, to be living a good life notwithstanding the occasional misfortune. To be free of illness is a more plausible demand for the good life, but, again, there's no reason to disbelieve those who think that their lives have been (or at least could have been) good despite illness,²⁰ and freedom from illness would probably have to be recognized as setting the bar too high given that humans are, by nature, lumps of biology in a biological world.

The potential pitfall of this strategy is that it rebounds too far, inasmuch as that we might be tempted to ask whether 'reasonable' has to mean the same thing for all people. What is reasonable for one person to expect from life may not be same as what is reasonable for someone else to expect because of prevailing contingencies.

For example, a person living in a refugee camp somewhere after having fled war and famine might have all kinds of desires and expectations about what the future could bring her. Some of these might be more fantastical than others, but the more pressing problem may well be that even the less fantastical ones are very difficult to realize, and so might count as practically impossible for someone in her situation – and so it'd appear that we'd have to dismiss her conception of the good life as unreasonable. Conversely, what it *is* reasonable for her to expect and desire given the practicalities of the matter may still only generate a life that would strike many in the developed world as being, at best, minimally tolerable. This would seem to generate the highly counterintuitive conclusion that we ought to abandon a picture of a good life for her that people in wealthier parts of the world would take for granted.

However, this objection is surmountable. Assuming that the life our refugee lives is the only one she knows, *she* might think that it is reasonable to mould her expectations to fit it – but this is not something that everyone has to accept. I've already claimed that a person might be mistaken in respect of what they think they could reasonably expect from life, and others could – presumably – assert that such a life falls below a standard that is acceptable as reasonable, and that she is in actual fact entitled to a set of expectations from life that looks significantly different.

An important consideration here is that there's a plausible difference between reining in one's visions based on some understanding of what it is to be human, and reining them in based on some understanding of the contingent conditions of the rest of the world. Insisting on pervasive good fortune or invulnerability to illness as a criterion of the good life is unreasonable, given background

claims concerning humans' place in the world; insisting on security and access to a certain level of medical care in the event of illness, though, isn't – and we know that it isn't unreasonable, because it's something that is trivially possible for a large portion of humanity already. So while someone in the poorest parts of the world might have a different idea about the details of the good life, the essentials – being well-fed, healthy, sheltered and so on – are likely to be fairly constant.

This is as much as to say that, even if someone's imagination about what constitutes a good life is, to our eyes, limited by experience, it doesn't follow that we have to accept those limits. After all, Mill's pig's failure to appreciate Socrates' life doesn't mean that Socrates' isn't better.²¹ Even if someone thinks that their life is roughly as good as it could reasonably be, they might be mistaken.

I'm even drawn to the idea that a few moderately unreasonable desires about the good life might be worth retaining, just as long as they are recognized as not being foundational to a good or good enough life. Partly this is because the pursuit of things that are currently practically impossible might give some people the kind of project that I've already suggested would play a big part in anything like a good life. But it's also because many of the good things we enjoy now came about as a result of people having slightly unrealistic desires, and working to realize them; and there is every reason to suppose that a great number of future improvements will also be generated because of people's unwillingness to be reasonable.

In fact, there is no reason to suppose that what counts as required for a flourishing or a good life is a static target. By this, I mean that people living in previous ages would presumably have had occasion to think their lives good – and yet were we offered the chance to abandon our lives in favour of theirs, we would quite possibly find that they did not meet our intuitions about what was required for a good life: a life without the benefits of running water, sunglasses, effective antibiotics, and so on might be bearable, but it would be significantly less good than the lives we have now. This might mean that some of the things we take to be necessary for a good life are actually not; but it's also possible that, as new technologies become available and become familiar to us, they can alter our view of what a human life is and can be, and of what would be good therein. Future generations may look back on us and wonder how we managed to get by without some piece of technology that they take for granted.²²

There is plenty of scope for a 'race to the top' in which, as time goes on, what was accepted as a reasonably high standard of life at time t_1 comes to be accepted as being only barely acceptable at t_2 , and what was considered to be a rare treat comes to be seen as more of a necessity. One might care to analogize this kind of progress in terms of plumbing: not so many generations ago, a house built without indoor plumbing would have been seen as perfectly acceptable; it would not be now – which is as much as to say that today's

judgements about what counts as minimally constitutive of a good house are far in excess of yesterday's (and tomorrow's may be different again). In each case – plumbing or anything else – what was once extraordinary will become, with time, expected and attain the status of a necessity; what once would never have been classed as a central part of the good life may be today. Adam Smith seems to be making a similar point when discussing the difference between luxuries and necessities in *The Wealth of Nations*:

By necessities I understand, not only the commodities which are indispensably necessary for the support of life, *but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without*. . . . Under necessities, therefore, I comprehend, not only those things which nature, but those things *which the established rules of decency have rendered necessary to the lowest rank of people*. All other things I call luxuries, without meaning, by this appellation, to throw the smallest degree of reproach upon the temperate use of them.²³

Some things might be necessary based on an appeal to physiological need; but necessity is broader and richer than that: it can be shaped by cultural norms. Likewise, what's good – as opposed to what is just about good enough – is an expansive set of things.

(Martha Nussbaum has a telling anecdote in this respect:

A recent comparative survey of Indian widows and widowers established that the widows almost always described their health status as “good” or “excellent,” even though, from the medical point of view, they were doing rather badly by comparison with the males (who tended to report numerous complaints and to rank their status rather low). Ten years later a similar survey found no significant change in the women's actual health status. But their perceptions of health deficiencies had improved, as a result of education and public information. Now they perceived more nearly what the doctor did, and understood that there was an available norm *vis-à-vis* which their own condition was seriously deficient.²⁴

The telling aspect here is that the widows came to see that there was an available norm that they had not seen before. Put another way, their view of what it is reasonable to accept seems to have shifted. Daniel Everett hints at something similar in his talk of the attitudes of the Pirahã Indians of the Amazon to death:²⁵ it's not that they see dying in one's thirties as anything other than bad; but in a non-technological culture such as theirs, it's also an inevitability, and so does not represent a particularly gratuitous violation of any natural propriety. People that have no idea that others elsewhere routinely live at least twice as long as they will not have the same notions of what counts as the unacceptable attenuation of a life.)

A world in people can strive for more than is required by a minimally acceptable standard of flourishing – or even a standard of flourishing that is largely accepted as fulsome – is one in which at least some will be able to invest in innovation and supernormal benefits. If and as these benefits begin to

filter through to the rest of the population, they will gradually inform what is accepted as a minimum reasonable degree of flourishing, and thereby – as if by osmosis – drag the general level of humanity’s flourishing with them.

(Before moving on, I’d like to return to the dispossessed refugee from a little while ago. I think it’s reasonable to say that a part of the good life will be a sense of community with others. This claim is not based on any supposition about humans being social by nature; rather, it has to do with the much more straightforward idea that a life in which one feels alienated from the lives and projects of others is likely to be less good than one in which one does not. Alienation, therefore, is detrimental to the good life; community isn’t. And so it might turn out that the lives of the poorest are made worse than they otherwise would be, and less likely to qualify as being good in any sense, by the mere knowledge that they are already significantly worse than those of others.

(As such, radical disparities in welfare, irrespective of how well-off the worst-off are, ought to concern any ethicist who is concerned not just to *understand*, but to *promote* something like flourishing. One response to this might be to say that it’d be better for the worst-off never to learn how well-off the best-off are – but this kind of response is not only morally questionable on the grounds that it’s more than slightly patronizing; it is also perplexing in a non-moral sense. After all, being motivated by this sort of concern looks like being motivated by some sort of concern for the level of flourishing of the person about whom we are thinking. But if we have that concern, it’s very strange that we should think it acceptable to promote contentment in terms of blissful ignorance rather than the kind of good life that we would accept for ourselves.)

Rebooting the therapy/enhancement distinction

There are obviously some aspects of the good life that the biosciences cannot help us realize. But it is equally obvious that they could easily be enlisted to help us maximize our flourishing in respect of others. The emergence of a previously unknown illness may well represent a threat to the flourishing of those infected with it; it’s thanks to the insights of the biosciences that we stand a reasonable chance of identifying the weaknesses of the virus that carries it, and minimizing its impact: SARS gives us a nice example of the way that a new and threatening illness can be identified, controlled and – all being well – eliminated within a very short time. Progress in the biosciences allows us to be much better at regenerating damaged tissue than nature is: a timely skin-graft may not reverse the effects of the burn entirely, but it can reasonably be expected to be far better at repairing the damage than would unassisted nature, for example – and as time goes on, the complete reversal of the injury may become possible. Ways to minimize or reverse the effects of Parkinson’s disease,

multiple sclerosis, diabetes and any number of other conditions that limit the length and quality of lives are increasingly available.

But if we're prepared to endorse making use of the biosciences to *repair* people for the sake of a good life, why not take the small extra step and endorse using those same sciences to improve them from an 'undamaged' state? That is: why not leap from therapy to enhancement?

A very powerful argument in favour of enhancement is to capitalize on the conceptual proximity of the two. The essence of the comparison is captured by John Harris in *Enhancing Evolution*: '[m]ost of what passes for therapy', he says, 'is an enhancement for the individual relative to her state prior to therapy.'²⁶ This does seem correct; certainly if we take seriously his assertion that an enhancement is 'anything that makes a change, a difference for the better'²⁷ – which is at least *prima facie* about right – then it would seem to follow that therapy is indeed a kind of enhancement. (I shall have more to say about Harris' definition of enhancement in Chapter 3.) Since no one would deny that therapy is a good and desirable thing, the argument runs, and if there is no significant difference between therapy and enhancement, they are bound to agree that enhancement is also a good and desirable thing.

However, while this argument does appear to show that to make a therapeutic intervention is to make an enhancing intervention, it does not show that there is no distinction between therapy and enhancement. One can accept that therapy is enhancement without having to accept that there is no distinction between them, just as one can accept that a square is a rectangle without having to accept that there is no distinction between the two: there plainly is. The relationship between a square and a rectangle is that the former is a species of the latter: in thinking about a square, one is inescapably thinking about a kind of rectangle – to wit, an equilateral one – but one could think about rectangles that are not squares. In the same way, in thinking about therapy, one is thinking about a species of enhancement; but one could think about kinds of enhancement that are non-therapeutic nonetheless. Since one can coherently think or talk meaningfully about enhancements without at the same time thinking about therapy, it follows that there must be at the very least a logical distinction between the two. And since there is a logical distinction between the two, even if they turn out to have a great many of their ethical characteristics (or even all of them) in common, the arguments produced in respect of one will not automatically translate to the other.

So if there is a distinction, what might it be? On the basis of the argument I've just put, I think that it's possible to offer an answer to this. I've accepted as axiomatic the idea that 'the good life', or 'flourishing' is desirable, but that its precise constituents are unclear. This unclarity needn't be a problem, so long as we are prepared to accept the idea that a good life is simply one that does not consistently fall below a particular standard of reasonable acceptability. And this is all we need to reboot a therapy/enhancement distinction (henceforward,

‘T/E distinction’). The word ‘therapy’ captures procedures that aim to improve an aspect of a life that would not ordinarily be considered to be minimally acceptable to the point at which it is.²⁸ Enhancement is whatever gives a person more than is minimally reasonably acceptable.

I think that one of the attractions of this account is that it tracks the way the words actually do operate in everyday life. When people talk about therapy, they generally mean something like the sort of enhancement that makes a person tolerably well. ‘Enhancement’ is reserved for the things that go beyond that.

Harris has a response prepared for this challenge:

[T]hose who wished to cling to the therapy-enhancement distinction could simply say “yes, therapy and enhancement sometimes amount to the same thing, but not always.” But now consider that many routine therapies – vaccination, for example – are enhancement technologies for the simple and sufficient reason that they enhance and the moral significance of the distinction as well as its utility collapses. It does not draw either a morally significant or an explanatorily significant distinction and so fails utterly to be useful.

[... M]y point is that treatments or preventive measures which protect humans from things to which they are normally vulnerable or which prevent harm to that individual by operating on the organism, by affecting the way the organism functions, are necessarily also enhancements [... T]he distinction between therapy and enhancement, between protection and improvement, cannot be coherently or consistently maintained.²⁹

I think that it is a bit soon to say that the significance and utility of the distinction has collapsed – for as long as the distinction is there, its significance and utility depends on what you want to do with it, and insignificance and disutility will not demonstrate non-existence. But, for the time being, it might be enough to point out that Harris is here expending a great deal of energy pushing at an open door, since no one has to deny that therapy is a kind of enhancement to maintain that there’s a difference between them. What no one is committed to accepting, though, is that all instances of enhancement are at the same time instances of therapy – unless one subscribes to the bizarre idea that since lives can always be made better, they are always to that extent pathological. (In a similar vein, when Ruth Chadwick says that ‘try[ing] to explain enhancement through making an opposition with therapy is far from a simple matter’³⁰, she is right – but she is also worrying about the difficulty of something that we don’t have to do.) Further, there is something potentially problematic with Harris’ stipulation that vaccination is therapeutic, just because it is possible to lead an acceptably good life without it (and it might be better to do so all else being equal: we no longer vaccinate against smallpox, and look forward to the day when we no longer have to think that polio vaccination is worthwhile). Vaccination reduces the requirement for future therapy, but it is not therapeutic itself; in the same sort of way, you don’t rescue someone by teaching him to swim, although you certainly do reduce the chance that rescue will be required.

This makes a difference to claims about the contributions that can be made by the biosciences to the good life. Notably, there is likely to be a range of characteristics recognized as being necessary for a life agreed to be good enough, and another range of characteristics that, while capable of making lives better than good enough, is not necessary. Without characteristics of this latter sort, we could still have a life worth living. We would still have a reason to pursue enhancements – a superb life is, naturally, better than a good one – but we would nevertheless have an acceptably good life without them.

Closing the distinction?

Admittedly, though, the fact that there's a logical distinction between therapy and enhancement isn't sufficient to tell us that there's much of a practical distinction, or that any distinction is significant; and a range of thought experiments can be produced that are directed at showing that whatever significance it has is, at most, minimal. Harris' argument purports to show that anyone who rejects therapy is *pro tanto* rejecting enhancement; but a much more powerful form of scepticism about the T/E distinction comes from a scenario that Nick Bostrom and Toby Ord have generated. This aims to show that a refusal to endorse a particular enhancement is effectively a refusal to endorse a particular kind of therapy. If this conclusion is correct, it does serve as evidence that the notional distinction can be narrowed or maybe even closed.

Bostrom and Ord's scenario is this:

Disaster! A hazardous chemical has entered our water supply. Try as we might, there is no way to get the poison out of the system, and there is no alternative water source. The poison will cause mild brain damage and thus reduced cognitive functioning in the current population. Fortunately, however, scientists have just developed a safe and affordable form of somatic gene therapy which, if used, will permanently increase our intellectual powers just enough to offset the toxicity-induced brain damage. Surely we should take the enhancement to prevent a decrease in our cognitive functioning.

Many years later it is found that the chemical is about to vanish from the water, allowing us to recover gradually from the brain damage. If we do nothing, we will become more intelligent, since our permanent cognitive enhancement will no longer be offset by continued poisoning. Ought we try to find some means of reducing our cognitive capacity to offset this change? Should we, for instance, deliberately pour poison into our water supply to preserve the brain damage or perhaps even undergo simple neurosurgery to keep our intelligence at the level of the status quo? Surely, it would be absurd to do so. Yet if we don't poison our water supply, the consequences will be equivalent to the consequences that would have resulted from performing cognitive enhancement in the case where the water supply hadn't been contaminated in the first place. Since it is good if no poison is added to the water supply in the present scenario, it is also good, in the scenario

where the water was never poisoned, to replace that status quo with a state in which we are cognitively enhanced.³¹

Their case does look powerful: an increase in intellectual capacity is an increase in intellectual capacity, irrespective of whose intellect it is. If it's good to increase Smith's capacity to offset the poison in the water, it ought also to be good to the same extent to increase Jones' even though – in Jones' world – the poison isn't there and she faces no counterfactual diminution of her intellectual ability; after all, what we're talking about in both cases is providing something good and desirable. By that token, if it's absurd (at best) to resist giving the intelligence-preserving concoction to Smith, it looks as though we're going to be committed to saying that it's absurd (at best) to resist giving it to Jones. So it's hard not to get swept along with the scenario generated by Bostrom and Ord, and they do make a powerful case for the moral equivalence of something that we would intuit to be a therapeutic intervention in Smith's case and bare enhancement in Jones'. However, they make a couple of assumptions that are not bulletproof.

Presumably, if we think that we ought to use the concoction to counteract the poison, we have to think that it would be bad for humanity to lose this amount of cognitive capacity. But the badness of losing something is not the same as the badness of never having had it. Let's imagine that the poison, unmediated, would bring about a 25 per cent drop in Smith's cognitive capacity. It's reasonable to want to prevent or reverse this. The genetic therapy would achieve that. But in respect of Jones, it represents no prevention or reversal at all. We would be helping Smith to keep hold of something that he could reasonably be expected to value but would otherwise lose; but in Jones' case, we would simply be helping her to get more of something that she would have kept anyway. The difference is roughly that between helping Smith keep the burglars away so that he doesn't lose his stereo, and helping Jones get an upgrade to hers. Both end up better off than they might have done had it not been for our intervention; but accepting that we have a reason to help Smith does not commit us to accepting that we have the same reason to help Jones. In both the Bostrom/Ord water example, helping Smith would be an example of the kind of intervention directed at guaranteeing an aspect of life that is at least minimally reasonably acceptable – the kind that is, though *stricto sensu* enhancing, captured by the word 'therapy' in ordinary language. Helping Jones would be the kind of intervention not directed at guaranteeing any such kind of life – the kind that, in everyday English, is referred to as just plain old, unqualified, enhancement.

This sort of consideration tallies with the other assumption implicit in the Bostrom/Ord example, which is that the purpose of interventions is to secure improvements rather than to secure some standard of flourishing. If we assume that Smith was living the kind of life that we might take to be as flourishing

(or, minimally, flourishing in the relevant sorts of way) as could reasonably be expected before the problem with the water, adding the treatment in its wake would both provide him with a benefit and restore him to a reasonably good life. It might also be highly admirable for us to provide Jones with a benefit, too – but her pursuit of the good life is not threatened, and so our reasons to act do seem to be less urgent in her respect. Interventions that make a reasonably flourishing life better strike me as being properly described as bare enhancements; those that help ratchet a life that is not reasonably flourishing closer towards that standard strike me as being properly described as therapeutic.

The structure of this book

There are two kinds of good life. What I have been considering so far is the eudaimonistic vision of the good life. On this view, to live a good life is to live one's own life well – to approach it as a sculptor would approach a piece of marble, in the hope of getting something pleasing out of it, with as few rough or ill-proportioned bits as possible. But there is another view of how to live a good life – a view that says that one lives a good life when one's actions reflect one's obligations to others.

For the most part in this book, I shall be considering the good life under the light of the first understanding. I'll take it as read that therapeutic interventions and products of the biosciences are contributory to the good life, and ought therefore to be endorsed largely without qualification. The one exception to this claim comes in Chapter 7, in respect of so-called 'moral enhancement' – the idea that we may or ought make future people better by making them better behaved. I shall claim, much more strongly, that there is a positive reason not to pursue such technologies that borders on making them morally wrong. Beyond that, I'll be attempting to assess how, and whether, a number of kinds of enhancement contribute to the good life. I am fairly sceptical about the ability of a number of things promised by the new biosciences to make our lives all that much better. On the other hand, there is a few things to which we could turn our biomedical and bioscientific skills that *do* make our lives better. Interestingly, I shall argue that the more whimsical and playful the application, the higher the chance enhancements have of improving our lives.

In Chapters 3, 8 and 9, I shall focus my attention away from what it is wise or advisable for us to pursue, to what it is obligatory to do in respect of the new biosciences. Here, I shall claim that there are very few obligations at all. It is perhaps admirable to make full use of the biosciences – and it is certainly rarely wrong – but I shall defend the position, *contra* some, that there is nothing like a duty to enhance, and that there may not even be a duty to carry out many – or perhaps any – kinds of medical research.

Before I get that far, though, I shall spend the next chapter giving a brief survey of the most famous arguments against the radical use of the new biosciences, and why they don't work. The interesting debate is not between those who think that enhancement is permissible and those who think that it is not; it is between those who think that enhancement is permissible and those who think that it is obligatory.

Notes

- 1 Anscombe, 1958, *passim*.
- 2 Aristotle, 1976, pp. 63–4.
- 3 Ibid., p. 73.
- 4 Voigt and Keasling, 2005, p. 305.
- 5 Ramachandra et al. 2001, *passim*.
- 6 'Dignity' is a word that I half-think should be placed on the index: it is a word that is at once much too loaded, much too under-defined, much too malleable, and much too much else besides. On this, I'm wholly in agreement with Alasdair Cochrane. Nevertheless, it does occasionally have its uses, and if it's treated with enough care, I think that it can play a useful role in moral debates from time to time. I hope that the argument I make in Chapter 7 is one of those times, though I'm painfully aware that I've left an important hostage to fortune by using it.
- 7 Wittgenstein, 2001, § 293.
- 8 Nussbaum, 2006, esp. § 3.x.
- 9 Aristotle, 1992, p. 59.
- 10 cf. Nussbaum, 2006, p. 181.
- 11 Beckett, 2006, p. 51.
- 12 Actually, he'd have a reason to prefer an attenuated future for the sake of avoiding boredom.
- 13 Williams, 1973, p. 113.
- 14 And more than that, actually: if infertility is a problem for Brian, it must be so not only because of an appeal to genetic relatedness, but also because it is important to him that the gametes are produced by his own body rather than the body of his identical twin – since that sibling would be capable of producing a child with exactly the same genetic relationship to him.
- 15 Carel, 2011, p. 26.
- 16 Ibid., p. 72.
- 17 Marín-Gutzke and Sánchez-Olaso, 2010, *passim*; Ferguson and Chang, 2010, pp. 435, 444.
- 18 Aristotle, 1976, p. 118.
- 19 Ibid., p. 122.
- 20 Vide Carel, 2009, § 5 for a tour of the literature on this.
- 21 Mill, 1998, § 2.

- 22 Several science fiction writers have imagined the possibility of uploading our consciousness into some electronic format; imagine, future generations might exclaim, not being able to do that, and so having to confront death, illness, non-rebootability, and all the rest of it! How did people in the early third millennium cope?
- 23 Smith, 1981, pp. 869–70; emphasis added.
- 24 Nussbaum, 1996, p. 21.
- 25 Everett, 2009, p. 58.
- 26 Harris, 2007, p. 44.
- 27 Ibid., p. 36.
- 28 In so doing, it might make the difference to whether or not a whole life attains a minimally acceptable goodness – though this is not decisive: there are some procedures that will not make a life reasonably acceptably good on their own, but still count as therapeutic; and at other times, a life taken as a whole might count as good enough, even though some aspect requires improvement to satisfy that demand – after all, we don't normally think that a person's life as a whole stops being acceptably good just because he has eczema: we just think that there is one part of his life that could stand to be better.
- 29 Ibid., pp. 46, 56.
- 30 Chadwick, 2008, p. 28.
- 31 Bostrom and Ord, 2006, p. 672.