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On the Survival Lottery

An Interview with John Harris, University of Manchester

CDH: We might assume for the moment that thought experiments are designed to stimulate thinking about a particular set of issues or claims. If so, was the Survival Lottery (SL) itself inspired by any thought experiments, or well-known philosophical puzzles?

JH: The SL arose as part of a longer paper I was writing about acts and omissions as part of my D. Phil in Oxford. It was originally written in 1971, but I didn't get around to sending it anywhere until 1973 or 4. The rest of this long paper was also published in 1975, as "The Marxist Conception of Violence," in Philosophy & Public Affairs. PPA thought the original paper was too long, so I took out SL and sent it to Philosophy. I just meandered into the SL as a way of crystallizing my thoughts on the moral symmetry between acts and omissions.

CDH: The SL is posed as a test-case of sorts for the distinction between killing and letting die. Yet in classrooms, as well as some of the responses to the SL in the scholarly literature, the thought experiment is often taken to also be an illustration of a number of other ideas, such as utilitarian reasoning (i.e., "should one life be sacrificed for the benefit of two others?"). What are your thoughts on the prospect that you have, in some sense, lost "ownership" of the SL, as it has been interpreted, and re-interpreted, and possibly put to uses that you had not originally intended?

JH: I only "own" the SL in the sense that I thought of it and have what is now termed a moral right to be associated with it. But there is no ownership of ideas, "thought is free" as Maria said in Twelfth Night!

CDH: How have your views on the SL changed over time? And have your views changed, do you think, to reflect scholarly responses to the SL, your own experiences in teaching bioethics, or some other influences? Related to this would be the question of what you might change, if you were to revise the SL further. Lastly, are there points on which you feel readers have consistently misunderstood what you were getting at with the SL?

JH: In the United Kingdom governments produce two types of policy papers, so-called Green Papers and White Papers. Crudely, Green Papers are options for consideration and White Papers function as concrete proposals for policy and perhaps even for legislation. There is a lot of confusion in academic writing between these two types of exercise, people often treating an academic paper as a concrete proposal rather than a discussion document. The SL was always a "Green Paper" for discussion and possible rejection or refutation.
I have produced many White Papers, proposals for action over my career, my views on increasing the supply of donor organs, for example, by methods other than the SL, and my recent endorsement of some chemical cognitive enhancers.[1] But the SL was always a discussion paper. The fact that it has never been plausibly refuted and that its discussion of some aspects of the distinction between killing and letting die are still completely cogent and valid I believe continues to illuminate this corner of moral reasoning.

CDH: What has been most surprising, or rewarding, to you about the reception that the SL has received since 1975?[2] And what conclusions about moral philosophy, say, do you draw from that reception? On a bit of a tangent, what significance do you see in the fact that the SL has its own entry in Wikipedia, for example?

JH: SL has been very kind to me. Given that I wrote it while still a graduate student, its success has been remarkable. It has been very long lived and helped my other work to find an audience. If I had left it as part of "The Marxist Conception of Violence" it might not have been noticed. The fact that it said something apparently outrageous so cogently, and the fact that the moral and prudential reasons for considering survival lotteries and their equivalents have never been refuted, tells us something important about consistency in ethics and indeed about the practical limitations of theory. Real life is full of survival lotteries: whenever some are saved and not others, some receive health care and not others, some are rescued but not others, some are deliberately killed but not others, and wherever chance is allowed to play a role in such decisions, the chance of being in the wrong place at the wrong time, the chance of being near a hospital or within range of rescue services, for example. Governments sometimes deliberately create such lotteries by the ways in which they allocate public resources for health or welfare. I believe the SL has over the years helped to sharpen our perceptions of how these things happen and the extent to which we are all party to such arrangements.

CDH: At some level, thought experiments function as rhetorical devices, either setting up an argument or serving as a self-contained one. You've been very productive with writing in bioethics as well as other areas of philosophy. Could you say a bit about what role thought experiments play in your own writing process? Or, if you prefer, what role did the outlines of the SL thought experiment play in crafting of the 1975 paper?

JH: Thought experiments play a wide range of roles. At their best they are dramatic or arresting scenarios or ideas that people like to try to resolve. They have what one of my undergraduate tutors, Frank Cioffi, liked to call "epigrammatic validity." Like a seminal image they seem also to sum up an idea or a predicament or a way of reasoning. For example, like the famous naked young girl in Vietnam or images of the Twin Towers, they can sum up for us a whole range of thoughts and responses and help to make clear what before was confused. As your question implies, they can function as an argument in themselves, and often, as is the case with a successful scientific experiment, provide proof of principle.

CDH: The SL, both in its original form and the 1980 version, raise a number of philosophical issues that, in effect, extend beyond the surface of the thought experiment itself. For instance, towards the close of the revised version of the SL, you suggest that "if it is bad luck to be a victim it is also bad luck to be dying of disease. What we should try to do is minimize the bad luck where we cannot eradicate it." There has been much interest in the concept of "moral luck," going back perhaps to Aristotle. Where do you stand on the question of progress in philosophy (and ethics in particular)? That is, should a thought experiment like the SL be seen as a new direction for scholars to take, or an unfolding of ideas (like moral luck) or arguments that previous scholars failed to see or appreciate?

JH: I think I want to respond: "all of the above!" I certainly think that both moral progress and philosophical progress occur with sufficient frequency to make both activities rational and worthwhile. Indeed, I would not wish to do philosophy if it could not be, and indeed is not often, a force for good in the world.

CDH: Are there contexts where you feel the distinction between act/omission is more easily defended than others? Did you originally devise the SL to show one of the more problematic instances of that distinction, or simply one that was of contemporary relevance to medical attempts to, for instance, prolong life?

JH: I think the acts-omissions distinction is a distinction without a moral difference. The ethical question is never: "is this an act or an omission because I can do one but not the other?" Rather we have to keep our "eyes on the prize," and ask what should happen and how can I make it happen? The SL was intended to make us (indeed writing it made me) confront the question: if I believe in saving lives, what can and should I do, what is permissible and why, what is not permissible and why not?
CDH: What type of projects you're busy with now? Any new thought experiments in the works?

JH: At the moment I am writing a book on Moral Enhancement, and another on how science is addressing threats to human existence. I am also working on a long-running project on justice.

Notes
The Trouble with Thought Experiments

Jeremy Goodenough, University of East Anglia

Abstract

What are thought experiments? What uses can they be put to and what problems do they face? In this paper I argue that thought experiments are hard to define and that they face significant problems when used as a tool to draw out our moral or conceptual intuitions. The role of the intuition in our philosophical and ethical lives is also problematic. I go on to argue that the more far-fetched thought experiments – and especially those that assume some kind of impossibility – face particular problems, and that here bioethics can learn from the effects of the prolific use of modally problematic thought experiments in other areas of philosophy, such as the personal identity debate. I argue that, as the personal identity debate can best be approached by testing our conceptual intuitions against real-life cases, so the same may be true of bioethics. But, whether we use thought experiments or real cases, we ought not to expect too much when seeking to apply concepts outside their standard range of application.

Overview

How do thought experiments differ from mere hypothetical cases? And why can they be such a problem? In this paper I argue that the movement of thought experiments from science into philosophy has brought with it certain difficulties that seem likely to grow as thought experiments are used not just in the more metaphysical areas of philosophy but increasingly in applied ethics. By examining some of the weaknesses and problems thrown up by the thought experimental method, I hope at least to provide a kind of health warning for those who wish to use them in practical ethics and bioethics.

Definitions

Trying to define what a thought experiment is has proved to be a difficult task. "Thought experiments are performed in the laboratory of the mind. Beyond that bit of metaphor, it is hard to say just what they are." Or so says Brown at the start of his book (1991, p. 1). Sorensen (1992), who provides a cornucopia of examples and attempts a kind of taxonomy of thought experiments, is unable to come up with a clear and simple definition.

We could start, then, by asking why they must be performed in the laboratory of the mind. Scientific thought experiments of the kind discussed by Sorensen and especially Brown have to be carried out in this way because they are impossible to carry our as ordinary empirical experiments. The impossibility here is not just the weak impossibility of technological inadequacy or lack of funds: it is a strong impossibility. Such an experiment cannot be carried out because it includes as part of its initial conditions some assumption or presupposition which we know or believe to be against the laws of nature. Examples would be Galileo's thought experiments that require a perfect vacuum or a frictionless surface, or Einstein's question 'what would I see if I were traveling on a beam of light?' What such thought experiments frequently do is reveal some kind of contradiction entailed by the assumptions of the theory under criticism. So Galileo's 'falling objects' thought experiment reveals that Aristotelian theories of motion entail that heavier objects must fall both faster and slower than lighter objects, which clearly indicates that those theories can't be true. And this is clearly useful.

The scientific use of thought experiments is then limited by the empirical nature of science. The limit, then, is nearly always on the modal nature of the hypothetical situation. For if it is practicable to carry out an experiment then it ought to be carried out. And if it isn't carried out then any hypothesized result will always carry with it the worry that it may in fact be falsified by the result of an actual experiment.

But the use of thought experiments in philosophy is more problematic. They can be used to reveal contradictions implicit in assumptions and conceptual schema, but more often they are used as what Dennett has called 'intuition-pumps', that is to test our intuitions about some situation. It may be, for instance, that we are generally happy to use a concept but that a thought experiment (or more likely, a series of thought experiments) will shake our intuitions that this is an acceptable or useful concept at all. Dennett (1988), for instance, uses a series of such thought experiments to try to undermine our belief that the concept of qualia is either clear or coherent.

Philosophical thought experiments need not be just destructive in this way: Parfit (1971; 1984) for instance, uses thought experiments not just to weaken our beliefs in traditional views of personal identity but also to support an alternative belief in the concept of personal or psychological survival. Ethics, of course, has always relied upon hypothetical cases: what would you do if…?
Such cases must be part of the ethical training of any medical professional or related discipline. And here hypothetical cases can often be substituted for by real cases (see, e.g., Beauchamp & Childress, 1983, Appendix).

But it may be hard to find real cases that exactly tackle the moral intuitions that philosophers have in their sights, and so hypothetical cases are crafted to do this job. Many such cases, like Foot's (1967) Trolley Problem, or Thomson's (1971) Violinist, couldn't be carried out for moral reasons: it would be highly unethical to set up such a situation. But that is not supposed to matter. Such cases are designed to force us to test some particular moral belief we have against the intuitions caused in us by the situation described by the case. Often the hypothetical case is set up in order to be analogous in some way to some real-life situation, with the aim that the moral intuitions developed or brought to the surface in the former can be seen to carry over to the latter. (This is the aim with Thomson's Violinist, for instance.)

So we cannot afford to generalize too freely about thought experiments. If they are laid out on a modal spectrum, at one end they involve a strong (scientific? conceptual?) impossibility, but at the other end they fade into the merely hypothetical and the ordinary (or at least, what might be ordinary for the ethicist or the medical professional at some point in their careers).

I do not wish to argue that thought experiments are necessarily a bad thing: they plainly have their uses. But I do believe that they face certain problems. In some cases, these are weaknesses that must cause us to be careful: in other cases I believe that they vitiate any conclusions that can be drawn from the thought experiment.

**How Do Thought Experiments Work?**

What are thought experiments for? Trying to answer this question reveals the first problem area with them. A thought experiment doesn't provide empirical data: only empirical experiments can do this. For a thought experiment does not involve any practice, only thought about some narrative or description or hypothesis. In doing this it certainly provides some sort of data: but by stimulating (or perhaps creating) a kind of belief about a concept and its extension, a metaphysical concept like personhood or an ethical concept concerning moral acceptability or autonomy for instance, it is data about our conceptual practices or about the implications of our hypotheses. Perhaps the purpose of thought experiments in philosophy (as opposed to science) is to make plain to us what we already believed without (consciously) knowing it.

Support for the idea that the purpose of thought experiments is to elucidate pre-existing beliefs (or at least proto-beliefs) may be found in Mach, allegedly the coiner of the term Gedankenexperimente, who wrote that "Everything which we observe in nature imprints itself uncomprehended and unanalyzed in our percepts and ideas, which, then, in their turn, mimic the processes of nature in their most general and most striking features. In these accumulated experiences we possess a treasure-store which is ever close at hand and of which only the smallest portion is embodied in clear articulate thought" (The Science of Mathematics, 1893, 36, quoted in Sorensen 1992, p. 51 ). Mach thought that this instinctive knowledge was in some way more reliable, less amenable to error or misinterpretation than the knowledge that we obtain from empirical experimentation: "We feel clearly, that we ourselves have contributed nothing to the creation of instinctive knowledge, that we have added to it nothing arbitrarily, but that it exists in absolute independence of our participation. Our mistrust of our own subjective interpretation of the facts observed is thus dissipated" (Knowledge and Error, 1905, 140-1, quoted in Sorensen 1992, p. 54).

And one still finds something like this confidence in the value of intuitions in modern philosophers; for example, Kripke writes that "of course, some philosophers think that something's having intuitive content is very inconclusive evidence in favor of it. I think it is very heavy evidence in favor of anything, myself. I really don't know in a way what more conclusive evidence one can have about anything, ultimately speaking" (1980, p. 42). Not only do I not share Kripke's confidence in the reliability of our philosophical intuitions, I think it can be shown how they can often go wrong. But I will return to that after looking at the second area of difficulty, which concerns the modal status of the thought experiment or rather of the background assumptions that are built into its description. All too often it is assumed that because one can give some apparently clear and coherent narrative, one has thereby overcome any modal difficulties that might obstruct the purposes of the thought experiment. Critics of the wilder fringes of thought experiments disagree: Wilkes, for instance, argues that "the thought-experimental technique, in fact, may all too often rely upon an inchoate and confused assumption or belief that is, although highly questionable, rarely questioned enough. That is, if something is imaginable, or conceivable, or describable, then it is logically, or theoretically ('in principle') possible" (1988, p. 17).

The relationship between imaginability or conceivability and possibility is a complex one (see, e.g., Gendler & Hawthorne, 2002). Take, as an example, a description of a hypothetical situation like that which Lewis Carroll provides of the Cheshire Cat. This is
clearly imaginable: after all, Carroll imagined it and we might think that we can too when we read the story. But when we consider what we are being asked to believe, that properties and modes could continue to exist in the absence of their owners, we start to realize that the situation described involves impossibility of the strongest sort: not just technologically impossible or even nomologically impossible but conceptually impossible. We can't seriously consider a universe where the laws of nature are different such that properties like grinning can exist separately from anything that is actually doing the grinning. Yet we and Carroll seem to be able to imagine Wonderland where such things allegedly happen. Perhaps Carroll's narrative only works for us because our imagining takes place at a superficial level, just sufficient for us to enjoy the story. Once we try to imagine in more detail, the conceptual difficulties eventually emerge. So at the very least, that a hypothetical situation appears to be imaginable is no guarantee that it is in any sense possible.

Philosophical Thought Experiments and Concepts

Philosophical thought experiments really owe their modern origins to the moment when John Locke first asked the question of what we would say if two men were somehow able to swap consciousnesses (1694/1975, Bk. II, XXVII, §15). Locke wishes to make a point about the different ways in which we use concepts like 'person' and 'man' and in order to achieve this purpose he doesn't need to fill in any details about how such a swap is possible apart from gesturing in the direction of a change of souls.

The use of such thought experiments in this area really took off in the 1950s, and soon the debate was plagued with brain transplants, split-brain transplants, teletransportation, reproduction by fission, and so on. There is a good collection of these in Parfit (1984). Some of these hypothetical scenarios like brain transplants are practically impossible, at least with present technology. (Though no doubt the medical profession may think this only a matter of time.) Others, teletransportation for instance, may be impossible for any kind of technology (Krauss, 1995, has a good discussion of this). But the modal status of the presuppositions and conditions of the hypothetical situation are not supposed to matter. Parfit, for instance, argues in a number of places that the modal status is irrelevant, because "these cases arise in most of us strong beliefs. . . . Though our beliefs are revealed most clearly when we consider imaginary cases, these beliefs also cover actual cases, and our own lives" (1984, p. 200). I disagree. If the act of considering hypothetical cases does indeed generate spontaneous strong beliefs within us, it is surely important to enquire further whether these are true beliefs. That they are strong beliefs is of interest, but their truth or falsity is surely the significant point here. And even if true beliefs are being generated, can we automatically assume that they will cover actual cases as well as the hypothetical case being posited?

Where thought experiments are being used to test concepts then this is a major problem. For, as Wittgenstein once said, "it is as if our concepts involve a scaffolding of facts. . . . If you imagine certain facts otherwise. . . . then you can no longer imagine the application of certain concepts" (1967, p. 350). And Quine applies this thought to the more modally outrageous thought experiments when he says that "the method of science fiction has its uses in philosophy, but... I wonder whether the limits of the method are properly heeded. To seek what is 'logically required' for sameness of person under unprecedented circumstances is to suggest that words have some logical force beyond what our past needs have invested them with" (1972, p. 490).

Quine is surely right: thought experiments can be used to bend and twist our concepts as we force them into uses for which they were never designed. I suppose that it is of some interest to demonstrate that most of our philosophical concepts have grey areas or vague edges, and that one can always think of hypothetical situations where they go awry. (But did anyone ever think otherwise?) Indeed much of the work in the area of the philosophy of personal identity has had the effect, intentional or otherwise, of showing that the concept of a person has a problematic extension in actual cases and can fall apart completely under the pressure of hypothetical cases. The key question here is whether any intuition we have about the possible extension of one of our concepts in a hypothetical situation of such dubious modality has really any value.

The Problem of Narrative

Related to this problem, because sometimes contributing to it, is the problem (or perhaps family of problems) concerning hypothetical narrative. A thought experiment, of course, is not a situation but a description of a situation, a narrative, and that carries with it its own possible problems. There is, for instance, the problem of under-description.

Now in ordinary science fiction the audience doesn't usually care about the fine details of some hypothetical device. For the purposes of narrative enjoyment, we swallow Star Trek's transporter room, even when an episode's plot raises some apparently philosophical problem raised by its malfunction. (Two Captain Kirks? Two people or two tokens of the same person?) But when a philosopher like Parfit asks us to take such an example seriously, it should be hard for us to come to any kind of intuition about the output of such
a device until we have some reasonably clear idea of what it actually does. Does the device transport just the pattern of someone's body? Or does it also transmit the atomic particles of which the body is composed? And if it is scanning to collect information, to what level? The atomic, sub-atomic, quantum? Note that this may require a physical impossibility, since there is no such thing as purely passive sub-atomic scanning, as Heisenberg pointed out a long time ago.

It might be thought that this is just nit-picking, but the importance of under-description for philosophical thought experiments was pointed out more than forty years ago by Williams in a paper (1970) that also demonstrated how the narrative presentation of a thought experiment may crucially determine or at least influence our supposed intuitive conclusions drawn. Williams describes an imaginary case in which a scientific procedure is used on two people, A and B, so that we can conclude that A and B have swapped bodies. The B-body person now exhibits all of the mental characteristics that we previously associated with A, and vice versa. When asked to indicate who we now think is the person A, our intuition is to point to the B-body person. Williams then describes a further thought experiment in which a person A is subjected to a variety of indignities, including artificially-induced global amnesia followed by an artificially-induced psychosis which results in A believing himself to be someone else, with all of this other person's apparent beliefs, desires, memories, etc. We are then told that a similar experiment has been carried out on a second person, B, and that the artificially-induced beliefs which A now declares himself to hold had the same content as the genuine beliefs held by B prior to the experiment, and vice versa. Yet throughout our description, whenever we are prompted by Williams our intuition appears to be that A remains A despite all the changes to which he has been subject.

Williams then reveals that he has not described two different thought experiments but the same thought experiment in two different fashions! So the same hypothesized course of events can produce in us diametrically-opposed intuitions about identity, depending upon the events are described. And much of the narrative leeway allowed to the author here comes from the under-description of "scientific procedure" in setting up the story. Williams does not conclude that thought experiments are thereby rendered worthless, but he did come to believe that they needed to be treated with caution if they were to be at all valuable (personal communication).

So we can see how under-description and problems of narrative may come, with or without the intention of the author, to shape the intuitions we draw from the example. So, far from the (reasonably accurate?) proto-knowledge that Mach believed they embodied, intuitions may be closer to ordinary beliefs or feelings or even prejudices, sometimes shaped without our conscious knowledge by the ways in which they are generated.

I think the same conclusion may be drawn from the use of modally dubious thought experiments in bioethics. Faust (2008) for instance assumes that there might be a hypothetical genetic factor that we could select for in selecting amongst embryos for implantation and which would tend to increase the moral behavior of the resulting children. The discussion is fascinating, but always hindered by our knowledge that there could be no such simple genetic factor, that whatever the relationship, if any, between morality and genes, it is always going to be far more complicated.

The Problematic Status of Intuitions

Are moral intuitions reliable? The growth of experimental philosophy over the last two decades has seen some attempt to try to answer this question, partly by trying to see whether moral intuitions are stable and widespread. Thus O'Neill and Petrinovich (1998), for instance, collected data on responses to certain well-known ethical thought experiments (Trolley problems, Lifeboat problems, etc) from sample populations in both the US and Taiwan. They concluded that "responses to the dilemmas by the Taiwanese students were similar to the responses from several U.S. samples. The same dimensions that were important in the U.S. samples also were important in the Taiwanese sample. These findings support the argument that an evolved human nature influences the resolution of these dilemmas" (p. 349). So it would appear that thought experiments can enable us to access reasonably robust and deeply held moral intuitions.

But this is contra-indicated by other experiments in practical philosophy. Work carried out by Weinberg et al. (2001) using epistemological thought experiments indicate considerable cultural differences in response. Buckwalter and Stich (2010), analyzing experimental responses to thought experiments by gender, conclude that "the findings we review indicate that when women and men with little or no philosophical training are presented with standard philosophical thought experiments, in many cases their intuitions about these cases are significantly different... In some cases, or perhaps in many, men and women tend to have different philosophical intuitions" (1 & 34). They suggest that this conclusion "might play a role in explaining the egregious underrepresentation of women in philosophy" (p. 34). We ought not to be surprised by their conclusion. Gilligan (1982) stated as much 30 years ago. But it certainly seems to indicate that the notion of moral intuitions is a far from simple one and that the relationship between thought...
experiments and intuitions is nowhere near as straightforward as has often been assumed.

This is not to conclude that intuitions in these situations are valueless. One can adopt a moderate position that regards such intuitions as possessing evidential value. Liao (2008), for instance, argues plausibly that with enough care one can discriminate among thought experiments and thus sift the robust intuitions from the problematic. But Liao is considering mainly epistemic thought experiments, and so avoids the problems of the more extreme thought experiments that I have described.

Using Real Cases Instead

So what is to be done? One possible solution to the problems thought experiments may cause in the field of personal identity was offered by Wilkes: stop using them. Wilkes (1988) argued that philosophers could find more than enough actual problems to test their intuitions about personal identity when looking at various real-life phenomena encountered by the medical profession: amnesia, fugue states, so-called Multiple Personality Disorder, and so on. This certainly meets many of the problems that outlandish or science fiction narratives may, as we have seen, generate, while being firmly grounded in actual facts and being capable of producing real data.

But are real cases any better? They certainly test our concepts, showing that in extraordinary cases our everyday conceptual framework struggles to accommodate the case. And in the case of genuine medical dilemmas, they tell us something, even if it is only that life occasionally throws up insoluble difficulties. What they don't seem to do is provide anything more positive than this.

Take the example of the Hensel sisters, conjoined dicephalic parapagus twins. (Some details of this case can be found on a Wikipedia page about them noted in the on-line references below; otherwise, there is little detailed information about them on the internet.) Clearly the degree to which the two sisters share a common anatomy raises all manner of questions about personal identity and agency. And they could clearly raise difficulties for medical ethics, questions about autonomy. Our standard moral responses to questions about patient autonomy presuppose that patients have or should have sole ownership and authority over their own bodies. But can we maintain these responses in cases where this is not so, where a large proportion of a human body seems to be owned/occupied by/constituting two persons? The very difficulty of explaining this clearly seems to indicate the degree to which the case forces us beyond our usual conceptual framework and its accompanying vocabulary. The only honest answer one could give to questions about patient autonomy here is: I don't know. We are equipped by our moral training to deal with questions occurring within the broad domain of normal experience. It is interesting if disconcerting to be reminded that there are events beyond this domain but the experience doesn't help us, either within our normal range of experiences or outside of it.

Let us take as another example the case of Rose and Grace Attard, conjoined twins (Annas, 2001). Here we have conjoined twins who could easily be separated if it were not for the fact that Grace had a defective heart and was only being kept alive by virtue of sharing a circulatory system with her sister. And the strain of this was slowly killing Rose. Here was a genuine moral dilemma involving what William James would have called a forced choice: do nothing and in a short time both twins will die, or operate and Rose has a strong chance of surviving but Grace will certainly die.

The case dramatizes such a dilemma. And it makes clear that the dilemma is insoluble. Strong moral intuitions were produced by it but these were strong and opposed intuitions. Many commentators at the time, particularly but not exclusively representatives of religious bodies, had a strong deontological response, summarized in the belief that it is always and everywhere wrong to kill a child, no matter what benefit might arise for someone else. Annas (2001) has a survey of this debate, with many quotes from religious authorities. Many others took what was effectively a crude consequentialist view, arguing that a situation that resulted in one dead baby was clearly better than one which resulted in two. Thus the two sides' intuitions about what was morally central to the case not only varied but went past each other. The UK Court of Appeal allowed the doctors to operate though the three judges gave differing reasons for their decision. None offered an openly consequentialist justification for their decision, though their individual detailed responses wrote together legal and moral issues, including both consequentialist and deontological considerations (Ward, et al, 2001.) This was one possible way of proceeding but it clearly did nothing to resolve the original dilemma. And it remains contentious: after all, it is in the nature of a dilemma that it really can have no happy solution.

Conclusion

As illustrations of what life can throw at one, it is always going to be of interest to consider such cases. But their very interest derives from their extraordinary rarity. If they were extremely common then our ordinary conceptual framework incorporating such concepts as personhood, life, autonomy, etc would have been very different. And the intuitions of those who grew up with such a framework would be very different from ours.
There is, then, no telling what would be the moral response that we would have or ought to have in such cases.

But can such cases teach us anything else? That our general moral intuitions run aground in such cases? But perhaps we already knew that. There is an old lawyers' saying: "hard cases make for bad law." My own suspicion is that hypothetical cases often make for worse, and impossible cases are the worst of all. Philosophical and moral thought experiments are interesting in the way that they may shed light on the ways in which we think and feel. But, except (and perhaps even?) in those cases mentioned above where thought experiments are being used to accumulate data on how people respond them, they face a number of problems in their construction and use. The more they incorporate impossibilities, the more problems they face. And even where we use actual cases, their degree of improbability limits their use in helping us to develop problem-solving abilities. There is, then, nothing wrong with using hypothetical cases: but the more hypothetical they are, the more they should carry a 'handle with care' sticker.

References
The Body Politic: An Introduction

Jonathan D. Moreno, University of Pennsylvania

Editor's Note: Bioethics, as Jonathan Moreno points out, is often observed to have become "politicized." In an effort to explore some of the implications of this assessment, Moreno decided two years ago to write a book that would draw on his experiences in the academic and policy worlds. In that book, The Body Politic (Bellevue Literary Press, 2011), Moreno uses his unique take on the history, philosophy and sociology of science, political philosophy, ethics, and science policy, to explore what he calls the "new biopolitics." Theoretical & Applied Ethics is honored to present an adaptation of the Introduction to that book, which we believe will further establish Moreno as a leading voice in our discipline.

Every two years the National Science Board compares America’s science and technology performance to the rest of the world. The 2010 report contained several nuggets of information from polling about Americans' attitudes toward scientific breakthroughs: 68 percent of Americans said that the benefits of scientific research strongly outweigh the harmful results, and only 10 percent said that harms outweigh the benefits.[1] Other surveys confirm these results. As the Pew Research Center reported based on its own 2009 polling, "Americans like science":

"Overwhelming majorities say that science has had a positive effect on society and that science has made life easier for most people. Most also say that government investments in science, as well as engineering and technology, pay off in the long run. And scientists are very highly rated compared with members of other professions: Only members of the military and teachers are more likely to be viewed as contributing a lot to society’s well-being"[2]

But there is also an undercurrent of unease. In spite of its generally upbeat findings, the National Science Board also found that nearly half of Americans believe that "science makes our way of life change too fast." And it seems that the authors of the National Science Board’s report excluded some survey results from the final draft, results showing that Americans are much less likely than the rest of the world to accept evolutionary theory and the "big bang" explanation of the origins of the universe. The Board said the less encouraging data were excluded from the final draft because they were flawed, but a White House spokesman criticized the omission: “The Administration counts on the National Science Board to provide the fairest and most complete reporting of the facts they track.”[3] And a science literacy researcher said that the board’s decision “reflected the religious right’s point of view.”[4] In America even surveys about scientific controversy can become matters of controversy.[5]

Future Shock Redux

But no particular group, right or left or somewhere else, is immune from the sense that change is accelerating at an ever faster pace with each passing year. The experience of too-rapid change, whether trivial or profound, is a characteristic of modernity. Information technologies are perhaps the sentinel sources and examples of what Alvin Toffler called “future shock” in 1970, right around the time that a young Bill Gates programmed a GE computer that his mother purchased at a rummage sale. Information scientists cite “Moore’s law,” to the effect that computing capacity doubles every two years. We’ve all experienced the anxiety, frustration, and even resentment that accompanies a new version of a software product on which we depend, or the realization that people younger than ourselves have adopted a new technology that makes the pace and style of their lives seem very different from our own.

Reservations about rapid technological change are widely shared regardless of political party or philosophy. In America the tension between approval of science and worry about the rapid changes it can bring bubbles up in special ways when moral or cultural choices seem to be involved. We’ve seen this tension play out time and again in our seemingly endless controversies about the teaching of evolution, reproductive rights, the moral status of the human embryo, the origins of the universe, and nearly all the issues about science that relate to human values.

Sensitivities about science are understandable. People rightly sense that big stakes are involved when science pushes on familiar boundaries, most of all when it seems that our customary and largely workable moral framework is being challenged. Americans seem especially sensitive to such challenges. Ours is in many ways a deeply conservative country where consistently the vast majority report that they believe in God (generally around 90 percent). The prominence of faith among Americans becomes even more striking when compared...
with modern Western Europe, the historic source of America’s core Enlightenment values of rationality and science. There, the proportion of believers is around 50 percent. Americans admire science but also treasure traditional values, which are in some ways threatened more by science than any other institution; our attitudes tend to assemble at the extremes. In this sense, America is both the principal product and the main stage for the ongoing drama of the Enlightenment. Here are these universal values of truth, freedom and equality founded on reason rather than the authority of a church or sovereign rulers; but is reason enough, or does it threaten those very values?

The ever-quickening pace of discovery in biology is an especially volatile source of “wedge” issues in our politics because they remind us of uncertainties about how to apply familiar values about life itself. These uncertainties are particularly clear when human dignity seems to be threatened, as critics charge is the case with embryo-related research. In 2005 the Johns Hopkins University-affiliated Genetics and Public Policy Center found that three-quarters of Americans opposed human embryo cloning for research.[6] A 2008 survey sponsored by the conservative Ethics and Public Policy Center found that when the question of embryonic stem cell research is put in terms of curing disease most favored the research, but when described as destroying embryos a small majority opposed it.[7] Five polls by the Pew Center on Religion and Public Life from 2004 to 2007 found that a majority agreed that it was “more important to continue stem cell research that might produce new medical cures than to avoid destroying the human embryos used in the research.”[8]

These results suggest how conflicted Americans are about basic questions of science and ethics. This is nothing new; deep-seated worries about science that are as old as the Enlightenment itself have been poured into bottles made new by the experiences of the twentieth century. The sociologist John Evans has found that conservative Protestant religious groups in the United States do not reject science per se. Rather, they “are opposed to scientists’ influence in public affairs not because they do not agree with their methods, but for moral reasons…. [T]he relationship between religious persons and science is far more subtle than the dominant assumption of religious opposition to science due to a total rejection of scientific methodology.”[9] The problem is not mistrust of science so much as it is mistrust of scientists.

Biopolitics, Old and New

Biopolitics refers to the ways that society attempts to gain control over the power of the life sciences. Although ideas about the role of biology in politics may be found at the earliest stages of Western philosophy, biopolitics promises to become far more prominent as the power of the modern life sciences becomes ever more obvious. The old politics of biology operated in the dark about the underlying mechanisms of biology. The new politics of biology arises in the midst of rapidly growing understanding of basic life processes, with seemingly limitless opportunities to direct individual and social change. Simply put, in the modern politics of biology the stakes are about as big as they can get.

The modern abortion controversy has elements of both biology in politics and the politics of biology, especially as it has been a recurrent theme in the United States since the 1970s. As an example of biology in politics, the positions taken by pro-life and pro-choice forces have served as organizing principles. In an example of the politics of biology, each side attempts to manage the power behind a decision whether to continue a pregnancy or not. But the binary simplicity of the abortion decision itself (i.e., to abort or not), and the relative straightforwardness of the positions one may take on this issue in its strictly political sense (pro-life or pro-choice) are being vastly outstripped by the scenarios forced upon us by the new biology. As biological knowledge grows and as its applications become available, vastly more complicated and subtle new issues will emerge that can be brought under the heading of biopolitics, the new politics of biology.

The term biopolitics was popularized by the French philosopher and historian Michel Foucault.[10] For Foucault, biopolitics is both a consequence and manifestation of biopower, the management of bodies and the collections of bodies that we call populations.[11] Key to understanding this idea of biopower is suspending the standard modern tendency to think of the state as the main or even the principle locus of power. Rather, as the philosopher Jason Robert has observed, Foucault’s focus is on those powers among people who have certain key positions in the knowledge economy: "bureaucrats, administrators, public health nurses, teachers, physicians, genetic counselors, psychotherapists, statisticians, economists. The political government of individuals is effected through special competence and disciplinary credentials…. Foucault documents a new power over life, distinct from the right of the sovereign."[12]

Classically, power over bodies and populations was expressed through the idea of governmentality. Not limited to state power, and subsuming even sovereign authority, society has since the Enlightenment created institutions to guide conduct in both personal and public matters. As the requirements for a rationale for such
arrangements intensified through the emergence of the liberal state, so has the role of expertise, such as the specialized knowledge of the statesman and the scientist. Competition and conflict among parties contending for control over the both the actual results and the symbolism of biology have also intensified since the Enlightenment. As Foucault describes it, biopolitics “is the endeavor, begun in the eighteenth century, to rationalize problems presented to governmental practice by the phenomena of a group of living human beings constituted as a population: health, sanitation, birthrate, longevity, race.”[13]

Prior to the Enlightenment, Foucault argued, the sovereign exercised supreme power over life with the threat of death. With the rise of rationality as a criterion of acceptable sovereignty, the modern state asserts control not merely over life and death but also over ways of living. The justification for the exercise of this biopower is the need to regulate labor, punishment, public health, reproduction, and various other core cultural habits for the sake of social well-being. Biotechnology may now be added to the list. In the words of another writer on Foucault and biopower, “[g]enetic engineering and genetic-based pharmaceuticals, among other biotechnological pursuits, share an approach aimed at identifying and engineering what are seen as the most basic components of life.”[14]

Foucault’s idea of bipolitics must brought up to date. In the more than quarter century since his death, we have entered what has been called the “biological century.”[15] If that description it accurate, what does it mean for our politics? The anthropologist Paul Rabinow puts it well: “My educated guess is that the new genetics will prove to be a greater force for reshaping society and life than was the revolution in physics, because it will be embedded throughout the social fabric at the microlevel and by a variety of biopolitical practices and discourses.”[16]

In the early 21st century we are crossing the threshold to a new biopolitics. Rather than with control over bodies and populations per se, the new biopolitics has to do with control over the tissues, systems and information that are the basis and manifestation of life in its various forms. This new biopolitics is vastly more subtle and in important ways potentially more powerful than familiar political struggles about biology, like those having to do with the ability to terminate a pregnancy or certain clumsy forms of eugenics, and there are already many more protagonists in biopolitics than in the past. Whether the new biology actually achieves the Promethean power that is often touted, the symbolism alone invites struggles for control. Neither government, the private sector nor the scientific community will be safe from the risk of a grave loss of confidence in its ability to manage the emerging forces that the new biology seems poised to let loose. If only some of the predictions bear fruit, the new biology will challenge everything in its path, from our understanding of ourselves as living creatures, the ways we live, our relationship to the world, our social arrangements and values, and our political systems.

Science/Technology/Invention/Innovation

The new biopolitics has taken shape just as two venerable distinctions are, in some respects, in the process of collapsing. Technology has been around since at least the beginning of agriculture, on some accounts even extending back to the tools and weapons used by hunters-gatherers. Plato wondered how it was possible for mortals to have knowledge of craft or techne. But science is a latecomer. One difference between science-based and nonscience-based technology is that scientific theories often have surprising implications that even their pioneers don’t anticipate. A classic example of the surprising nature of science is the fact that Albert Einstein had to be persuaded by Leo Szilard that the atomic bomb was a practical possibility, partly in light of the Einstein’s own Special Theory of Relativity, so that Einstein would lend his prestige to a letter alerting FDR of the potential for a weapon holding massive of destructive capacity based on the new physical theory.

The development of science-based technology is remarkably recent, accelerating only toward the end of the nineteenth century, with specific, crafted applications of ideas drawn from the emerging explanatory and demonstrable theories, especially in biology. And of course it is still possible to engage in technical manipulations of the world without paying attention to any underlying theory, so science and technology will never be identical. But there is every reason to believe that the convergence between science and technology will go on indefinitely. For a time the idea of starting with a scientific theory as a way to solve a practical problem was so novel that the term “applied science” was used. But so much technology is now science-based, as in the development of new microprocessors, that what used to be called applied science is becoming virtually synonymous with technology.

To appreciate the traditional relationship between technology and invention, take the example of Thomas Edison. He was both a nonscience-based technologist and an inventor. The incandescent light bulb was built on a diverse array of gradually improved materials and owed its origins only very indirectly to electrical theory (an early theorist of which was another great American inventor, Benjamin Franklin).[17] Alexander Graham Bell was another to whom the term technologist/inventor applies. Both Edison and Bell were brilliant craftsmen who addressed a technical problem. But neither was an
innovator. Innovation, in the words of the historian Harold Evans, involves more than inventing a new technology; it involves “a universal application of the solution by whatever means. . . . Invention without innovation is a pastime.”[18] Universal application is a matter of dissemination, of moving an ingenious solution out into the world. In that sense, the telephone as an innovation is owed to someone who is hardly a household name: Theodore Vail, the founder of AT&T. His vision and organizational genius turned Alexander Graham Bell’s technology into a national telephone system through the merger of Western Union and the Bell Company.

The distinction between invention and innovation is more formidable, because it is usually still true that what works in a lab could be prohibitively expensive to disseminate or might not be publicly acceptable. But in some cases, the internet has virtually (the pun is coincidental but fortunate) eliminated the costs of innovation. The Pentagon’s invention of the internet in the 1960s created the opportunities for innovators like Tim Berners-Lee to develop the World Wide Web. Reminiscent of AT&T’s Theodore Vail, who married two entities to produce his communications system, Berners-Lee joined hypertext to the internet to produce the Web. Today, thanks to that fantastic resource, it is possible to invent an iPhone application and disseminate it almost immediately with hardly any capital requirements on the part of the inventor/innovator. Unlike the case with energy, where the costs of moving from invention to innovation are notoriously high, where the key product is information the moment of invention is also the moment of innovation. With little notice, much the same convergence of invention and innovation is happening in laboratory biology, as genetic sequences can now be e-mailed to labs around the world, and chromosomes reconstructed from the biochemical data. In this sense, as well, ease and immediacy of scientific communication are giving the scientific community leverage as a new invisible college and also constituting a global force, a world polity of instantly shareable knowledge and innovation.

Biopolitical Organizing

It is no accident that biopolitics is coming into its own just as knowledge of basic biological mechanisms is beginning to present opportunities for remarkable medical interventions. Previously, the concrete power of biology and contributions of basic biological knowledge to human health has been a matter of debate. The extension of the human life span in the developed world since 1900 has until recently been almost entirely attributable to improvements in public health, particularly the eradication of infectious disease through improvements in water supplies and personal hygiene; as a wag once observed, whoever invented underwear was perhaps the greatest contributor to public health of all time. However, it seems that in recent years a growing portion of the developed world’s increased average life span is due to medical interventions, especially in the elderly. As more is learned about gene expression and cellular processes, these interventions can take place earlier in life, resulting in less suffering through disease prevention and perhaps still longer lifetimes. If longer lives are also lives of high quality, the benefits for human flourishing could be vast, but the power that underlies these improvements will, like all sources of power, be a matter of contention. In the midst of these struggles for control both the legitimacy of the life sciences as governable and trust in the goals and practices of scientists themselves, will be at risk.

In the past few years a handful of thinkers and activists have explicitly or implicitly recognized the new biology as a new way of organizing around political values. The questions raised by all sides in biopolitical debates are of ultimate importance for the way we see ourselves as a society and because, unlike many political questions, the usual ideological labels are a poor predictor of policy positions. The anti-genetics crusader Jeremy Rifkin was perhaps the first political organizer to notice that anxieties about the implications of modern biology cut across the familiar left-right political spectrum. "The current debate over embryo stem cell research, as well as the debates over patents on life, genetically modified foods, designer babies, and other biotech issues, is beginning to reshape the whole political landscape in ways no one could have imagined just a few years ago . . . . Although reluctant to acknowledge it, both social conservatives and left activists are beginning to find common ground on a range of biotech-related concerns . . . . The threads that unite these two groups are their belief in and commitment to the intrinsic value of life and their growing opposition to what they perceive as a purely utilitarian perspective on biotech matters being extolled by scientists, politicians and market libertarians"[19]

These issues have already begun to make for strange political bedfellows. Some on the left oppose these changes as further threats to human equality, while some on the right worry about the implications for human dignity. Alliances of convenience will develop as people with differing political sympathies could make common cause when these issues arise. All but a few libertarians, radical technophiles and pro-business capitalists have at least some reservations about these kinds of developments. As Rifkin notes, “[i]f the convergence [between social conservatives and left activists] continues to pick up momentum, conventional politics could be torn asunder in the biotech era.”

In a telling foretaste of the new biopolitical alliances to come, consider the shortage of organs for
transplant. The medical and bioethical establishments favor altruistic kidney donation. This has been the mainstream view ever since transplants from living donors have been feasible. But there is not nearly enough supply to satisfy demand, leaving thousands to die of kidney disease each year. Recently, however, a prominent conservative intellectual has joined forces with a well-known pro-choice advocate to challenge the public policy that prohibits compensating organ donors.[20] Meanwhile, most cultural conservatives and social liberals worry about the moral and social implications of paying for organs, even though lives could be saved.

The philosophical intersections that grow out of the new biopolitics can be mapped. Mainstream bioprogressives align with traditional business conservatives in favoring private enterprise. Bioprogressives on the left emphasize regulation, equality, and the common good, while bioprogressives on the right are often of a libertarian cast, emphasizing free enterprise as the most reliable source of innovation. Bioconservatives include both religious traditionalists, mainly Christian, and secular neoconservatives who do not appeal directly to religion but rather to certain traditional religious values in their critique of science, which they regard as a threat to human dignity and moral equality; some appeal to a core concept of human nature itself. "Green" progressives harbor deep doubts about the implications of science for social justice, often striking a distinctly bioconservative note. A small but growing and vocal philosophical movement, transhumanism, largely embraces technological change as promoting the very values cherished by bioconservatives. In spite of some important dangers, transhumanists see the prospects for drastic enhancements in what bioconservatives regard as an essential human nature that is too precious and fragile to withstand human manipulation.

Quite different understandings of the history and implications of science and technology, and about the ability of human beings to adapt to moral challenges, are at the core of these philosophical differences. Perhaps with more dialogue about the core differences the policy disagreements may be ameliorated. After all, if many on the left harbor doubts about science, they have nonetheless not been driven into the arms of social conservatives. Nor are many social conservatives as negative about science as some rhetoric would suggest. We might hold out the hope all sides could be convinced that science, within carefully negotiated limits, can enhance and enrich the quality of our spiritual as well as our material lives. This is, in essence, the mainstream liberal and progressive view. Yet I think important differences among these novel biopolitical alliances will remain, differences rooted in quite different understandings of the relationship between scientific ways of thinking and human rights, as well as lingering and characteristically post-Enlightenment reservations about the trustworthiness of scientists themselves.

In a way, of course, these political realignments are only new ways of shuffling an old deck. Like generals, political organizers are good at fighting the last war. For those perceptive enough to identify them, however, the new biopolitics also creates opportunities for novel forms of organization and innovative social movements. As is true of the new biopolitics in general, there are already clear signals of what is to come. Take the case of advocacy concerning the needs of persons with certain diseases, disorders or disabilities. Polio sufferers and their families, persons in wheelchairs, cancer patients and others have come to be powerful interest groups, securing funding and publicity for massive public health programs, accessibility measures like curb cuts and ramps, and government support of cutting edge research programs. It is now common to speak of “disease communities,” a 20th century form of affiliation and self- and mutual identification. Those advocating on behalf of research funding for diseases that are too uncommon to have much political clout on their own have organized into rare disease coalitions. Perhaps the most vivid example of the legislative possibilities of these efforts is the long-term growth of the NIH budget and the passage of the Americans with Disabilities Act in 1974.

One group has that has explored the implications of this new kind of movement is the Little People of America (LPA). Since its founding in 1957, the group has scored impressive gains in both concrete public policies and intangible public attitudes toward those of short stature. Increasingly, members find themselves at the interface of prevalent conceptions of the “normal body” and the growing number of ways to use biotechnology on behalf of a chosen bodily identity. At least some couples who both have achondroplasia, a genetic anomaly that causes short stature, would prefer to have children with the same condition. They want their children to feel fully part of the culture of their community, as they define them. Similarly, there is longstanding division among people with hearing impairments about whether cochlear implants are culturally acceptable or reinforce a stigmatizing notion of disability.

Short stature and hearing impairments are physical conditions that have opened the door to political organization, a sense of community, and even a redefinition of culture. Still more profoundly, genetic knowledge is creating a novel sense of deep kinship that is founded on genetic identity itself. As Rabinow puts it, “There already are, for example, neurofibromatosis groups who meet to share their experiences, lobby for their disease, educate their children, redo their home environment, and so on….[I]t is not hard to imagine
groups formed around the chromosome 17, locus 16,256, site 654,376 allele variant with a guanine substitution.”[21] Not only does modern genetics create a sense of community among those with certain conditions, it makes it possible for people to select for children with the same conditions. Some will be physically manifest, some will not, but in either case they will change the ways that people view their shared interests. In other words, politics will increasingly become biopolitics.

Though of course moral questions about reproduction stand in the background of much of our biopolitics, we may be confident that these questions will themselves be transformed by events we cannot anticipate, in both science and public affairs. Some of the emerging topics I will discuss are directly related to the politics of reproduction, others to the ways that we die, and still others to the remarkable prospects for new directions in health care, in knowledge about our biological nature, and for the enhancement of “natural” capacities in ourselves or our children. Formerly clear lines will be blurred; inquiry has a familiar and sometimes annoying tendency to upset comfortable ways of thinking. Although the results will almost certainly not conform to our most confident predictions, both our reasonable expectations and the surprises in store will force reexamination of ways we think of ourselves as individuals and about the ways we arrange to live together.

Notes
3. The spokesman was Rick Weiss, former Washington Post reporter and my former colleague at the Center for American Progress.
5. And controversies about new technology often miss the mark. In 2010 conservative Virginia state legislators worried that implantable microchips, which use G.P.S. technology to track Alzheimer’s patients who tend to wander, might be the “mark of the beast” warned of in Revelations. In their fundamentalist zeal the Virginia elected officials who worried about Biblical prophecy missed a truly worrisome social question raised by implanted microchips: the prospect that someday everyone’s physical location could instantly and constantly be recorded and accessible.
7. Yuval Levin, “Public Opinion and the Embryo Debates,” The New Atlantis, Spring 2008 http://www.thenewatlantis.com/publications/public-opinion-and-the-embryo-debates. Arguably the wording of the relevant question was rather loaded: “It is unethical to destroy human embryos for the purposes of research because doing so destroys human embryos that are human beings and could otherwise have developed and grown like every other human being.”
11. For the record, though the elements of Foucault’s thinking described here have been a source of inspiration for part of the argument in this book, it does not follow that I endorse all of Foucault’s view about science, or what are often taken as his views, including that science has been mainly part of a conspiracy of hegemonic exploitation. It seems to me that the role of science in political history is more subtle than was captured the fashionable academic slogans of the 1970 and 80s.
15. I believe this term was first used by Gregory Benford in an article in Engineering & Science in Spring, 1992. At the risk of being a lot more pedantic than I want to be in this book, I believe the grammatically correct expression is “the century of biology.” Still, the point is clear enough.
17. Edison seemed to believe that, in his case, too much conscious focus on theory would impair his remarkable intuitive powers. Referring to the formula for voltage, Edison recalled that “At the time I experimented I did not understand Ohm’s Law. Moreover, I do not want to understand Ohm’s law. It would prevent me from experimenting.” Cited in Harold Evans, They Made America (New York: Little, Brown), 2004, p. 192. Interestingly, Morse also didn’t seem to know much of the relevant theory of the day with regard to batteries for electricity; if he had he might have saved himself much time.
18. Ibid., pp. 6-7.
21. Rabinow, Ibid.
AP: Others have written on biopolitics, especially from a continental perspective. Those writings often tend to be much more obscure than the typical work in bioethics, and to offer sweeping assertions about all of society, for example, as opposed to suggestions about specific problems and solutions. How have you been able to write on biopolitics, yet still deliver the kind of ethical or political argument that most readers in bioethics are likely to expect?

JM: I don't know that I'm going to provide a view of biopolitics that people in bioethics expect. In fact, if I have, I probably haven't accomplished what I'd hoped to in this book. What I wanted to do is take the premise that pretty much everybody seems to agree is true, that bioethical issues have increasingly become a part of our politics, and a corollary of that premise is that bioethics has become politicized, without defining any of those terms. Just take that intuition and step back and say, "what if that's all true? What does that all mean? Let's try to unpack that intuition, that widespread perception and apply the tools of history and of philosophy of science, of science policy, political theory, American studies, let's try to apply a whole variety of analytic techniques from the social sciences and history, and let's see what we can make of what I call "The New Biopolitics." Your reference to the continental perspective is very apt for me because I think one way to view what I will try to do in The Body Politic is as a next step from Foucault, who used the term biopolitics and really popularized the term, though it was around before that.

Foucault's idea of biopolitics was of these measures of what he calls governmentality, a mentality of governance, and that the governance was with respect to control of bodies and of populations. Foucault claimed that this notion of governmentality had intensified for pretty much the last five hundred years or so. Well, Foucault died in the 1980's, and had he lived, he may very well have taken the next step, biopolitics as control of cells, and of tissues, and of the information contained in cells. That seems to me to be where the most intense battles are going to happen in the next decades in biopolitics, they're not necessarily going to be over bodies and populations so much as, what we're seeing in our politics now, is control over cells, and tissues, and the information contained in cells and tissues. For me, the sentinel event, the one that just really signaled this happening, kind of the full crystallizing of biopolitics in this sense, is the stem cell controversy. But even before that, as I describe in the introduction of my book, we have indications of what would happen, starting with the issues that have interested bioethicists since the 1960's, the first bioethicists, they were interested in some of these things. They were interested in cloning, for example. There was a pretty intense debate about cloning in the 70's and early 80's between people like Joseph Fletcher and Paul Ramsey and they took very different views about where biology is taking us as a species. So I reach back to earlier issues in bioethics, before they became intensely politicized.

This is actually a process that has been going on for a while, but, the stem cell controversy took it to a new level because it became partisan and deeply ideological, and, for the first time, you had a biopolitical topic that became an issue for presidential campaigns. That's the drift of one big part of the book, and the other piece of it is the role of biopolitics, particularly in America, and this goes back to my days as a teacher of American Studies. The question of how, as the paradigmatic product of the enlightenment, America views the role of science. And then of course now, even though science has been so important in America, there is a level of unease with the life sciences and that unease is cross-ideological, that is, you'll find people on the left and people on the right who are anxious about what the new biology could do. A large part of the book is about the role of science in America, the role of biology in the American narrative, but also the way that American politics is shifting around these biopolitical issues.

AP: Your approach does sound like a very different approach than what's traditionally been taken in bioethics, how do you expect the bioethics community to react to the book?

JM: That's a great question. In a way, the book is really not addressed so much to the bioethics community, but I hope that they'll see it as a constructive attempt to place the bioethical issues in the larger political, social, and historical context. There's going to be a lot of disagreement about my interpretations, and I understand that, but I hope that they'll see it as an attempt by somebody who has been in the academy and also in the policy world to put the bioethical issues in the larger context. Really, I'm addressing the lay public as much as
any professional group. Let’s articulate what seems to be going on with the role of what you might call the politics of biology in our political life. Although I hope my colleagues in bioethics will take The Body Politic seriously, I’m actually trying to reach a larger audience than that.

AP: How do you see your book contrasting with the work of philosopher, said “boy your American philosophy

AP: On a similar note, a lot of the contemporary provocative.

JM: One of my friends, who is a sociologist, when he saw one of the references that I made to Foucault as a philosopher, said “boy your American philosophy colleagues are not going to talk to you any more!” I think there's a rather dismissive view of philosopher-historians like Foucault, certainly in philosophy, and to some extent that's also been true in history, though I know history as a discipline a whole lot less well than I know philosophy. I think that at a 30,000 foot level, Foucault's ideas are useful, and I’m not going to defend him as a philosopher of history, or even as a narrative historian, but I do think that there are these sort of larger ideas that we Anglo-American types could benefit from talking about, that are in the corpus. I take Foucault's ideas as heuristic, they're not the last word, but they're a very provocative set of ideas. The notion of governmentality I find especially provocative.

AP: On a similar note, a lot of the contemporary continental are working on the idea of transhumanism, which you mention in your book. [JM: And British, Australian, and New Zealand as well, and some Americans.] Do you expand on this more? What would an example of a transhumanist stance be? Do you think it has much to offer biopolitics?

JM: One mistake that people make about transhumanism is the notion that all transhumanists necessarily embrace everything that's coming down the pike. I think that's not the case, rather, the first transhumanist proposition, and I say this as someone who doesn't consider himself a transhumanist, is that some profound change is almost inevitable, given the convergence of the life sciences. A change in the nature of what it means to be human is in the offing. That's the proposition that I think that they share. That is, unless we blow ourselves up, that's highly likely. The second question is, will those be good things, or bad things? That's where there is divergence among transhumanists. You have somebody like a Nick Bostrom who takes seriously the risks, or you have somebody like Jay Hughes who is more inclined to emphasize the benefits. I think transhumanism needs to be taken seriously because there is no question that science is powerful, and that it's intensifying and accelerating in its power and its potential, although I do think that there is a great deal of exaggeration, and that the community takes some of the blame for this, the fact that there is some hyperbole, and I don't think that we're very good at all at predicting what the implications will be. I think that the transhumanists have something interesting to say, and, from the point of view of the history of philosophy, they are an extension of what starts with people like Schopenhauer and Nietzsche in the 19th century, so they are in a pretty rich philosophical tradition.

Let me talk about bioconservatives, too. Another analytical point in the book is that when we talk about bioconservatives, we have to distinguish between at least two different flavors. The first is the one that people usually think of, which is the religiously based cultural conservatism, which comes out of, perhaps, conservative Christianity. But there is another flavor, and this flavor could include people from the left as well as the right. A right bioconservative could be somebody who is, for reasons of concern over the loss of important traditions, very concerned about the implications of the life sciences. These are the neoconservatives among the bioconservatives, these folks were the intellectually dominant thinkers in the Bush Administration on the president's council on bioethics. They were not necessarily the explicit religious thinkers, but they take religious tradition very seriously. Then you have the left bioconservatives, you might call them The Greens, and they're also very concerned about this, about undermining human dignity and human equality, true to the life sciences. Their critique is very similar in some ways to that of the neoconservatives. They're very worried about human alienation and commodification, for example, which are concepts that come right out of Marx and Engels, and the Frankfurt School of Critical Theory. In this respect, you have bioconservatives on the left and the right, and you have bioconservatives who have more of a religious interpretation. This is just an example of how biopolitical issues create realignments, and the potential for different kinds of alliances, at least for certain limited purposes, between people who might otherwise disagree about things.

AP: What are your thoughts on groups or movements characterized by a genetic identity, such as Little People of America (LPA), which you mention, and others, such as the neurodiversity movement and the movement toward a deaf community. In what way are these groups raising new questions, rather than reshaping the same concerns that have been with bioethicists since the start of the
discipline? Is it possible, in your view, that we might at some point decide that we’re trying to make our conventional systems of ethics do something that they can’t, and that we need to radically rethink those systems in light of the value-claims that these emerging groups are making?

JM: It’s so interesting that the idea of community has changed so much. In America, we’ve kind of always struggled with community, from the Puritans who found themselves trying to create a community precariously perched in Plymouth, they try to create a community by convincing themselves that it’s so important, for all of Christendom. Then you have the continuous western movement. It was the 19th century philosopher Josiah Royce who brought this up in the gold rush, and his philosophy is a philosophy of community. And then we have these Post- World War II worries about the loss of a sense of community, and in the 1980’s this notion of bowling alone, and now we have Facebook and you can create new communities, and you can friend and unfriend, and you have virtual communities. Community is an idea that I don’t talk about much in the book, but Americans are kind of obsessed with it. Now, the most technological societies are creating new communities, and Americans are trying to figure out how to do new affiliations, and are affiliating around disease groups. One of the anthropologists I quote points out that they are affiliating around genetic alterations. The Little People of America have not only unified around genetics, but also have been very effective in insisting on a new kind of human rights that partly grows out of their sense of community, which is a biological sense, not only their size, but also their genes. They insist they have the right to pass their genes on to their children if they want to. This is part of the story of community and technology in America that I think is very interesting, the way these dynamics are interacting to create new notions of community.

AP: Do you see parallels between that community and other communities such as the neurodiverse community or the deaf community? Do you see them moving in a similar direction?

JM: There are definitely some similarities. There are those who insist that if they want to have kids with achondroplasia they should be able to, if they want to have children who are deaf like them, they should be able to. Obviously the ethics of this is really complicated. What I’m more interested in is the sociology of this phenomenon, and how science is creating opportunities for people to create new ideas about their rights, new families of rights that we hadn’t thought of before.

AP: Do the implications of biopolitics reveal that bioethics has always been deeply involved in science and technology in the life sciences, or in your view do bioethics, and by association, bioethicists, have a bit of catching up to do in light of these new ideas about human rights?

JM: The integration of bioethical discourse into biotechnology is a several-decades old project that shows every sign of intensifying. And it’s not only the United States, it’s global, especially in countries where we see ourselves as competing in biotechnology. You know, Singapore has long been interested in some form of promoting certain kinds of reproduction and certain kinds of people. And they also are building this new biotechnology base and they’ve been incredibly successful. This is going to be a struggle that’s going to go on for decades and happen at all levels; in government, political organizations and NGO’s, and then there’s intellectual property which we don't talk about as much as we should. That’s going to drive a lot of this, it’s going to happen in all sorts of ways. What I’ve been trying to do in The Body Politic is to set up a framework to use to continue to talk about these things.

AP: In most countries where bioethics is discussed, human research is monitored by IRBs, or similar bodies. What do you see as the key challenges that IRB members are likely to face in coming years if the trends that you identify in biopolitics continue?

JM: One of the peculiarities in the IRB system, at least in the United States, they’re called REB’s in other places, but in the United States, by regulation, IRB’s are not supposed to make judgments about the value of a certain kind of science or a certain protocol, or policy judgments. IRB’s aren’t really the first place I would look, and frankly it didn't even occur to me to think about IRB’s even though I’ve been involved with them for a long time. I don’t know that those kinds of activities in mainstream bioethics are the first place to look, I see biopolitics as bubbling up more in advocacy groups and organizations, and with political candidates and think tanks. I think IRB’s are often downstream of these things.

AP: Whenever bioethicists gather, at conferences for example, there is usually lively discussion about the promises and perils of mixing philosophy and politics. In particular, there are typically concerns raised about whether a philosophy professor who must answer to elected officials can remain committed to Truth, or whether arguments and conclusions will be overly influenced by the messy, practical realities that politics can often involve. Could you say a bit about where you
JM: That's a great question! People in Bioethics think of themselves as both social reformers, introducing informed consent and so on, and I think they've been very successful at doing that, but they also think of themselves as scholars. In the former sense, if you're going to think of yourself as an advocate, you're going to have to take a position. People try to be somehow above the politics, where politics is taken as pejorative, I don't see politics as pejorative, I think it's how people learn to get along without violence. I guess the first answer is politics is not a bad thing. It can be, but it's not always necessary. As social reformers, bioethicists like to be above the fray, and as scholars they like to think of themselves as above the battle, but if you think about fields like English, Economics, Political Science, people who are in those fields as professionals are very political, and yet, when they go to a meeting of the MLA, or the American Economics Association, or the American Political Science Association, they are able to talk to each other in spite of their political activity with outside political associations. Ethicists need, it seems to me, to be able to do that too, but we have a problem because unlike the economists, for example, we don't have a commonly accepted corpus. And so, for example, everybody in economics can agree that The Wealth of Nations is on the short list of what you should read, and that's whether they're on the left or the right, everybody should know The Wealth of Nations. I don't know that we have a similar corpus in Bioethics. I teach The Principles of Biomedical Ethics every chance I can, Beauchamp and Childress, and I think most bioethicists would say that that's a landmark text, but there are some people who consider themselves bioethicists who might be Christian conservative bioethicists, for example, who wouldn't agree with that. This, I think, is one of the problems that we have. I don't see bioethicists getting involved in politics as the problem, I see the problem as the lack of a curriculum that we can all agree on as our field, unlike the economists, unlike the professors of English, unlike the political scientists.

AP: At some level, won't it always be the case that the general public is poorly equipped to understand much of the technicalities involved with scientific developments, so that in a liberal democracy citizens must turn to experts to make decisions about, say, biopolitics? As you say, Americans tend to like science, but learning about science is not especially popular among college students, for instance. Does this suggest that there are two possibilities: either citizens can be persuaded to take a much greater interest in biopolitics, or those with expert knowledge can make decisions about biopolitics that reflect, perhaps crudely, public sentiment?

JM: The data suggests that most Americans like science, but many also think that it moves too fast. And if you dig deeper, there are certain areas where Americans are especially concerned about the rapidity of change, and the life sciences stand out. Greater science knowledge is always a good thing, but it doesn't necessarily mean that everyone's going to end up on the same page. One of the interesting things about, for example, "creation science," is that those people probably read evolutionary biology more closely than I do. Just knowing things doesn't take you in a particular direction. It's a very complicated matter, and, to an extent what I think happens when you ask people whether they believe in evolution or whether they agree with stem cell research, and so forth, is that the answers that you get are more about how these people see themselves as how they see this particular issue. When three of the nine republican candidates in the presidential debate said that they did not believe in evolution, what were they saying? That was not a line-by-line critique of Darwin and the Beagle, it was a statement of who they are, who they identify with, what lifestyle choices they would endorse, so these cutting edge science political issues are often not so much about science as they are about social networks and how people see themselves as a part of one group or another.

AP: You've written in the past on what you call naturalism in bioethics. Is that something that informs this latest book, and if so how?

JM: There is some American Pragmatism in this book when I talk about the American narrative, the way that we see religion and science as a part of the American narrative. Charles Peirce wrote two essays, "The Fixation of Belief," and "How to Make Our Ideas Clear," that are absolutely key to understanding the way that Americans came to think of themselves with respect to science. I think anyone who does history or sociology or cultural history and thinks about the development of values is a naturalist. So I'm happy to embrace that group in this context. When I was a senior in college my honors thesis was on the history of behaviorism from Descartes to Skinner, but it took me thirty years to realize that I was already a naturalist in the way that I viewed the history of science and the emerging values that can be embraced by science. I think that it's definitely in the book, not explicitly, but I think that philosophical naturalism is very comfortable, and, in fact, probably can't avoid trying to understand the origins of ideas in science and religion, and that enriches our philosophical understanding.
Part 3. Classic Texts in Bioethics

The Abuse of Casuistry and Clinical Ethics

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Introduction

Every author who writes an academic book hopes that it will have some influence. I have authored or co-authored ten such books, but I really don't know whether they have had influence or, if so, how much. Some have sold well; others dropped into oblivion. Those who bought them may not have read them, or having read them, rejected their message. I see these books sometimes quoted or cited, but have never gone to the citation index to learn more. Thus, my ambition to influence my field with written words may or may not have been fruitful.

Nevertheless, I asked the editors if my submission to the Classic Works feature of this special issue of *Theoretical & Applied Ethics* whether I could write on several of my own books. They graciously agreed. Naturally I would be pleased if some other contributor noticed one or another of my books but, should no one do so, these works of mine will have some honor, even if from their own authors. The two works I intend to discuss are both co-authored; *The Abuse of Casuistry*, with the late Stephen Toulmin (Jonsen & Toulmin, 1988), and *Clinical Ethics*, with Mark Siegler and William Winslade (Jonsen, Siegler & Winslade, 2010). These are two very different books but both aim at a central focus of bioethics, namely the ethical questions posed by clinical cases.

History

Dan Callahan wrote the signal statement of what was then the new field of bioethics. His 1973 article, "Bioethics as a Discipline," advised the practitioners of this "not yet full discipline," to develop "methodological strategies and procedures for decision-making" (Callahan, 1973). These methods should manifest the traditional modes of philosophical analysis, namely, logic, consistency, careful use of terms and rational justification of claims." At the same time, "the discipline of bioethics should be so designed, and its practitioners so trained that it will directly (at whatever cost to disciplinary elegance) serve those physicians and biologists whose positions demand that they make the practical decisions."

This advice contained two conflicting recommendations. The philosophical methods then in fashion were not suited to practical decision-making. Callahan wisely recognized this in the parenthetical "at whatever cost to disciplinary elegance." G. E. Moore opened a new era of moral philosophy with his *Principia Ethica*. In the first pages, he wrote that "judgments about (what is good conduct) form the substance of what is commonly supposed to be a study different from Ethics and one much less respectable, the study of Casuistry"(1903, p. 4). For decades after Moore wrote, the more respectable study of ethics had been almost exclusively absorbed with his major question, "what is good?" rather than the less respectable question, "what is it good or right to do?" At the time Callahan wrote, moral philosophy had been submerged almost completely into linguistic analysis, and even when that analysis wandered close to practical decisions, it probed the meaning of the words rather than the cogency of the choice to the case. Bioethics, in its beginnings, was in need of casuistry, that is, a reasonable approach to the actual cases faced by "physicians and biologists."

Stephen Toulmin, an eminent philosopher whose own philosophical career had begun in the era of linguistic analysis, realized this problem. While serving as philosophical advisor to the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, he and I, who was a commissioner, discussed this problem. I had some familiarity with the traditional casuistry of Roman Catholic and Anglican moral theology. We wondered whether that approach to moral problems which prevailed from the 16th to the 19th century, might shed any light on the problems posed to the Commission: under what conditions might human beings be engaged as subjects of biomedical and behavioral research? At the time the Commission began its work, there were some general answers to that question. The Nuremberg Code and the Helsinki Declaration of the World Medical Association had spelled out basic principles, for example, research subjects should not be coerced, research should be socially valuable, animals should be used before humans. However, how those general answers would be applied to particular forms of research and to particular classes
of subjects remained unexplored. Was it morally permissible, for example, to perform even socially valuable research on children or on persons mentally deficient? These were the casuistic questions about what is right to do.

Casuistry

Toulmin and I obtained a National Endowment for the Humanities grant to support research on the history of the casuistic reasoning of 16th Century European moral theology. We asked whether classical casuistry had a methodology. Did it have a form of reasoning and logical structure that allowed the casuists to move from broad principles into the tangled circumstances of actual cases and emerge with reasonable answers. Our study resulted in The Abuse of Casuistry: A History of Moral Reasoning.

It was not enough to proclaim that bioethicists should concentrate on cases rather than theory. We attempted to reveal the mode of reasoning that made possible a substantial casuistry. We found the roots of casuistic reasoning in an Aristotelian approach that acknowledged the irreducible singularity of cases about which practical decisions must be made and stressed the centrality of the circumstances that constituted cases. We also traced casuistry back to the discipline of rhetoric that had flourished in European education from classical times through the Renaissance. That discipline provided an elaborate exposition about how to formulate a persuasive argument that would move persons to act in particular ways in particular situations. Unlike the pejorative use of "rhetorical," which implies distortion and deception, classic rhetoric aimed to present reasonable arguments in support of the right course of action. Most notably, we recognized that casuistry, unlike philosophy, aimed to provide practical, reasonable approaches to the moral problems posed by penitents to confessors in the Catholic practice of confession. This intent assured that the cases must be evaluated in very particular terms and that fair and practical advice be given. In these features, casuistry was a precursor of bioethics as Callahan had envisioned it, "designed to... serve those physicians and biologists whose positions demand that they make the practical decisions."

In a widely noted article, "How Medicine Saved the Life of Ethics," Toulmin summed up the thesis of our study this way: "by reintroducing into ethical debate the vexed topics raised by particular cases, they (bioethicists) have obliged philosophers to address once again the Aristotelian problems of practical reasoning which had been on the sidelines for so long. In this sense, we may indeed say that, during the last 20 years, medicine has "saved the life' of ethics" (Toulmin, 1982). The literature of the early decades of bioethics was produced almost exclusively by scholars trained in philosophy and theology. Principles of Bioethics, by philosopher Tom Beauchamp and theologian James Childress, became the standard textbook (2009). This book exposed with elegance those "modes of philosophical analysis, namely, logic, consistency, careful use of terms and rational justification of claims" that Callahan had recommended. Beyond this, it developed four principles that could function as the essence of bioethical reasoning: respect for autonomy, beneficence, non-maleficence and justice. In these early years, bioethics had caught the attention of those physicians and biologists that Callahan had envisioned as among its future practitioners. They were truly practitioners, who had to bring their knowledge to resolution of actual clinical and laboratory problems. The dense thicket of circumstances that make up real cases still remained beyond the reach of analyses such as Beauchamp and Childress proposed. A passage from the Nicomachean Ethics posed a warning to those bioethicists who wished to go beyond theory and principles: "Matters of practical conduct have nothing invariable about them. . . moral issues arising in particular cases are not a scientific matter. Rather as in medicine or navigation, they require human beings to consider what is appropriate to specific circumstances" (Aristotle, Book II, ii, 3-1, 1104a).

Clinical Ethics

With this warning in mind, three nascent bioethicists, Mark Siegler, a physician, William Winslade, a lawyer, philosopher and psychoanalyst, and I, a theologian and philosopher, set out to write a book that would emulate classical casuistry. We produced Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine. We wished to provide physicians with an approach to moral problems that both matched the thinking they habitually brought to medical decisions, and focused on the very particular circumstances of clinical cases. Rather than begin our analysis with the four principles posed by Beauchamp and Childress, we began, as the casuists would, with the circumstances that make up a case. We proposed that every clinical case was constituted by four invariant features: medical indications, patient preferences, quality of life and contextual features. Every problematic clinical case could be viewed in the light of these four features and the principles "considered (in light of) what is appropriate to specific circumstance. Clinical Ethics was divided into four chapters, each devoted to one of the features, but we insisted that each case must be view in the light of all four. Richly described clinical cases illustrated the chapters; several of them were traced through each chapter. Recommendations were offered for the management of each case, but with the caution that every real case has variable features and takes place in distinct circumstances.
Discussion

Bioethics came into fashion during the decades of intense debate about the morality of racial segregation, gender discrimination, and the war in Southeast Asia. Environmental concerns followed soon thereafter. Moral philosophers participated in these debates. The journal *Philosophy & Public Affairs* was founded to give voice to their contributions. In this way, the urgent problems of public life forced themselves into the realm of academic ethics. Bioethics took hold in a particularly strong way, since medical schools throughout the country inaugurated courses and appointed professors. These professors, often philosophers but sometimes physicians, sought ways to present their topic in ways that would suit the needs of students of medicine. The philosophers had to become sensitive to the realities of clinical medicine; the physicians had to appreciate ethical theory. Both had to merge into a bioethics much like that Dan Callahan described in 1970. At the same time, bioethical writing flowed out of departments of philosophy, religious studies, sociology, and other related academic disciplines. These products reflected the more abstract, rigorously argued style of their origins. So bioethics has remained today both practical and theoretical, sometimes mixed, sometimes distinct.

I believe that the influence of *The Abuse of Casuistry* and of *Clinical Ethics* arises from their attempt to lean in both directions. The first book stands in the field of philosophy and religious studies and leans toward the practical world of medical decision making. *Clinical Ethics* stands in the world of clinical medicine and leans toward moral philosophy. Both books are a warning that ethics in medicine must bear the marks of proper moral philosophical reflection and of the circumstantial realities of clinical thinking. Neither should erase the other; both should invigorate each other. Whether or not contemporary bioethicists quote these books or consider themselves principalists or casuists, I believe they recognize that, in their work, they must lean in both directions. They must devise for themselves a methodology that allows them to do so without falling over.

After 24 years in print, *The Abuse of Casuistry* still maintains small but steady sales. *Clinical Ethics* is now in its seventh edition. It has been translated into seven languages. It is used widely as a textbook for medical students and as a reference for ethics committees. I assume that these two books have had some influence in bioethics. *The Abuse of Casuistry* and *Clinical Ethics* should be viewed as products of the same lineage, the casuistic tradition. The first book attempts to revive that long lost tradition and make it relevant to ethical reasoning about cases. The second applied the tradition, in a general way, to the practical task of clinical bioethics. Since these books have appeared, bioethicists have argued about the merits and the methods of the casuistic approach. A vigorous debate about casuistry versus principles was waged in bioethical literature during the 1990s.[1] Successive editions of Beauchamp and Childress have reviewed that debate. Still, all who work in the field of bioethics recognize that bioethics is immersed in the practical, whether it comments on health policy, scientific discovery or clinical care. We believe that *The Abuse of Casuistry* and *Clinical Ethics* both have influenced "the discipline of bioethics ... so designed, and its practitioners so trained that it will directly (at whatever cost to disciplinary elegance) serve those physicians and biologist whose positions demand that they make the practical decisions."

Notes

1. See, for example, the special issue of the *Kennedy Institute of Ethics Journal*, Theories and Methods in Bioethics: Principism and its Critics (1995).

References

Aristotle. *Nicomachean Ethics*.
Hans Jonas and Death

Daniel Callahan, *The Hastings Center*

**Background**

One of the first research projects of the newly formed The Hastings Center in the early 1970s was on "Death and Dying." It was organized in response to the rise of complaints about end-of-life-care, notably poor pain relief, insensitive doctors, and indifference to patient wishes. It followed on an earlier project on the definition of death. The project members of both groups were an interested and talented group, all of whom would go on to make an enduring mark on bioethics, among them Leon R. Kass, Paul Ramsey, Alex Capron, Eric Cassell, and Hans Jonas. What was most distinctive about this group in comparison with others working on end of life care in that era was its interest in death and its place in human life, not simply how the dying should be cared for.

Hans Jonas stood out among this very talented group. Trained in philosophy in Germany, a student of Martin Heidegger and a friend of Hanna Arendt, he was also Jewish and fled his native country, eventually joining the Faculty of the New School for Social Research in New York City. With the exception of me, he was the only philosopher in the group and one not trained as an analytic philosopher as I had been. Many American philosophers did not hold him in high esteem, his European training and interests out of fashion. But to our research group, many of them unimpressed with the reigning analytical mode, he was the very model of what a philosopher should be. His interests ranged among religion, biology, medicine, and continental philosophy. And in his person and history he was the nearest thing to a truly wise person most of us had ever met.

Jonas made his mark on me by his interest in the meaning and place of death in human life, spelled out richly in an article published in the *Hastings Center Report* in 1992, "The Burden and Blessing of Mortality" (Jonas, 1991). The word "mortal" was his point of departure. He wrote that the word merges two meanings: "that the creature so called can die, is exposed to the constant possibility of death; and that, eventually, it must die, is destined for the ultimate necessity of death. In the continued possibility I place the burden, in the ultimate necessity I place the blessing of mortality."

Blessing? In what way could death be a blessing? He was not, moreover, referring to a miserable individual's death, one marked by pain and suffering. It was death itself as a feature of our lives that was for him the blessing. Yet acutely aware of the fact that human beings resist death, wanting to live rather than to die, and that resistance is part of what it means to be human, he had to deal with the tension that an inevitable death poses for that part of our nature. "Being," he wrote, "has become a task rather than a given state, a possibility ever to be realized anew in opposition to its ever-present contrary, not being, which inevitably engulf it in the end….life has in it the sting of death that perpetually lies in wait, ever again to be staved off, and precisely the challenge of the no stirs and powers the yes."

Jonas makes the case of the necessity of death and its blessing in the language of evolution: "for what else is natural selection with its survival premium, this main engine of evolution, than the use of death for the promotion of novelty, for the savoring of diversity, and for the singling out of higher forms of life with the blossoming forth of subjectivity." And here is the blessing: "The ever-renewed beginning, which can only be had at the price of ever-repeated ending, is mankind's safeguard against lapsing into boredom and routine, its chance of retaining the spontaneity of life….dying of the old makes place for the young." He adds an important two-fold caveat to avoid the appearance that any and all deaths are a blessing. On the one hand, he contends, "it is a duty of civilization to combat premature death," and on the other, that death is only a blessing "after a completed life, in the fullness of time." The difference in Jonas's way of looking at death was profound for me, and in three ways, affecting my view of aging, of death in our individual lives, and of the place of death in devising health care systems.

**Aging and Death**

In the mid-1980s I became interested in the problem of health care for the elderly and particularly the likely fate of the Medicare program. Even then the projections showed that program to become insolvent in the future, a victim of longer lives for the elderly combined with more expensive high-technology treatments to keep them alive. Without some theory of limits, there would be no economically viable way of paying for their care. But for most people the idea of any limits, any rationing of care for the elderly was anathema, at once cruel and ageist.

But, I concluded, limits would be legitimate if death of the elderly is an evolutionary benefit for the young and for the species. As for the individual, death is
Death in our individual lives. Now it might well be said that, even if we make an exception for the very old, every death is still an evil for everyone else. It cuts off the possibility of the further enjoyment of the benefits of living a life, removes us permanently from the joys and satisfaction of our lives with others, and offers no obvious benefits of any kind. Jonas does not say why there is a duty to combat premature death, and in fact does not say a great deal about why life is worth living. That omission may show that he did not fully appreciate the value of life and perhaps that is where an evolutionary perspective has a major shortcoming. It tells us why some species survive and others do not, and why death makes possible change. But there are experiences and possibilities in the content of the lives of the human species not found in any other one. We might, Jonas suggests, become flat and bored if we lived indefinitely, much less to the point of immortality. Perhaps so, perhaps not: who knows? But in a curious way, his omission of an examination of the meaning of evolution for human life shows me that such an analysis would force us to move in a direction left unexplored by Jonas.

Death and health care. The provision of health care pushes us in that direction. What do we want good health for? One reason is to avoid pain and suffering. Another is that good health is a necessity for a person to fulfill his or her individual potential, that of living a human life open to all the possibilities of life. That is not to say that sick and disabled persons are necessarily precluded from such a life, but health care can help them manage and often overcome those impediments.

The difficulty with modern health care is that medical progress and technological innovation have bought us great benefits, but increasingly at an unaffordable price. Medical progress as pursued in modern medicine is essentially an open-ended venture, one that in principle knows no scientific boundaries. As progress makes possible the constant raising of the standard of good health, it no less makes it impossible to find a final resting place; only more and more suffices, but not infinite ways of paying for it.

At the heart of the drive for ever more health and longer lives is an unwinnable struggle against death, taken to be the great enemy of life. Jonas's way of thinking about death offers an alternative path for medicine and health care. It should aim to help us live out an accepted finite life span, aiming to have a high quality of life during that span. This is obviously important in thinking about health care for the old, but if we have been tutored to think that death itself is the enemy, then it will be difficult to draw a line with the aged. Death itself must be seen differently in order to have a health system with affordable aims. The route of public health and prevention offers an alternative path, reducing recourse to expensive high-technology medicine in favor of greatly improved care at lower levels.

References
You Get What Someone Else Will Pay For

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Abstract
Although information about risks, benefits, alternatives and costs is offered to human research participants in informed consent documents, information about how much the tested medical intervention is expected to cost future patients is not routinely made available to research participants. Two arguments are offered in support of including this information. First, justice demands that participants are given this information so that they do not inadvertently sign up for studies to test interventions that in the future will be out of their financial reach, or the reach of their family or community. Second, the cost of an intervention is rightly part of the risk/benefit profile of any medical intervention, and as such should be included so that research participants can make a judgment comparing the tested intervention against the current standard of care, if one is available. Several objections to this new practice are raised. Sharing the future costs of the treatment under investigation may be prohibitive to study sponsors who don't yet have that information; it may be unhelpful to participants who won't know what to make of the information; finally, the information may not be relevant to current participants. Replies are offered to each objection. It is concluded that research participants should be given information about the future costs of the medical interventions they are testing so that they might be fully informed about the risks and benefits of the medical intervention under study.

Introduction
Prior to medical treatment patients are provided information about the risks, benefits, alternatives, and costs of the treatment. The patient's voluntary agreement to the treatment on the basis of an understanding of this information is what is meant by informed consent.

When research subjects, often referred to as research participants, give informed consent to participate in a clinical trial, they are offered the same type of information. In terms of risks, informed consent documents may include lengthy discussions of the possible risks, the likelihood of those risks, and what to do to avoid certain risks. In terms of benefits, Institutional Review Boards (IRBs) are very careful to make sure that the benefits of a study are not over-sold, so that participants don't fall into a therapeutic misconception. Participants are told about the alternatives: If a potential participant does not wish to enroll, what other courses are available to him or her? If the participant wishes to cease participation at any time, what is the orderly means of withdrawing from the study? When it comes to costs, participants are told who is paying for the study (the "study sponsor"), whether their time or efforts will be reimbursed, and whether compensation is available for injuries incurred during the study.

For a long time now I've believed that detailing only the above information about costs does not sufficiently inform research participants. People are enrolling in clinical research studies, testing a new drug or device, without a crucial piece of information about costs. Furthermore, that missing piece of information may have significant bearing on whether participants would actually volunteer for clinical research studies. Here I propose an additional piece of information that should be integrated into future informed consent documents: Informed consent documents for clinical research studies should disclose how much the new intervention is expected to cost future patients.

In the course of my career I've served on three IRBs, I've chaired two, and currently chair one and sit on another. And yet I have no recollection of ever seeing an informed consent document that let prospective participants know the sponsor's estimate of the future cost of the intervention under study.

The Argument From Justice
Having this information would be important for two reasons. First, participants should know if they are helping to gain approval for a medical intervention that would be financially out of reach for them as patients. Many bioethicists believe that it is morally wrong and exploitive to have a cohort of research subjects test a drug or device that is beyond that cohort's ability to obtain in the future. This perceived injustice was the basis for many people's criticisms of the short-course AZT trial for vertical HIV prevention (Glantz, et al, 1998). This study protocol recruited participants from Africa and Thailand. The protocol was successful in demonstrating that a shorter course of AZT was superior to a placebo. The short course study did not randomize subjects against the longer course, which had been demonstrated to work in the 076 trial. However, the rates of vertical HIV transmission
in the short course were found to be comparable to the more expensive long course of AZT in preventing mother-to-child transmission of HIV [1]. Many took issue with the short course trial because even though it demonstrated that a lower-cost treatment was effective, the new treatment regimen would nonetheless remain beyond the financial means of the African and Thai research subjects, and their cohorts. Instead, the shorter course of AZT would be widely available in developed countries, even though it was tested in developing countries. There is an injustice in allowing one group of people to bear the risks of the study, while another group benefits from the knowledge gained.

Some may argue that the research subjects in the short course trial were not exploited, and there was no injustice, as long as participants were given the information needed to make an informed decision. If they were given information about the risks, benefits, and costs, and yet they still chose to participate, that was not exploitation. However, one of the essential pieces of information they should have been given was that while they were testing the drug, the drug would be financially unavailable to their family and friends if ultimately approved. Participants in all clinical trials should be given information about how much a study drug is expected to cost, so that they are not in the position of the African and Thai participants discussed above, experiencing the risks of the research without their cohorts being able to gain from the expensive treatments if they are ultimately approved.

The Argument From Disclosure of Risks and Benefits

Second, the costs of a new drug or device are rightly part of the overall cost/benefit profile of that intervention. If a sponsor knows that a new drug will cost four times as much as a competitor, but the medical benefits of the new drug are only marginally better than the competitor, it isn't clear that the new drug is that much better. Fleck (2006) and Brock (2006) make this point in articles discussing the costs of the anti-cancer drug Avastin, but similar points can be made when dealing with medical conditions that are typically not as serious as cancer. Imagine a new drug under development that promises to cut in half the days that people with the flu experience symptoms. The drug is being developed as a competitor for Tamiflu, and is being tested to determine if the medical risks and benefits of the new drug are comparable to Tamiflu. However, the new drug is expected to cost $2,000 a dose, which is far more than Tamiflu, which can cost between $222 and $445 without insurance [2].

Participants should be told up front how much sponsors expect to charge for the new drug, in comparison with Tamiflu, as part of the overall cost/benefit profile of the drug. After all, the costs of the drug are part of the costs and benefits that will be taken into account by future patients and practitioners. This information would also be helpful to IRBs: Sponsors who are undertaking a non-inferiority trial of new, wildly expensive drug X, in comparison with relatively cheap standard of care drug Y, should be asked a lot of hard questions by IRBs. Using the above example, the risks of using human research subjects to study a new drug which is expected to cost $2,000 a dose, to determine that the drug is no better than an existing treatment that costs less than $500 a dose, do not appear to outweigh the benefits at all. Even if the trial demonstrates that the two drugs are of equal value medically, the fact that one costs between four and nine times as much as the other significantly alters the cost/benefit analysis. Subjects will have been asked to test a drug that no one is going use, without any benefit, the IRBs should judge that risks of the trial are too high to justify the trial taking place.

Objections to the Proposal, and Replies

One objection to this proposal is that sponsors may claim that they don't have the information about how much the drug while it is still under study, and they cannot be expected to give participants information they do not have. I find this objection disingenuous [3]. First, many of the drugs tested in clinical trials have already been approved for one condition, and now are being tested for other conditions. As such, the sponsors have a very good idea how much the drugs would cost in the future, based on current costs.

Sponsors may reply that there are too many unknowns to extrapolate future costs from current costs. If a drug is shown to work well for other conditions, the price may rise as demand exceeds supply, or the price may fall, as production of that drug increases and production costs are proportionally lowered. Even the best predictions can become obsolete as new information emerges. However, there is already a system that is designed to handle just such moving targets: IRBs are routinely given information about changes in risk profiles, and adverse events, while clinical trials are underway, as new information emerges. If new medical information changes the risk/benefit profile of a drug, then participants are given this information, as part of an ongoing process of informed consent. So, if new developments alter the predicted cost of a drug, participants can still be given that information.

Second, even for those interventions that are being newly introduced, sponsors have already run analyses as to how much the intervention would cost to develop, to produce, to store, to ship, etc. It is hard to
believe that the sponsors haven't already done this calculation, numerous times, in an attempt to determine what is best for their bottom line. To plea utter ignorance about the future costs of therapies currently under study is insincere, at best.

A second objection is that this information may not be helpful. Perhaps participants won't initially know what to do with these cost figures, and will be misled into falsely thinking a more expensive treatment is always better (Angell, 2004, pp. 95-97). While this may happen, it isn’t a reason to leave the information out. Participants probably don't know what to do initially with the information about numerous medical risks of experimental drugs. That doesn't mean that the information should be left out. Rather, having that information is part of an informed decision whether to enroll in a trial.

Participants should have the opportunity to discuss with their healthcare provider, and the members of the research team, any information in an informed consent document about medical risks and costs. If participants don't have their questions answered, they haven't truly offered informed consent to research participation. Similarly, information should be included about the future financial costs of the treatments under study. Participants should have the opportunity to ask questions about these facts and figures. Those discussions can help show that a more expensive intervention isn't always the best, just as they can help explain other complex aspects of research participation, such as randomization or the weighing of risks and benefits.

A similar objection is that information about future costs is not relevant to the participant, unlike information about current risks and costs. The side-effects of treatment are those the participant himself may have to bear, and reimbursement for cost (or lack thereof) directly impacts the financial situation of the participant. But telling the participant about the future cost of the intervention, if the intervention is approved, is telling the participant about costs to future patients, not the participant himself or herself. Why would this be relevant to the participant?

There are two responses to this objection. First, researchers and IRBs may have no idea what is relevant to the participant, but it isn't their job to leave things out of a consent form on the assumption that the participant won't find it relevant. If there is any uncertainty, we should err on the side of informed consent, and include the information. Researchers and IRBs should not have the last word as to what is and is not relevant to research participants, thus, this information should be included. Second, the costs of the new treatment under study are part of the overall risk/benefit profile of the new treatment. Participants should only enroll in clinical studies for which there is a positive overall risk/benefit ratio, but the benefits of the study may accrue only to future patients, and not the participant him or herself. And yet, knowing that those benefits may exist is part of being informed. By the same token, knowing the risks of a new therapy, including its costs to future patients, is part of the overall risk/benefit ratio. Knowing the cost of a new therapy to future patients is as essential to being informed as knowing that some benefit may emerge for future patients.

In keeping with the relevancy objection, some sponsors may be concerned that if participants knew how much the experimental drugs might cost in the future that the participants might demand their share of the profits, and as such, my recommendation would do more harm than good. In other words, if participants were reminded that this was a profit-making enterprise they would demand their share of profits, so perhaps it is best not to remind them. Whether or not participants are fairly compensated for their efforts is a hotly-debated question (Abadie, 2010). Perhaps they are justly compensated, in which case telling participants of the costs to future patients should make no difference. Perhaps they are not justly compensated, in which case raising the issue may correct a current injustice. Finally, it is perhaps the case that there is a disconnect between appearance and reality: maybe participants think they are being exploited, when they really aren't, or maybe they don't think that they are being exploited, but they really are. Again, this is why it is essential for informed consent to include all of the information, as well as the opportunity for participants to ask questions, so that they can make a decision for themselves whether to participate in what may appear to be an exploitive situation.

Conclusion

As it stands, there appear to be two good arguments in favor of including future costs of new medical interventions in informed consent documents, and the objections to this new practice are unsound. If today's research participants volunteer to test medical interventions that someone else will pay for in the future, they should be told how much those interventions are going to cost future patients.

Notes

1. See http://www.ed.umich.edu/pediatrics/ebm/cats/zdv.htm for a summary of the comparison between long course and short course results. My thanks to Franklin G. Miller for his helpful clarification of this example.

3. Marcia Angell and Jerry Avorn are two sources who agree with my skeptical stance towards the study sponsors.

References
Consent, Exploitation, and Autonomy in Clinical Research

A Response to Barnbaum

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The requirement of informed consent is vital to the ethics of human subjects research. Patient-subjects enrolled in clinical trials should be informed of the risks, costs, and benefits associated with participation in the trial. It is far from obvious, however, just how much, and what kind of, information should be disclosed in the process of securing informed consent. In "You Get What Someone Else Will Pay For," Deborah Barnbaum points out that patient-subjects are not typically informed about the projected costs to future patients of the interventions being tested in the trials in which they participate, and she advances a thought provoking case in favor of doing so. She concludes that "if today's research participants volunteer to test medical interventions that someone else will pay for in the future, they should be told how much those interventions are going to cost future patients."

Barnbaum might be right. Still, there are complications that need to be considered. Start with the worry about exploitation. Suppose that some patient-subjects participate in a trial that down the road results in a new and better treatment becoming available on the market. Suppose further that the new treatment will be too costly for them to afford. Have they been exploited? Barnbaum suggests that the answer may be yes. She also suggests that if they had been informed of the future costs of the new treatment, and if they had given their consent to participate in the trial in light of that information, the exploitation concern could be put to rest. Thus, if we take exploitation seriously, then we may need to disclose this information in the informed consent process.

But this is not quite right for a couple of reasons. First, exploitation can occur when all parties have given their free and informed consent. For example, an unconscionable contract remains exploitative, even when it is freely entered into with full knowledge of its terms. So disclosing information to patient-subjects about the projected future costs of interventions tested in trials would not rule out the possibility of exploitation in these trials. Second, and a bit more controversially, if patient-subjects are given adequate compensation for their participation in a trial, they may not have a claim to have future access to the intervention that is being tested in the trial in which they participate. The point here is an extension of the one pressed by Emanuel et. al. with respect to the ethics of clinical research in developing countries.[1] To rebut the charge of exploitation, it may only be necessary to provide fair compensation and to inform patient-subjects of the nature of the compensation that they can expect to receive. It may not be necessary to ensure that the compensation take the particular form of having access to the intervention tested in the trial. True, this point is not now widely accepted in the domestic context of research in the United States, but it is hard to see why the logic would not apply here, if it is sound in the developing countries context.

Putting exploitation concerns aside, the real case for disclosing the information about the future costs of the intervention being tested in the trials may be one that invokes the value of autonomy. Should not patient-subjects have access to all relevant information so that they can judge whether participation in the trial makes sense for them? But this brings us back to the issue of what constitutes relevant information. Barnbaum assumes a fairly tight link between understanding the future costs of an intervention and understanding direct future access to it. However, since most people do not pay for medical care directly out of pocket, access to an intervention will be a function not only of cost, but also of the extent to which third party insurance providers agree to cover the new intervention. Information about the extent to which any given third party provider will cover the intervention in the future will often be unavailable and/or unknowable. In the absence of that information, it is much less clear that having information about the projected future costs of the intervention will be helpful to patient-subjects in their assessments of the trial.

Barnbaum also advances a different line of argument, one that focuses on the overall risk/benefit ratio associated with an intervention. IRBs need to determine that a trial presents patient-subjects with a favorable risk/benefit profile. To do this, she suggests, they will need to have information about the projected future costs of the intervention. But do patient-subjects also need to have this information so that they too can make a judgment on the overall risk/benefit profile of the trial?

It is not clear that they do. Consider an analogy. IRBs need to determine whether a trial is scientifically well-designed to determine whether it is ethically appropriate to go forward with it. It does not follow that each patient-subject also must make this
judgment or be provided with the information necessary to do so.

In general, the assessment of a clinical trial requires a division of labor; and some persons are better situated than others to evaluate different aspects of the trial and its design. Those who serve on IRBs should have competence and experience in assessing both the scientific and the ethical merits of proposed trials. Patient-subjects may not have either the competence or the experience to do so, and it may be more appropriate to ask them to focus on the direct risks, costs, and potential benefits that the trial presents to them. This does not settle the matter, of course.

One might object, as Barnbaum does at one point, that it is not the job of IRBs "to leave things out of a consent form on the assumption that the participant won't find it relevant." They should, she claims, always err on the side of disclosing information. However, as a general rule, there are reasons to think that this is not correct. Sometimes too much information can be disclosed. To determine what is adequate or relevant information, one must be on guard against two mistakes. One mistake is failing to disclose enough information. The other mistake is to disclose too much information, thereby making it too difficult or costly for participants to appreciate the information they need to understand. The provision of less relevant or irrelevant information can make it hard for people to process the more relevant information, such as the direct risks and benefits associated with their participation in the trial. Both mistakes can compromise informed consent. And a rule that counsels us to always err on the side of disclosing more information, while safeguarding against the first mistake, overlooks the second.

Notes
Synthetic Biology and Public Health

Problems, Politics, and Policy

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Abstract

Synthetic biology ("synbio") offers a serious opportunity to improve human welfare in a number of ways. However, it has been suggested by some that the technology presents new moral problems. In this paper, I deny that there is anything morally new about synbio, and suggest a way in which we can, and perhaps ought, to ensure that its potential benefits are as widely felt as possible: by making the tools necessary for "gene hacking" publicly available. I also seek to show that the most obvious objections to such an open-source approach to biotechnology can be met or sidestepped entirely.

Introduction

On a sufficiently broad understanding of the term, synthetic biology is not new; humans have been manipulating other organisms to fit particular ends for millennia. However, the power of our ability to manipulate other organisms has grown massively over the last few decades, to a point where we are now capable of creating a self-replicating genome from scratch (Gibson, et al, 2010, pp. 52-56), and may well soon be able to create a living organism from inert material. Accordingly, there is a narrower sense to the term "synthetic biology" that has a much shorter history, and refers to the technologies that are enabled by the "genomic revolution" of the last generation or so. For the sake of this paper, I'll use the contraction "synbio" to indicate this narrow understanding, and follow the definition of synbio offered by the SyntheticBiology.org website, as "the design and fabrication of biological components and systems that do not already exist in the natural world [or] the re-design and fabrication of existing biological systems."

Synbio attracts many moral questions, a familiar example of which may concern the propriety of inserting herbicide-resistance genes into food crops. But there are those who think that synbio's ability to generate new organisms, or to alter extant organisms radically, raises questions that have not been addressed before. For example, Douglas and Savulescu (2010) claim that synbio throws into relief mainstream bioethics' failure to think adequately about what they call an "ethics of knowledge" (pp. 687-693). This ethics of knowledge would address concerns about the use and dissemination of scientific discoveries, with an eye on "the dilemma arising when scientific knowledge could be used in both good and harmful ways and the risk of harmful use is sufficiently high that it is no longer clear whether that knowledge should be pursued or disseminated" (Douglas & Savulescu, 2010, pp. 689). Nevertheless, they do not provide a wholly convincing reason to suppose that synbio requires additions to the bioethical toolkit. Their own take on the problem they raise still has a fairly common-or-garden consequentialist feel: their tone is one of risk-reduction and minimisation, and there is no reason to suppose that this is a departure from consequentialism as we know it. The most interesting problem that they raise in respect of an ethics of knowledge (that we must come up with a way to balance empirical claims about the consequences of a given scientific endeavor with non-empirical claims about the value of scientific freedom or knowledge in itself, without necessarily knowing how to load the scales or where to place the pivot) is also a reflection of fairly mainstream debates within consequentialism.

Even here, Douglas and Savulescu seem committed to the idea that there is a clear answer to be had: they claim that "no amount of intrinsic knowledge-value could outweigh" the risk presented by knowledge that "would render the destruction of humanity both inexpensive and technically easy, and thus render the destruction of humanity extremely likely" (Douglas & Savulescu, 2010, p. 691). This is a claim about the relative weight of competing goods; again, by the looks of it, it's the sort of claim that consequentialism generates and confronts. Their denial that the intrinsic good of knowledge does not outweigh the risks does not seem to be made on principle, and so does not indicate that a comparison of benefit and malefit is the wrong strategy to adopt.

For the sake of this paper, and the case otherwise not having been made yet, I shall take it as read that there is nothing lacking from the philosophers' toolkit that would be required to address synbio. Furthermore, I'll take it that the most serious moral objections to synbio come from a broadly consequentialist context. Of course, there may be objections raised from other traditions. The less serious of these articulate worries about "playing god" or "interfering with nature"; but these arguments are no more powerful in this context than they are in any other, and they are not powerful in other contexts. Just about all technology from the control of fire onwards could be classed as
interferences with nature or usurpations of the gods. Yet such things are accepted without a murmur, and nor is there any obvious reason to suppose that synbio is wildly different.

There are two more serious non-consequentialist objections. The first couples the claim that the pursuit of synbio may be rash with a claim that rashness is morally troubling. (Such a line could bolster the "playing god" objection by recasting an sophisticating it: the problem is not so much that we play god, but that we do so rashly.) But this is an objection not to synbio, but to rashness; so unless one can demonstrate (implausibly) that all synbio research and use is rash by its very nature, the objection will consistently miss the mark. The second articulates a worry about the soundness of policy decisions permitting synbio given that the novelty of the field militates against there being much information from which lessons could be drawn; hence no policy decision could be endorsed (and certainly not accepted as wise). This objection has two applications, and neither is convincing. If it is taken to refer to the pursuit of synbio, then it seems to collapse into the dogmatically anti-scientific claim that we ought not to take even early steps into terrain that we do not know. If it is taken to refer to the dissemination of synbiological insights, then it seems to collapse into a more consequentialist claim about the desirability of outcomes.

Other commentators may accept the point about the incommensurability of risk and knowledge, and combine this with the point that there is (at present) a great deal of uncertainty about the risks anyway, to formulate a claim that consequentialism cannot help us in the formulation of policies to govern synbio. If this claim is true, though, it doesn't undermine the idea that consequentialist objections make most of the running in the synbio debate; and if the theoretical approach that generates the most coherent objections to an action can't fuel itself, that is not a boon for the approaches that generate less coherent objections. It may be that there are simply no non-dogmatic objections to be had.

In what remains of this paper, I shall suggest that there are reasons to pursue and disseminate synbiological science that ought at least to be taken very seriously by consequentialists. I shall also claim that the biggest worry for consequentialists, which is that synbio may fall into the wrong hands and pose a threat, is for the most part overplayed. Where it is not overplayed, there is nothing that rational moral debate can do to address it anyway.

Reasons to Research and Use Synbio

Advances in synbio are eminently capable of being co-opted into medical research, and so one of the most obvious reasons to pursue synbio and disseminate insights from that pursuit is the welfare gains that they may generate. At least theoretically, it should be possible to design biological agents such as bacteria or viruses, either from scratch or by modification, to perform a therapeutic function. For example, a bacterium such as E. coli could be manipulated to function as an in vivo drug-factory, and so serve a therapeutic purpose in the fight against malaria, HIV, or other diseases (de Vriend, 2006, pp. 30-31; cf. Presidential Commission, 2010, sec. 3). Only slightly more radically, we could imagine a virus designed to act as the vector for gene therapy. In this way, lives could be saved or improved, and a requirement for potentially lifelong treatment regimes neatly sidestepped. Synbio also offers the chance to capitalize on other virus' propensity only to attack certain kinds of cell. For example, the virus AAV2 kills several kinds of cancer cell without killing non-cancer cells; the possibility is that it (or similar organisms) could be engineered to a higher degree of specificity and efficiency, and to avoid provoking (and being destroyed by) an immune response (de Vriend, 2006, p. 30). Indeed, an adenovirus that selectively destroyed cancerous cells was constructed by Ramachandra and his team (Ramachandra, et al, 2001, pp. 1035-1041).

It is plain, then, that there are therapeutic benefits to be had from synbio; but to be able to say that these benefits are morally load-bearing, they have to be at least as good as those offered by conventional treatment. At least sometimes, the signs for synbio are good. Take cancer treatment as an example. We know that current methods are burdensome: they are time-consuming; surgery has obvious risks of its own; radiotherapy may damage surrounding cells; chemotherapy is plain nasty; and so on. And, of course, secondary tumors may be missed. The use of an adapted virus to treat cancers offers a way to avoid all this. It would be easy to administer, and would attack cancerous cells while ignoring non-cancerous ones, thereby avoiding collateral damage. Hence this use of synbio seems to be something that ought to be encouraged, and arguably in preference to more conventional pharmaceutical interventions. It seems likely that synbio could be as useful in other contexts, too. But even if it couldn’t, all that is necessary to show that there is a reason to pursue it is to demonstrate at least one case when it could be preferable to non-synbio approaches; and that demand seems to have been met.

Sharing the Benefit (and the Work)

Having decided that there is a good moral reason to pursue synbio with the aim of adding it to the pharmacopoeia, one obvious question concerns how this pursuit ought to be organized. A particularly pressing concern relates to the control of intellectual property in synbio technologies. The context of this concern is that there is already a fairly well-established set of arguments against current IP regulations, especially as they apply to medicine. The gist of these arguments is that the system
that currently exists is one in which drug companies can act as monopolists and set correspondingly high prices for drugs over which they hold the patent, and restrict the availability of cheaper, generic drugs; all of this generates high prices and restricted access to treatments. For at least some commentators, this situation is deeply unjust; for many more, it is a phenomenon that deserves serious attention and remedy. Lest the same problem arise in respect of synbio, the question becomes this: how can we ensure that the benefits of the technology are widely dispersed, while still ensuring that those who provide the greatest advances are rewarded?

A number of possible mechanisms exists that could address the problem: patent pools, prize funds, a Health Impact Fund, and so on. One characteristic of these proposals, though, is that they require that the technology be public. This is for a couple of reasons. First, a system in which manufacturers are able to compete to sell the same drug will be one in which the power of market can (theoretically) be harnessed to the public good. Second, publicity begets efficiency, since researchers do not have to reinvent the wheel as a precursor to their own work. The most obvious way of making the technology public is by treating it rather in the same way as open-source software. On this model, the products of research would be open to scrutiny by researchers who could then adapt and use them, on the understanding that their innovation would be accessible to all in return.

Synbio and conventional pharmacology would be no different in this model: chemical formulae and genome "toolkits" alike would be available to the public for anyone to use. Any beneficial advances in synbio would therefore be maximally open to public exploitation. On this note, when in its report on the ethics of synbio the EGE notes a requirement for "debates on the most appropriate ways to ensure the public access to the results of synthetic biology" that "should include also what can be object of patent and what should be available through open access" (European Group on Ethics in Science and the New Technologies, 2009, p. 54), it would appear to be giving at least tacit support to the idea of ensuring public access to the results of synbio research. (In the US, the President's Commission seems to be equivocal on the matter of IP, noting that there are disputes about how to regulate it, and recommending simply that "the government should keep careful watch on this field and consider best practices and other policy guidance, if needed, to ensure that access to basic research results and tasks is not unduly limited" (2010, p. 121.) However, access to results is not the same as access to the means to participate in such research; the difference is analogous to that between allowing the public into a building, and allowing the public access to the means to design and build their own. True open-sourcing would be more like the latter; and unless we can come up with a reason not to embrace the latter, consistency would seem to demand that we do not restrict ourselves to the former.

An open-source model for synbio would mean that it would not be the exclusive domain of large pharmaceutical companies, but would be open also to backroom gene "hackers". Nor is open-source gene-hacking a mere fantasy. The BioBricks Foundation, a not-for-profit organization formed by a group of American Ivy-League academic scientists, makes what it calls "standard biological parts" freely and publicly available. BioBricks is associated with the International Genetically Engineered Machine (iGEM) competition, which offers annual prizes for undergraduate synbio projects; one of the 2009 competition winners was an engineered vector for gene therapy. That such projects are within the reach of undergraduates is enough to demonstrate that gene-hacking is possible, relatively easy, and reasonably inexpensive. Moreover, every other area of science, applied or pure, has seen major breakthroughs from amateur researchers, and it is not unreasonable on this basis to think that the same might happen again.

Arguments for Restriction and Regulation of Synbio Technologies

Notwithstanding the potential benefits of synbio and open-sourcing of the science behind it, there are objections that warrant being heard. I shall treat the objections to therapeutic synbio and objections to the dissemination of the science that underpins it separately.

The most obvious objection to the therapeutic use of synbio would relate to possible risks. Foresight is imperfect, and artificially created or manipulated organisms may turn out to cause more health problems in patients than they solve; additionally, they may escape into the wild, meaning that we could not easily control their influence. Still, neither of these points clearly raises anything more than an argument from precaution; and even if we think that the precautionary principle is sound, its demands can be met in the same manner that I met the rashness objection a little while ago. It is one thing to acknowledge that an activity or innovation may be risky and so commands care; quite another to forbid it simply for that reason. If it is permissible to use innovative drugs to combat disease despite the risk of unforeseen consequences (and it is) then the same applies to synbio, there being no reason to suppose that synbio is radically different from any other innovation; all we need is to ensure reasonable testing and decent regulation. The question is not so much one of whether we should take the risk, as of how best to minimize it.

Having said this, optimism concerning regulation ought to be tempered: accidents do happen, and agents do escape: we ought not to forget that the last recorded smallpox death was caused by an infection picked up by a
researcher in a British medical school. One possible stipulation the inclusion of which into policies regulating synbio might be that synthetic organisms ought to be designed to be highly sensitive to the environment, so that they cannot survive a change in their circumstances and so could not escape into the wild. Yet even this stipulation would not make the risks created by an escape go away; after all, one of the characteristics of microorganisms is that they can be very resilient, and very quick to evolve. It is therefore not to be taken as a given that a living organism designed only to survive in one environment would not be able to lie dormant in others, and would not have daughters capable of surviving and flourishing elsewhere.

Of course, there need be no ill-effects that follow from this; but there could be, and the fact that we are using a living biological agent presents the possibility that the erstwhile medicine could mutate to become a worrisome pathogen in its own right. And while it is likely that a gene-hacked organism would present no greater problem to us than would any other new variant pathogen, such as a new natural mutation of the flu virus, it's also the case that natural mutations of the flu virus do sometimes cause major public health problems. Even the relatively mild 2009 strain is estimated to have caused the loss of between 7,500 and 44,100 deaths between May and December 2009, representing somewhere between 334,000 and 1,973,000 life-years (Viboud, et al., 2010). Moreover, at least some potential applications of synbio involve the use of organisms specifically designed to avoid immune responses: if the intention is to use an engineered virus as a vector for gene-therapy, for example, the object of the project would be defeated if the immune system could destroy it too quickly (de Vriend, 2006). So there could be a legitimate worry along the lines that it is bad enough that there are natural organisms that avoid the immune system (HIV, Plasmodium falciparum and so on) without building more of our own.

Even if there aren't any ill effects that arise from an accidental release, or even only desirable ones (if, for example, we imagine that a cancer-targeting virus becomes endemic but never does anything more malign than devouring people's tumors before they even know they have them) we would still plausibly find ourselves in a situation in which we had, in effect, begun a program of random and unconsented medical intervention. The harmlessness of such an infection would be neither here nor there, morally speaking, if the source of our worry is a concern about unconsented intervention per se. (These worries are most obviously associated with non-consequentialists; but there are plenty of consequentialists who are concerned about unconsented medical interventions, too, and so this doesn't do too much damage to my earlier claim that most of the debates about synbio take place in a consequentialist context.) The problem looks likely to be compounded when we add to this the consideration that a non-living medical agent released into the wild would at least present us with a "static" problem. If we imagine that someone crop-dusts the city center with a conventional drug, even if we think that the people unwittingly "treated" have been wronged, we can at least be sure that they will not pass on that treatment to others. We can have no such certainty in respect of engineered living organisms.

Whether these worries are sufficient to warrant a moratorium is a matter I cannot address fully here; anyway, it would be unwise to make sweeping generalizations about all synbio based on a few possibilities. But it is quite likely, at any rate, that worries about releases could be mitigated by appeals to regulatory tools; and there is no reason to suppose that the open-source model for research that I outlined above would be incompatible with quite stringent regulation to ensure the greatest possible biosafety and biosecurity. We could imagine, for example, that producers would only be able to sell synbio-based treatment methods on condition that they can demonstrate that they have met certain standards to ensure maximal safety. These standards could be internationally set and be tied into WTO membership; hence producers and governments would both have an incentive to adopt and enforce them.

The potential blind-spot of such a regime is that it potentially closes off at least some symbiological innovations, notably those made by backroom gene hackers. These hobbyists are likely to be more difficult to regulate than companies would be, and they will almost certainly not have access to the same safety equipment as the large organizations. This means that they will either be forced not to work (and so close a possible conduit of discovery), or else may slip through the regulatory net (and so escape risk-minimization strategies). It is not clear how policymakers ought to respond to this problem, although it is not impossible to imagine some sort of "hacker's licence" that would be comparable to a driving licence; the idea here would be that anyone found to be gene-hacking without a licence would de facto be liable to penalty, potentially quite severe, irrespective of the harm caused or not caused, in rather the same way that a person found to be driving without a licence is liable to penalty irrespective of how good a driver he or she is.

Such a licence would mean that we could accommodate faits accomplis in our policy scheme. For example, the polio genome has already been published, and is readily available online. It is too late to worry about what would happen if the public got hold of the information, since the public already has it, and we can do nothing about it. Rather, policymakers ought to accept the fact of the publicity of this information, and similar public
releases in future, as givens, and work out a way to deal with them. A licensing scheme that was rigorous but accessible would offer a way of wringing as much benefit as possible from the gene-hacking talent in the world, while making sure that it was as safe as possible. Yet we ought not to be under any illusions about the perfection of any such scheme: it is still not a given that hobbyists would be able to afford to meet its demands. It is possible that policymakers would reach the decision that the loss of their potential contributions is a price worth paying, and any such decision could well be reasonable. Maybe some hobbyists will simply have to find another hobby.

A second dimension to the worry about synbio organisms escaping into the wild that ought to be noted is a paradox that has a significant impact on at least one dimension of public health policy, yet cannot be resolved by appeal to policy tools. The paradox stems from the fact that the reported creation of a synthetic poliovirus genome comes in the face of an international program of polio eradication, which is likely to be declared complete in the near future. This eradication must count as a major public health success; but it's a success that would be threatened by the possible creation of synthetic polio, and undermined by its accidental release.

On the face of it, a continued program of vaccination would mitigate the risks presented by the release of a synthetic poliovirus into the wild; Cello et al (2002) comment that "the global population is better protected against poliomyelitis than ever before. Any threat from bioterrorism will arise only if mass vaccination stops and herd immunity against poliomyelitis is lost" (p. 1018). Yet this claim misses something important: poliovirus infects humans alone (Porterfield, 1989, p. 126). Therefore, if it can be eradicated from the human population, the species of virus that causes the illness will go the way of the dodo. This should render vaccinations for subsequent generations unnecessary, and perhaps therefore they ought not to be given at all. Part of the reason for this is that vaccinations cost money that could be spent on other public health problems (or refunded to the taxpayer). A more important part is that any medical procedure carries with it a risk, and we ought not to impose even the minimal risk involved in vaccination against a disease that no longer exists. Yet the possibility of synthesized polio entering the wild, which must be taken seriously, would mean that we could never stop vaccinating people against the illness, on the off-chance that someone accidentally dropped the vial.

In other words, the possibility of synthetic disease-causing organisms entering the wild presents an unnecessary risk to the public, the neutralization of which brings another unnecessary risk and causes a significant and avoidable strain on public health resources as well. The worry translates widely: even if we could reliably vaccinate the population against any synbio organism that might escape into the wild, the fact that we would have a reason to do so to begin with is morally troubling. Nor should we kid ourselves that this is a hypothetical problem that arises only if we allow ourselves to believe that backroom hackers could build a virus: the Birmingham smallpox case is testament to that.

There is a good likelihood that there are good consequentialist reasons for synbio research, and that it will generate many health benefits. Moreover, it is plausibly a good thing that amateur gene hackers could manipulate DNA in their bedrooms if that promises to be beneficial in the long-run. However, we ought not to lose sight of the fact that such research and dissemination may cause problems, and moral concern is appropriate: there is a potential problem about synbio organisms becoming endemic, and possibly virulent, and a related problem in the risk that at least some synbio research threatens to undo a great deal of good that has been achieved in the field of public health. Still, to raise a problem with something is not the same as demonstrating its impermissibility, and the need to take care is not the same as a requirement to eschew it.

**Dual-Use Worries about Synbio**

One other point is worth raising. The flip-side of the benefits to be had from adopting an open-source approach to the gene that allows for amateur gene-hacking is the possibility that synbio may be used for military or terroristic purposes; it's a problem to which Douglas and Savulescu (2010) allude when they construct a thought-experiment concerning the possibility of DNA synthesis becoming accessible to terrorist groups. Though such concerns are not central to this paper, they are worth thinking about, because questions of dissemination naturally lead to questions of dual use, and how one responds to the possibility of biowarfare or bioterrorism probably ought to feature in our thinking about the shape of public health policy.

While public health authorities probably ought not to put weaponized synbio out of their minds entirely, I am not sure that they need to worry about it all that much either. The reason for this is that there is actually little reason for any group to pursue it. At one end of the scale, state actors would probably not rush to develop synbio weapons given their likely inefficiency and the ready availability of conventional and electronic means to win a war much more straightforwardly. At the other end, and though gene-hacking is becoming cheaper and easier, it is still fairly expensive, and still fairly difficult. Given that other weapons such as explosive devices are cheaper and easier to make, more reliable, and have a more obvious impact (it is not for nothing that the car-bomb has been called the "poor man's air force") any serious and rational
terrorist organization would probably be better off using them. Hence it is not obvious that a rational terrorist would, even if he could, adopt synbio into his arsenal. That leaves the irrational terrorists unaccounted for; but, having said that, *de irrationalibus non est disputandum.*[1]

**Summary**

In this short paper, I've sketched what I take to be the most fertile areas of debate in respect of the pursuit and dissemination of synthetic biology; it seems to me to be that most of the running, pro and con, is made by consequentialists, and so I have limited myself to considering the most powerful consequentialist appeals. It seems plain that synthetic biology is something that ought to be taken seriously by policymakers; their challenge will be to capture and capitalize on its significant promise, while minimizing its risks. However, while these risks are not vanishingly small, they can be met not by forbidding synbio research, but by pursuing it wisely.

**Notes**

1. "There's no accounting for the irrational."

**References**


Consequences, Conjecture, and Confidence

A Response to Brassington

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According to the abstract, part of the purpose of Iain Brassington's paper is to "deny that there is anything morally new in synbio."[1] If you quickly settle on the position that the most significant moral concerns associated with a new technology are consequentialist, then you are certainly making it unlikely that any moral problem caused is going to be qualitatively new. When the moral worries are largely worries about harms to health and environment, or security risks associated with the technology falling into the wrong hands, then such worries are familiar from numerous technologies, ranging from nuclear fission to genetic manipulation to nanotechnology. As Brassington suggests, if the issue is risk-reduction and minimization, then "there is no reason to suppose that this is a departure from consequentialism as we know it." The arguments raised by Douglas and Savulescu about the "ethics of knowledge" would likewise appear to fall squarely within the consequentialist domain (Douglas & Savulescu, 2010).

If the case is going to be made solely in terms of balancing costs, risks, and benefits, then Brassington appears correct that there is likely a strong presumption in favor of pursuing research into synbio. As he convincingly shows, there are reasons to think synbio promises enormous benefits through its therapeutic and pharmacological applications, not to mention possible additional benefits in energy production and greenhouse gas mitigation. Even after recognizing how proponents of a technology tend to be eager to hype its potential, with the classic example being the promise of nuclear power "too cheap to meter," it seems clear that one would need compelling counter-evidence that the risks of synbio outweigh the considerable anticipated benefits in order to put the brakes on research. The consequentialist burden seems to fall on the shoulders of the person opposing the technology rather than the person advocating it.

Brassington's case for free and publicly available information on synbio to accelerate the arrival of these benefits is not made on principle, but on somewhat conjectural, consequentialist grounds. Of course, it is hard to prove with any given technology that a public access approach will produce more benefits than an approach governed by rigid intellectual property constraints, because one can never run the course of the technology's development again using the alternative model. Since it is almost certain that a technology as complex as synbio differs in many relevant respects from any comparable technology that has come before it, any reasoning from past technologies has to be pretty speculative. Perhaps Brassington is right that an open source approach would exhibit greater "efficiency" and be more easily "harnessed to the public good." Perhaps it would not. I'm not clear how one would ever know. This part of the discussion merely points towards an ongoing debate on which reasonable people can differ. Since, as Brassington points out, many of the most exciting prospects for synbio are in its medical and pharmaceutical applications, the current status quo in those domains, one which for the most part embraces intellectual property, suggests that an open source approach to synbio would face considerable resistance (the work of the Biobricks Foundation notwithstanding).

While there is much to agree with in Brassington's position, one of the most disconcerting things about the paper is the unsupported finality with which a number of the claims are made. In such a short paper, it is unreasonable to expect that every opinion will be fully explored and supported. However, one of the things that tends to create alarm amongst those suspicious of any new technology is the manner in which advocates so confidently attempt to dismiss their concerns. Brassington exudes confidence in his dismissals. After pointing out some of the possible risks associated with synthetic organisms being accidentally released into the environment, his opinion that "it is quite likely…worries about releases could be mitigated by appeals to regulatory tools" does not really provide adequate reassurance. Similarly, Brassington's hope about an open source model being compatible with "….quite stringent regulation to ensure the greatest possible biosafety and biosecurity" is another example of an unsupported confidence that could alarm, rather than reassure, those who might adopt a less sanguine approach. On the important questions concerning security, is it really so obvious that state actors won't pursue synbio weapons projects simply because Brassington is convinced conventional weapons will allow them to "win a war much more straightforwardly"? Likewise for the claim that any "rational terrorist" would steer clear of trying to develop a synthetic pathogen because they would be "better off" using something
"cheap" and "reliable" like a car-bomb? We might wish for a world in which threats could be dismissed so confidently.

Brassington is not the first to suggest that consequentialist objections to synbio are the most significant as far as policy-makers should be concerned (Kaebnick, 2009). While he is probably correct to suggest that the consequentialist arguments make "most of the running" in the synbio debate, it is in the non-consequentialist arguments that the strongest case can be made for synbio breaking new moral ground. Furthermore, one could argue that while consequentialist arguments involving physical harms are more important from the point of view of making policy, non-consequentialist arguments are important for the way they can sometimes articulate something about people's initial reaction to a technology (Pew, 2005). With traditional biotechnology, it was arguably as much the principle-based arguments about "playing God" and acting "unnaturally" that motivated the social movement against GM crops in Europe as it was worries about actual harm to ecosystems and traditional seeds.

While "playing God" objections are obviously limited to those with a theological position to defend, secular versions of this kind of argument look for various moral lines being crossed or radical departures from past acceptable practices. Even if Brassington's summary dismissal of these arguments as "not powerful" is not as alarming as Drew Endy's dismissal of them as "embarrassingly superficial and simple" (Endy, 2008), both perhaps underestimate the power of these arguments to impact the development of synthetic biology. When time is taken to examine them a little closer, one finds that those cautious about the technology tend not to rest their case on something as vague as "interference with nature" (p. 4).

For example, Boldt and Mueller (2008) unpack the idea of blurring the boundary between organism and machine. Cho and her co-authors (1999) talk about a diminution of the significance of life caused by the "reductionist approach to understanding life" employed by synbio.[2] (My own claim [Preston, 2008] is that a genome synthesized entirely in the lab from constituent chemicals is the first life form with all physical connection to Darwinian processes severed.) Each of these authors disagrees with the suggestion that there is no "obvious reason to suppose that synbio is wildly different." They would be baffled as to why someone would think these developments were substantially equivalent to the development of fire. Even though such non-consequentialist arguments are unlikely to cause the development of synbio to be stopped in its tracks, they do help articulate why synbio appears to many to mark a new era in the development of biotechnology. They provide reason to pause and to think seriously about its implications. Having accomplished this, they provide additional impetus for developing sensible policies to ensure (alongside Brassington) that synbio's consequences are all benign.

Notes
1. Unless otherwise noted, all quotations refer to Brassington's paper.
2. While the worry expressed by Cho clearly concerns a consequence of the production of synthetic organisms, this concern might be viewed as a notable conceptual change rather than strictly as a harm.

References
What it Means to be Responsible

Reflections on Our Responsibility for the Future

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Introduction

The concept of responsibility is a central one in ethics but it seems to require rethinking when we consider the fact that oftentimes the consequences of actions in contemporary, technological society extend far into the future. To whom or what are we responsible, and how far into the future do our obligations extend? In this essay, I consider the question of our possible responsibility for the future, specifically the future state of our planet, and the well-being of future people and other beings. I argue that we do have responsibilities to future people and an obligation to try to preserve and protect the planet and its living beings for the future, and I present a new concept of responsibility, one that provides a way of understanding our actions in light of concern for the future.

The central problem with an argument that considers the effects of present actions on the future world lies in the fact that those acting today will not exist in the world they are affecting with their actions. Why should people, now living, care about the consequences of their actions on a future world whose inhabitants are currently non-existent? Even if held accountable by those future generations, no price for wrongful actions can be extracted from the dead. We lack the usual motivations for acting ethically in situations that might impact future generations, and though we may imagine angry voices condemning us for our lack of forethought and care some several generations into the future, we will never hear those words of contempt. Despite this, Attfield (1998) argues that “intergenerational justice remains a serious possibility, as actual future generations which come into being, and find that they have been deprived by earlier generations of opportunities for satisfying some of their most basic needs, could reasonably criticize their ancestors for failing to facilitate the satisfaction of foreseeable vital interests” (p. 211).

The problem of responsibility for the future is a very difficult one. It is one thing to be ethical towards those who live near, those with whom we share space and time, those with whom we have relations and common dealings. Here the motivation is strong because the impact of our actions affect our immediate community. Ethical arguments struggle, however, when lack of proximity is a factor, for it is difficult to take into consideration the impact of our actions on those spatially distant from us. This problem arises whenever we are asked to take into consideration or contribute to the welfare of those who live in distant places, those who do not share our community, and those whose suffering we do not directly experience. Without the presence of the other face-to-face, without a real relation to the other person, it is difficult to remain aware of and concerned about his or her need. How much more difficult then, to take into consideration those who do not yet exist, those others we will never know and can only imagine. The difficulty is further complicated by the fact that often the choices we make today, choices that involve use of finite resources, for instance, or the use of technology that may have deleterious aftereffects, may seem at the time to be valuable for the comfort, health or well-being of the contemporaneous human population. Indeed, most of our ethical deliberation is concerned with present actions. In what way and how can it be argued that sacrifices or restrictions on some very useful and beneficial activities and technologies must be made in order to benefit future peoples who do not yet exist?

To address these questions, I begin by looking at the genesis of the concept of responsibility in Aristotle. I then consider the changed nature of our actions today, a situation calling for a new concept of responsibility, before turning to Hans Jonas and others who attempt to articulate such a concept. In the final section, I discuss the problem of motivation in relation to the demands that responsibility for the future places on us and consider some responses to that problem.

Responsibility in Aristotle

Thinking of responsibility for the future, it makes sense to consider extending traditional theories of ethics to see if they might coherently take into account the nature of such responsibilities. To this end, I begin with Aristotle's discussion of responsibility in the Nicomachean Ethics, to see how it might support or fail to support an extension of the concept of responsibility to encompass the future.

For Aristotle, the capacity human beings have to think about what they will do is a very difficult one. It is one thing to be ethical towards those who live near, those with whom we share space and time, those with whom we have relations and common dealings. Here the motivation is strong because the impact of our actions affect our immediate community. Ethical arguments struggle, however, when lack of proximity is a factor, for it is difficult to take into consideration the impact of our actions on those spatially distant from us. This problem arises whenever we are asked to take into consideration or contribute to the welfare of those who live in distant places, those who do not share our community, and those whose suffering we do not directly experience. Without the presence of the other face-to-face, without a real relation to the other person, it is difficult to remain aware of and concerned about his or her need. How much more difficult then, to take into consideration those who do not yet exist, those others we will never know and can only imagine. The difficulty is further complicated by the fact that often the choices we make today, choices that involve use of finite resources, for instance, or the use of technology that may have deleterious aftereffects, may seem at the time to be valuable for the comfort, health or well-being of the contemporaneous human population. Indeed, most of our ethical deliberation is concerned with present actions. In what way and how can it be argued that sacrifices or restrictions on some very useful and beneficial activities and technologies must be made in order to benefit future peoples who do not yet exist?
actions when, as Aristotle says, the "source is in oneself." Rational beings with the capacity to choose among actions and bring about ends cannot escape from the notion of responsibility. It is a given, provided one is free from coercion in one's actions. Here responsibility is not responsiveness to the Other, not responding to another's need or want, as in Levinas. Rather, it is that since we are free to make choices and commit acts, we must accept responsibility for the consequences of those choices.

For Aristotle, to act responsibly is to act beautifully, because when a person does so he or she engages the greatest capacity available to human beings; that is "thinking things through," dianoia. What differentiates ethical choice from willing, desiring, and wishing, for Aristotle, is that it involves deliberation (NE 1112a 15). To think things through is to look ahead and estimate consequences using imagination and forethought and to make judgments about possible actions based on experience and memory; this is the kind of reasoning that responsibility requires. Aristotle says, "We deliberate about things that are up to us and are matters of action" (NE 1112a32). Choice is not something that is shared by irrational beings, it is the mark of a being with self-control (NE 1111b15). Choice is a rational response to desire, the situation, and the options for action. Choice is "concerned with things that are up to us" and it is also distinguished by its involvement with what is good and what is bad. Thus choice is firmly in the realm of practical, ethical action.

With his emphasis on dianoia, Aristotle offers one way to think about responsibility to the future; it is the lack of "thinking things through," in preference for shortsightedness regarding means and ends, that results in acts of harm, both to the environment and to future people. If we fail to think things through to the consequences of our actions we are not acting responsibly. And ignorance is no justification for poor choices, for Aristotle points out that we can be ignorant and still responsible. If we deliberately become irrational, as when we become drunk, or when we ought to know something and yet fail to, we are still held responsible, "on the grounds that it is up to people themselves not to be ignorant, since they are in control of how much care they take" (NE 1114a). Aristotle is rigorous in his insistence that human beings, because they are rational and have the capacity to "think things through," are responsible for their actions. For Aristotle, to be a good human being is to accept responsibility for one's choices and actions, and that entails taking into consideration the possible negative repercussions of one's actions.

But perhaps, Aristotle says, "one is not the sort of person who takes any care" (NE 1114a5). Perhaps here we have the crux of it; that there are people who don't care, who are careless. Aristotle says such people, despite their lack of care, are still responsible because it was always in the beginning up to them to use their intelligence to make good choices and the fact that they don't care is the result of a long line of deliberations that denigrated the value of their own beautiful actions, the concerns of others, and the consequences of their actions on themselves and others. Not caring about the effects of one's actions on others is an indication of a certain lack of moral character. If one is the kind of person who doesn't care, it is because all along the way one has chosen actions that reinforce the lack of care. On Aristotle's view, we always become who we are through a series of choices over time, and those choices form our moral character.

Aristotle's position is quite clear: human beings are essentially free beings who have the capacity to think about their actions and are therefore responsible for those actions. Ignorance is not a justifiable reason for refusing responsibility, because ignorance is something that is also up to us. As thinking beings we cannot simply claim to be ignorant because our capacity to think implicates us in responsibility even for our ignorance. And a lack of concern about our choices and their repercussions indicts us as well, for it indicates the kind of moral character that we have developed over time, through all the choices we have made in the past.

The Problem of Responsibility Today

That ignorance is no excuse for Aristotle seems to indicate that those of us who fail to acknowledge scientifically based warnings about climate change, or who acknowledge the warnings and refuse to heed them, are responsible for our failure. To think things through would be to take into account in deliberating about our choices the realities that face us, the sure consequences of some of our actions, those that we have experience and knowledge enough to foresee. If the consequences of our actions today extend far into the future, this would require that we take that far future into consideration in our actions.

It is just because of this farther extension of consequences into the future that Jonas argues that human action today differs radically from human action in Aristotle's time. As he says, "modern technology has introduced actions of such novel scale, objects, and consequences that the framework of former ethics can no longer contain them" (Jonas, 1984, p. 6). Powerful technologies in use today have effects that extend far into the future, and this includes harms that arise directly from their manufacture and use, such as resource depletion and pollution from hazardous waste, as well as harms that occur because of the scope their reach, as in climate change. The negative effects are not limited to the earth and its ecosystems but include effects on communities of people whose livelihoods are harmed and whose basic goods, such as water and air, are polluted and rendered unusable. These consequences affect living beings over
their lifetimes, threaten the health of the planet, and are passed down to future generations as the integrity of the global ecosystem is damaged over time.

For Jonas, technology has enabled us to greatly extend the scope of our actions and magnified their repercussions, and yet our concept of responsibility has not grown to encompass the new range of action. Particularly, Jonas has in mind the repercussions of genetic engineering, nuclear technologies, and other technologies that have the capacity to impact the future in highly significant ways: "more specifically, it will be my contention that with certain developments of our powers the nature of human action has changed, and since ethics is concerned with action, it should follow that the changed nature of human action calls for a change in ethics as well, in the more radical sense that the qualitatively novel nature of certain of our actions has opened up a whole new dimension of ethical relevance for which there is no precedent in the standards and canons of traditional ethics" (1984, p. 1).

For example, the 2010 oil spill in the Gulf had consequences that extend far into the future, affecting marine and coastal ecosystems, the livelihood of human beings dependent on a healthy environment for sustenance, and marine life far from the origin of the spill. Ecosystems are by nature interconnected and interdependent, and the reach of the spill was extensive. Its impact is not limited in space or time. As well, we might ask who exactly is responsible for the oil spill in the Gulf? Is it the technicians and engineers, the government regulations that allow drilling to be done in extreme conditions, the companies making a profit, or the consumers whose desire for cheap fossil fuel drives the market? This kind of diffusion of responsibility, a diffuse collective responsibility that Stephen Gardiner refers to as a "fragmentation of agency," means that it is difficult to assign responsibility. As Gardiner points out, "climate change is caused not by a single agent but by a vast number of individuals and institutions not unified by a comprehensive structure of agency. This is important because it poses a challenge to humanity's ability to respond" (2010, p. 88).

How much is up to us then, to use Aristotle's term, in today's technological, global world? The notion of collective responsibility is pertinent because in a democratic society responsibility for collective actions like oil drilling would seem to rest with all citizens. How we are to understand democratic responsibility, diffused among many, is a significant problem given the altered nature of human action and the extended reach of the consequences of our actions. And because the consequences will fall primarily on future generations, there is a disincentive to alter our behavior, particularly if that might make current lives more difficult. I think it is self-evident that we need a new ethical understanding to frame our choices and provide us with guidance in order to take into account the magnified effects of action in a technological world.

While a new ethical understanding that takes into consideration the extended consequences of our actions in a technological society seems necessary, another question arises: where do our obligations end if we begin to think of extending them to future beings and the future existence of a livable planet? How might such seemingly open-ended obligations be argued for? And if, to be responsible, as Aristotle claims, is to "think things through," are there limits to our capacity to be responsible?

Rethinking Responsibility

Here I think it is a good moment to turn to Jonas, who argues in The Imperative of Responsibility that, difficult as it may seem, we do have a responsibility for the future. He presents an argument for responsibility based on the presence of an objectively existing good, and he claims that fulfillment of the human good results from taking the effects of our actions on the future into account (Jonas, 1984, pp. 80-82). When we are not able to predict the long-term consequences of our actions he argues that we should proceed with prudence, even to the extent of being guided by fear, in order to ensure that we do not create extensive future harms.

For Jonas, the human being occupies a special place in the lifeworld. Jonas sees the human being as that being which is uniquely capable of responsibility, and the presence of this capacity entails that it must be acted on if a one is to fully become the being one is capable of becoming. The capacity for responsibility contributes to the "what it is to be" a human being and as such, informs the telos of human being. Jonas says that "every living thing has its own end which needs no further justification. In this, man has nothing over other living beings, except that he alone can have responsibility also for them, that is, for guarding their self-purpose" (Jonas, 1984, p. 98).

For Jonas, the fact that each organism desires and pursues the continuance of its own life points to the fact that life is a value for each being. Life is a good and as such it presents the being with the capacity to take responsibility with an imperative to protect and preserve it, to recognize the value it is for all living beings. The particular human good lies in the capacity of the human being to recognize and respond to the imperative of responsibility. The practice of taking responsibility for our choices, of taking the well-being and future of the planet and its beings into consideration, draws out the higher capabilities of the rational animal. With human recognition of the independent good that is founded in being comes the possibility for fulfillment of the human capability to respond ethically, that is, to accept the duty that arises from the demand implicit in the existence of an objective, transcendent good. The human good, the fulfillment of the
human capacity to respond to the value found in existence with concern and care, finds its expression in relation to the universal good.

For Jonas, the imperative of responsibility commands us to respond ethically for the sake of the good that is evidenced in Being, a good that reveals itself in each living being's pursuit of its own continuance, its desire for life. As well, responsibility includes protecting the possibility for the continued existence of human freedom and ethical responsiveness. Obeying the moral imperative we have the opportunity to fulfill our telos, while at the same time we find a place for ourselves in the natural world, recognizing and responding to the good that is in Being. As Jonas says, "the secret or paradox of morality is that the self forgets itself over the pursuit of the object, so that a higher self (which indeed is also a good in itself) might come into being. The good man is not he who made himself good but rather he who did the good for its own sake. But the good is the ‘cause’ at issue out there in the world, indeed the cause of the world" (1984, p. 85). As Jonas tries to show, the good of the human and the good in the world are not separate but the same. Taking responsibility for the future becomes necessary as soon as we recognize our potential to harmfully impact the future and, as Aristotle argues, once this recognition registers, ignorance is no longer an acceptable plea.

Rights and Responsibility

Another means of arguing for responsibilities to future generations, one that is less metaphysical and more supportive of political action, is to consider the question of the rights of future people. A proponent of this view is Hiskes (2009), who argues that "global warming and climate change have made it abundantly clear that the human impact on the environment is an emergent one, the product of uncounted individual decisions and choices on one hand, and public policies and political omissions on the other, which make every one of us responsible for putting all the rest of us in a new situation of risk, and not only "all of us" but those who come after us as well" (p. 146). Hiskes goes on to explain that "rights are necessarily the legal response to harms, real or potential. The fact that they are new and collective harms that do not fit within the traditional individualist language of either rights or responsibility do not alter the equation of rights as a response to harm. New harms demand new rights. Because they are emergent harms, the rights that they begat will share their emergent ontological nature" (p. 146).

This argument supports the contention that we cannot disregard responsibilities to the future simply because future people do not now exist. Future people are continually coming into existence, even as the effects of our actions emerge over long periods of time. There is a synchrony in terms of the emergence of future beings and the emergence of harms. Both are initiated in the present, in the actions of present day beings, and both concern a time after present day actors are gone. Future needs are predictable and future beings are coming into being all the time. It is not as if the future exists at some point far into the distance, with no connection to the present. The future is always coming into being, it follows closely on the heels of the present, and while we see changes in each generation, physical human beings will always need clean air to breathe and water to drink, as well as fire to stay warm. The realities of life for future beings are being established now through our contemporary actions and this is a fact we cannot deny. If we refuse to take responsibility for the impact of our actions on future generations, we must admit that we are willfully disregarding this fundamental reality and its ethical implications.

In a similar vein, Fitzpatrick (2007) argues that a conception of justice based upon a notion of "mutual advantage among cooperating parties of roughly equal power and vulnerability" is too restrictive (p. 377). Justice, insofar as it relates to rights and obligations, is a concept not limited to those sharing space and time. He says that, "attribution of rights to future generations will therefore be legitimate if we can speak of an earlier generation's wrongdoing future generations by spoiling the environment the former was given and has relied upon for its flourishing in the same way that future generations depend upon it" (Fitzpatrick, 2007, p. 377).

Fitzpatrick turns to a notion of stewardship to frame the question of responsibilities to future generations; contemporary inhabitants of the Earth do not own it, they have merely inherited it and should care for it sustainably in order to pass a flourishing environment down to future generations. Future generations have a right to inherit a healthy ecosystem, just as we did, and this right entails an obligation on the part of the living to pass down a viable planet. The responsibility to do so is centered in the right future generations have to be protected from harms caused by others, as well as the right to inherit and enjoy what previous generations have inherited and enjoyed. That people depend upon a healthy environment to flourish, and that a diminished environment is harmful to people is at the basis of Fitzpatrick's argument. He considers future people to be the moral equals of presently living people, and therefore claims we cannot disregard their rights or turn aside from our responsibility not to cause them harm. He argues that "if we fail to conserve limited natural resources, or to control dangerous waste, or to curb greenhouse gas emissions, then we will be causing people harm, not merely failing to benefit them" (Fitzpatrick, 2007, p. 377). The fact that these people do not exist simultaneously with us is not a reason to fail to take them into ethical consideration. Fitzpatrick concludes by arguing that we need to reconsider the meaning of justice and
rights in order to include responsibilities to future generations in our consideration because there is simply no justification possible for disregarding the effects of our actions on the future.

There is no doubt that accepting responsibility for the future will require a great deal of effort and even sacrifice on the part of those of us living today. In the next and final section, I take a brief look at the way in which an ethic of care might provide the needed motivation for the difficult changes that taking future generations into ethical consideration might require.

Motivation and Care

To accept the burden of responsibility for what is up to us, difficult as it is where our technological reach is so extended and agency is so fragmented, is to strive to fulfill the capacity we have to respond to the good and protect and preserve it. This task, however, is difficult, not only because of the extent of effects in time and space, fragmentation of agency, and the difficulty of predicting harms, but also because in many cases we may benefit now from actions that result in harms to future generations. What could motivate us to make the necessary sacrifices required by responsibility of this scope and nature?

Jonas turns to the human capacity for care for an answer to this question. He uses the analogy of the parent and child to demonstrate that we are attuned to caring in a fundamental way (Jonas, 1984, pp. 98-108). Jonas sees that caring is a mode of being for the human being, one that is demonstrated naturally in the attention and love parents give to their children as they nourish these beings who will exist in the future. It can be argued that the care of children is ultimately selfish, a way to project particular and individual genetic material forward. Yet, at the same time, most stable societies demonstrate their concern and care about the future through the fostering of all children in the society and through their concern with passing down cultural and physical artifacts to posterity. If selfish instincts were at issue here, individuals would not bequeath to unknown future others the endowments and monuments and institutions they have.

Jonas’ example of the statesman as a paradigm of responsibility toward the future reflects the important role of democratic social institutions and governments in responsibility. Established to foster and preserve culture and enable the orderly transfer of power from generation to generation, governments, at their best, are concerned with bettering the conditions of the people and ensuring that opportunities, values, artifacts, inventions, techniques, and other “objects” cultivated and produced by society are preserved and passed down. This example illustrates the presence, in social institutions, of a fundamental care and concern with the future and future peoples that can serve as an example and guide for a practical ethic of responsibility for the future.

There is another way to think about care in relation to future generations. We care about the future because we know we are finite. It is only through care of the future that we can extend the reach of our grasp on life through bequeathing a planet that is livable and viable, one that preserves and protects the cycle of life for the beings who will inhabit it. Knowing my own finitude, I can feel reassured knowing that I leave behind me a flourishing world, one that can sustain future generations. The natural drive toward transcendence of finitude through leaving behind works, objects or beings of lasting value can be engaged as a motivating force in an ethics that is concerned with extending its reach to future generations.

There is, finally, another way to think of the role of care as a motivating force for assuming responsibility; not necessarily care or love for future persons unknown to us, but love for the Earth and for life itself. Perhaps we should reframe the question of an ethics of responsibility for the future, because it can be argued that we are motivated to moderate and measure our actions toward nature and to care about the health and continued viability of the Earth because of our love for it, and for the life it offers. We are capable of caring not only about those potential beings of the future who will inherit this planet but also about the planet itself as a living being we will pass down.[1] Inspired by the beauty of existence, fleeting though it is, we desire its continuance even though we will not be here to enjoy its pleasures forever, and this too is reflective of our ethical capacity.

Conclusion

In the preceding I've shown what I see is a need for a reconsidered understanding of the meaning and extent of responsibility today, and I've talked about some of the difficulties facing us in attempting to accept responsibility for the future, as well as some of the motivational forces that might help us overcome those difficulties. To begin to take responsibility for the Earth and future generations we can consider ourselves as caretakers, trustees or stewards. We can pursue sustainable practices that conserve resources and other basic goods for future generations to benefit from and enjoy. Recognizing the presence of the good in existence, we can protect it by considering the long-term effects of our choices and actions on the future. The damage we've done has been done collectively, as Fitzpatrick points out, and the only way to prevent further damage and protect the future is through collective action. This will require intensive dialogue as we think through the farther consequences in order to modify our behavior accordingly while proceeding cautiously, and it will certainly entail political will and political action.

Taking responsibility will require thinking about
ourselves differently, as well. We must develop a new self-understanding, one that reflects our increasing knowledge concerning the extent of the effects of our actions on the Earth and the future. The human capacity for responsibility is a reflection of what Jonas calls "the higher self," a good-in-itself that comes into being when we recognize the value of life, reflect on the consequences of our choices, and take responsibility for the harms we cause. Thus, a significant aspect of the good of the human being is the human capacity to bear responsibility. The continued existence of the good for all beings rests on humans assuming that responsibility, and the time for us to recognize that is now. If we fail to take responsibility it will be a failure of justice and of love, towards both future beings and the planet.

Notes
1. "When men act for the sake of a future they will not live to see, it is for the most part out of love for persons, places and forms of activity, a cherishing of them, nothing more grandiose. It is indeed self-contradictory to say: 'I love him or her or that place or that institution or that activity, but I don't care what happens to it after my death.' To love is, amongst other things, to care about the future of what we love" (Passmore, 1980, p. 53).

References
Responsibilities to Posterity

A Response to Morris

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What are our responsibilities to posterity? Theresa Morris's essay is a lucid attempt to address this difficult question. In what follows, I discuss and criticize some of the steps in her argument. In doing so, I also defend some positive claims. Morris is concerned with refuting what may be called temporal parochialism, the view that our present duties extend to, and only to, our contemporaries: "the central problem with an argument that considers the effects of present actions on the future world lies in the fact that those acting today will not exist in the world they are affecting with their actions."[1]

There is, presently, a vast literature on the moral and ethical problems our relations with future people raise. Morality, as I understand it, is part of ethics, but does not exhaust it. The former has to do with wrongdoing and the conditions for ascription of blame. Morality is, therefore, principally about our moral relations with others and the side-constraints these relations imply. Ethics, on the other hand, is usually meant to answer the Socratic question "how should one live?" The answer to this question need not be concerned just with interpersonal relations (Williams, 1986). Broadly construed, ethics includes the question of motivation, roughly, how to get people to do what's (independently) morally or ethically required. I believe Morris's essay offers insightful discussion of the motivation problem vis-à-vis future generations, although I remain skeptical as to its success in establishing a sufficiently robust notion of moral responsibility in that connection.

According to Morris, a major problem for contemporary moral philosophy is: "why should people, now living, care about the consequences of their actions on a future world whose inhabitants are currently non-existent?" Morris believes this problem boils down to the notion of moral responsibility. Her conception of moral responsibility takes its cue from Aristotle. In light of persistent difficulties with "the changed nature of our action today," however, Aristotle's view of responsibility must be supplemented to account for the 'fragmentation of agency' and the heterogeneous dynamics of choice in the contemporary world. This supplementation should issue from a theory of collective responsibility. Morris thus attempts to marry responsibility, first, with harm and, then, with rights. Such an approach, she claims, can make good on the challenge of temporal parochialism. Her essay concludes with some remarks on the motivation problem engendered by temporal parochialism.

I shall presently take issue with the steps in the argument just outlined. I shall look at Morris's view of moral responsibility for the fates of future people, her conceptions of harm, her take on rights-ascription and the problem of motivation.

Let me begin with the notion of moral responsibility.[2] Morris asserts, apparently in elaboration of Aristotle, that "human beings are essentially free beings who have the capacity to think about their actions and are therefore responsible for those actions." This is not what Aristotle says, and it is false that the capacity of A 'to think about' one's action suffices for moral responsibility over that action. Rather, A's moral responsibility for doing X follows from the fact that A's doing X issues in a deep way from A who, as agent, can rationally choose her ends, and the means to achieve them. It is, moreover, misleading to say that "ignorance is not a justifiable reason for refusing responsibility, because ignorance is something that is also up to us." For the antecedent, "ignorance is up to us," is sometimes false. The emphasis should, rather, be on whether some event was reasonably foreseeable and what part of its consequences the agent was causally responsible for. Now, Morris believes that, once we have sorted out moral responsibility in general, the challenge of inter-generational relations will force us to supplement our general account with a notion of collective responsibility. She argues that "the notion of collective responsibility is pertinent because in a democratic society responsibility for collective actions like oil drilling would seem to rest with all citizens." Oil drilling is, in my view, a bad example: private citizens can only rarely be held responsible for the unjustified, sometimes criminal, behavior of those private entities doing the drilling. Such entities can, for a variety of reasons, avoid being democratically accountable, which means they can avoid bearing part of the cost of their environmentally disastrous choices. But even if they were fully democratically accountable, it would still not follow that oil consumers can be held morally responsible for what these private companies do, in the relevant sense: you can blame me for eating at the local restaurant, run by a Mafioso, but not for the killing that funds the restaurant's...

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activities. I shall return to this in connection with the motivation problem.

At this stage, one would expect a sketch of what counts as collective responsibility, its object, its scope, etc. This Morris does not provide. Instead, she turns to a discussion of the good. Although I am sympathetic to Morris's view that the good life consists in responding appropriately to (objective) value, I do not understand what she means by, and how it follows that "obeying the moral imperative we have the opportunity to fulfill our telos..." and that "the good of the human and the good in the world are not separate but the same." Moreover, and crucially for Morris' argument, it does not follow that one ought to protect the interests of future peoples. That is, even if one grants that (1) the good life consists in responding appropriately to goodness and that (2) future people can lead good lives (and therefore be harmed by present actions) it does not follow that (3) future people should not be harmed. The suppressed premise here is some sort of "harm principle," to the effect that one should not unjustifiably harm third parties, present or future. This premise, in turn, raises difficult questions, such as, (a) what constitutes harm and (b) what constitutes undue harm to (future) people.[3] One reason why it has proven more difficult to show that harm supervenes in intergenerational, rather than intragenerational, cases has been the so-called non-identity problem. This problem arises because present generations have control over both the number and identity of future people. There then exist cases where presumptively wrongful behavior will be a necessary condition for the existence of some future person. If his or her life is worth living, then there seems to be no harm in causing him or her to exist. But then where is the wrongdoing to be located? In other words, even egregious acts vis-à-vis future people seem not to be wrongful, because they are not harmful (Parfit, 1984; Roberts & Wasserman, 2009).

Morris's treatment of harm naturally leads to the problem of rights-ascription. One relevant question here is whether there exist sufficient moral grounds for ascribing rights to future people, even on the basis of harm. Another question is whether such ascription is logically possible. As regards the first question, Morris vacillates between an argument from temporal proximity and an argument from need. She writes that "future needs are predictable and future beings are coming into being all the time. It is not as if the future exists at some point far into the distance, with no connection to the present. The future is always coming into being, it follows closely on the heels of the present, and while we see changes in each generation, physical human beings will always need clean air to breathe and water to drink, as well as fire to stay warm."

The appeal to needs renders the initial appeal to temporal proximity redundant. It is, moreover, implausible to think that temporal proximity, or indeed spatial proximity, is necessary for moral obligation: I can set a bomb to explode in a school two hundred years from now (say we know with certainty some children will die). The temporal distance does nothing, intuitively, to reduce my culpability or to absolve me of wrongdoing. What about the second question? Does it make logical sense to ascribe rights to future people, even to protect them from certain harm? Some philosophers respond in the negative. Advocates of the so-called "will theory" of rights, for example, assert that A's right consists in A's power to demand or waive compliance with some duty of B to A. But future people presently lack such power, or for that matter any power: they will, by definition, have it, but they do not presently have it. Thus future people (in addition to, for example, the demented or mentally disabled) have no rights (Steiner, 1998). This argument is valid. But I believe its major premise is unsustainable (Vrousalis, 2010; Vrousalis, 2011; see also Gossseries, 2008).

This brings us to the connection between the (moral) problem of intergenerational obligations and the (broadly ethical) problem of motivation. Morris's view is that people in the present can be moved against temporal parochialism through an ethos of care. That is, I think, very important. It is also an urgent task for political sociology and philosophy to explore avenues for establishing such an ethos on a society-wide scale. But I want to mention a question which seems to me morally prior to the motivation problem. That is the question of justice: who owes what to whom? Important as it is that people learn to treat each other with care, it is doubtful that they can learn to do so while they stand on an unequal footing in their social lives. You can motivate a kidnapper to return your child by throwing money at him, or by instilling an ethos of care in him, or by appealing to his "finitude," as Morris puts it. But what he has done, viz. abducting your child to extract a benefit, is neither right nor excusable. He is therefore morally entitled neither to care (in Morris's sense), nor to similar motivational gambits. Contemporary multinationals are, in relevant respects, like the kidnapper. Of course they (usually) wield no weapons. But they do wield balance sheets, and the former are capable of far greater devastation to the interests of human and nonhuman animals than the latter. This has been amply manifested in recent economic and environmental disasters. I believe that the lack of democratic control over private enterprise, and its de facto freedom of movement around the globe, scorching the world dry in pursuit of profit, is a far greater threat to the well-being of future people than the constrained and under-informed choices of the world's consumers. Consumers may, of course, be partly responsible for the messy situation future people will find themselves in. But, as I argued above, principal blame attaches not to them, but to corporations and
governments that support and perpetuate institutionalized injustice to the detriment of (the vast majority of) present and future people.

Notes
1. Unless otherwise noted, all quotations refer to Morris's paper.
2. Different sorts of responsibility are pertinent to the present discussion. A thermostat is causally responsible for room temperature, but hardly morally. Likewise, a blind man who brings about a car accident may be outcome responsible, but not morally responsible for that accident. Any comprehensive treatment of responsibility must address these nuances (Fischer & Ravizza, 1998).
3. My own view is that future people should enjoy (at least) equal access to the appropriate distribuendum (roughly, things that morally matter) with present generations (see also Nussbaum & Sen, 1993).

References
Part 5. About the Contributors

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