Introducing Transformative Technologies into Democratic Societies

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Introducing Transformative Technologies into Democratic Societies

Steve Clarke · Rebecca Roache

Abstract Transformative technologies can radically alter human lives making us stronger, faster, more resistant to disease and so on. These include enhancement technologies as well as cloning and stem cell research. Such technologies are often approved of by many liberals who see them as offering us opportunities to lead better lives, but are often disapproved of by conservatives who worry about the many consequences of allowing these to be used. In this paper, we consider how a democratic government with mainly liberal values that is governing a population divided between liberals and conservatives can introduce new transformative technologies and try to achieve consensus about the introduction of such technologies. To do so, we draw on recent work in moral psychology which enables us to better understand the intuitive and emotional responses that underpin conservative objections to such new technologies. We then show how a government may introduce incremental changes in our social practices that have the long-term effect of weakening conservative objections to transformative technologies and better enabling governments to achieve consensus about these.

Keywords Consensus · Conservative · Intuition · Liberal · Moral Emotions · Transformative Technologies

1 Introduction

Some novel technologies offer potentially great opportunities to transform our lives, making us faster, stronger, more resistant to disease and so on. These include human enhancement technologies, cloning, stem cell research and the use of pre-implantation

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genetic diagnosis to select embryos for non-disease traits. We will refer to these technologies as *transformative technologies*. Transformative technologies are highly controversial: many people are impressed by the opportunities on offer, but many others are fearful of the consequences of allowing these technologies to be used. [1]

Some ethical concerns about transformative technologies are shared by its advocates and its opponents. These include concerns about fairness (will these technologies be accessible only to the wealthy?) and risk (can we be sure that they are safe?). Other concerns are not shared, and tend to be divisive. A great deal of ethical debate about transformative technologies takes place between those, such as Nick Bostrom, who believe that, except where there are good, clear reasons to restrict their use, transformative technologies should be permitted; and those, such as Michael Sandel, who fear that transformative technologies threaten to undermine something valuable about what it is to be human, and should therefore be approached with caution.

Bostrom anticipates an exciting future in which humans are free to use transformative technologies to become enhanced 'posthumans':

> To a transhumanist, progress occurs when more people become more able to shape themselves, their lives, and the ways they relate to others, in accordance with their own deepest values. Transhumanists place a high value on autonomy: the ability and right of individuals to plan and choose their own lives. Some people may of course, for any number of reasons, choose to forgo the opportunity to use technology to improve themselves. Transhumanists seek to create a world in which autonomous individuals may choose to remain unenhanced or choose to be enhanced and in which these choices will be respected (Bostrom 2003: 4).

In stark contrast, Sandel worries that something of great value could be lost if transformative technologies are embraced too readily:

> I do not think the main problem with enhancement and genetic engineering is that they undermine effort and erode human agency. The deeper danger is that they represent a kind of hyperagency—a Promethean aspiration to remake nature, including human nature, to serve our purposes and satisfy our desires. The problem is not the drift to mechanism but the drive to mastery. And what the drive to mastery misses and may even destroy is an appreciation of the gifted character of human powers and achievements (Sandel 2004: 5)[2].

Debate between these pro- and anti-transformative technology camps tends to stall at a certain point, with neither party willing to concede ground (Roache and Clarke 2009). From the point of view of a democratic government attempting to

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[1] For a sense of the spread of ethical concerns about such novel technologies, see the President's Council on Bioethics 'Topics of Council Concern': http://bioethics.georgetown.edu/pcbe/. The President's Council on Bioethics was an advisory body appointed by President George W. Bush in 2001 and was dominated by conservatives. It was abolished by Barack Obama and replaced with the Presidential Commission for the Study of Bioethical Issues in 2009.

[2] Sandel has been widely criticised for failing to provide reasons to accept his characterisation of human qualities as gifts. As it stands, anyone who does not already view human qualities as gifts (from God, presumably) is unlikely to be persuaded by Sandel's argument (Roache and Clarke, 2009: 4.4; Caplan, 2009: 207–8; Singer 2009: 279).

regulate transformative technologies, this is worrying. Many transformative technologies are likely to become increasingly available to the general public; as such, a firm policy line to set out which technologies will be available to whom, and under what circumstances, is highly desirable. Given the seemingly intractable differences in opinion between advocates and opponents of transformative technologies, it is likely to prove difficult to formulate legislation in this area without leaving many feeling that their concerns have been ignored.

Focusing on these seemingly intractable differences in opinion, we will suggest a way forward for a democratic government with mainly liberal values wishing to regulate transformative technologies. We will proceed by framing the debate about them in broadly political terms: liberals versus conservatives.[3] Doing so enables us to apply understanding about liberal and conservative thought to moral attitudes about transformative technologies. This will help us to see how opponents of transformative technologies might be persuaded to accept their introduction without feeling that their concerns have been ignored.

Whilst regulating transformative technologies is a political issue, considering how it might best be done helps illuminate factors that obstruct and facilitate the progress of new, controversial technologies in liberal, democratic societies. Technological progress has often been viewed by writers on the topic as inevitable,[4] and this is reflected in the popular conception that those who fail to embrace new technology will be left behind—and out of touch with—everyone else.[5] Liberal governments are reluctant to obstruct technological progress without good reason; but at the same time, in democratic societies, opponents of controversial new technologies demand that their government takes account of their concerns. Keeping apace with important new technologies whilst representing its citizens' interests is, therefore, a political balancing act. And, since technological progress does not take place in a vacuum, but occurs in tandem with a variety of political (and other) processes, considering how governments might best regulate controversial new technologies is an important part of considering how technological progress might best be managed in modern democratic societies.

Our focus here is transformative technologies, but we hope that our treatment of them could prove a useful case study for handling moral disagreements between liberals and conservatives more generally. This is a problem faced by all democratic governments, and one which President Barack Obama has publicly expressed a desire to overcome. Throughout his election campaign, and in his inaugural address, he spoke of his ambition to bridge the divide between predominantly conservative 'red states' and predominantly liberal 'blue states' (Haidt 2009; Loven 2008), and to unite all Americans in a 'common purpose of remaking th[e] Nation for our new century' (Obama 2009).

We begin, in Section 2, by looking at the way in which conservatives and liberals typically think about moral issues. We note that intuition plays a key role in conservative moral thinking, and a similar role in many anti-transformative technology

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[3] Related debates in bioethics that focus on the ethics of enhancement are commonly described as debates between liberals and 'bioconservatives' (Roache and Clarke 2009).

[4] See, for example, Toffler 1970, Kurzweil 2001.

[5] For example, the UK charity Age UK has recently expressed fears that old people who do not use the internet risk becoming 'more and more marginalised members of society' (Wakefield 2010).

views. Section 3 weighs the benefits and limitations of reliance on intuition in moral deliberation, and in the Section 4 we see that moral intuitions can be influenced by social factors. Finally, in the Section 5, we argue that governments may openly manipulate social factors in order to shape moral intuitions and increase acceptance of transformative technologies.

2 Liberal and Conservative Moral Deliberation

Considering the differences between liberals and conservatives approaches to moral issues will give us useful insights into debate about transformative technologies.

Liberalism is defined by the idea that liberty is normatively basic.[6] John Rawls held that '[e]ach person is to have an equal right to the most extensive system of equal basic liberty compatible with a similar system for all' (Rawls 1971: 220); and John Stuart Mill argued that, in disagreements about whether a certain activity is permissible, 'the burden of proof is supposed to be with those who are against liberty; who contend for any restriction or prohibition. … The a priori assumption is in favour of freedom' (Mill 1963, vol. 21: 262). On this classical liberal view, the proper function of a government is to protect and uphold its citizens' liberty, and compelling reasons are needed to justify intervening to prevent mentally sound citizens from pursuing their chosen ends. Such reasons should make reference to the possibility of significant harm to others. In reality, governments that embrace liberalism do not always operate purely according to such classical liberal tenets; but the importance placed on upholding liberty and avoiding harm is reflected in many of their policies.

Whilst liberal thinking is structured around a commitment to liberty, conservative political thinking is not characterised by any specific ideology. Conservatives are committed to preserving core features of the status quo in their particular society, whatever that status quo may be (Stenner 2009, Brennan and Hamlin 2004). So, one can be a monarchist conservative, a social–democratic conservative or, in a Marxist–Leninist society, a Marxist–Leninist conservative.

Whilst the terms 'liberal' and 'conservative' are often used as if they are contraries, in a liberal society it is possible to be a liberal conservative. Conservatives in the USA are liberals in that they are defenders of the liberal heritage of the American revolution. Unfortunately, the mixing of liberalism and conservatism in US political life has given rise to much confusion in US political commentary. Some commentators deny that there are any conservatives in the USA (e.g. Handlin 1963, p. 446), and some self-declared conservative Americans think that the USA needs to change in various ways in order to allow a genuine conservative movement to take root (Kirk 2008 [1953]). Meanwhile, many intellectual Americans who are committed to the value of liberty on ideological grounds—rather than on the ground that it is part of the US status quo—refer to themselves as conservative or neo-conservative (Aughey et al. 1992). We use the term 'conservative' to refer to what are sometimes called 'social conservatives' in

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[6] Liberals disagree about conceptions of liberty. According to Isaiah Berlin (1969) liberty is freedom from interference by others, whereas according to Thomas Hill Green (1986) and others one must be self-directed and autonomous in order to experience liberty. See Gaus and Courtland 2007.

US political circles. These are people who are committed, first and foremost, to the traditional values of their own communities. Social conservatives are not a loud voice in US political debates; however, there are many social conservatives in the USA, particularly in religious communities, but also elsewhere.

An important aspect of their society that conservatives value and wish to preserve is its traditions. Contemporary conservatives such as John Kekes and Roger Scruton emphasise the role of traditions in enabling people to live good lives (Kekes 1998; Scruton 2001). Traditions include customary beliefs, rituals, practices and conventions. These may develop spontaneously, like the traditions of sports fans who support particular teams; or they may be developed in a deliberate manner within social institutions, like the various practices relating to judicial systems. Because of the important role that traditions play in enabling good lives, contemporary conservatives aim 'to have and maintain political arrangements that foster the participation of individuals in the various traditions that have historically endured in their society' (Kekes 1998: 39).

Pessimism is closely associated with the traditionalism of much contemporary conservative thought (Kekes 1998: 41–5, 213–19). Many contemporary conservatives see societies as organic entities, in which the functioning of each part depends on the functioning of other, sometimes apparently unrelated parts; and they fear that significant social consequences may follow from interference with established social structures. Conservatives often doubt the ability of societies to withstand drastic change, and so they resist proposals for such change. Because fears about radical social change weigh more heavily for conservatives than for liberals, while the importance of individual liberty weighs more heavily for liberals than conservatives, liberals and conservatives often come into conflict in discussion of legislation regarding potentially liberty-enhancing social changes, including those resulting from the introduction of transformative technologies.

According to many contemporary conservatives, participation in moral traditions provides people with a sense of moral identity. Having a moral identity involves knowledge of the conventions that make up a moral tradition. For the most part, this is intuitive knowledge. Intuitions are 'spontaneous intellectual seemings' (Levy 2006: 569),[7] and are non-linguistic in that one can experience an intuition without being able to articulate exactly what one intuits. One may, for example, intuitively fear harmless spiders without being able to give a satisfactory explanation of what is frightening about them. Moral intuitions are intuitive responses to moral issues. We can contrast moral intuitions with explicit moral judgments reached as a result of reasoned evaluation. In the case of the latter, but not always in the case of the former, one is able to support one's moral judgment with reasons. Intuitions, which are generally accompanied by emotions, play a key part in conservative accounts of moral reasoning. Kekes tells us that,

> Intuition is a complex psychological process that has cognitive, emotive, and volitional elements. The cognitive element is what the agents believe about the situation: what the facts are and what moral significance they have. Helping the old lady, disapproving of the colleague's lie, paying the bill, and regretting the

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[7] We will follow Levy's definition of intuition here, which is compatible with a broad range of uses of the term in philosophy and psychology. As Levy notes, some intuitions are modified by reflection over time. Nevertheless they remain intuitions provided that they are experienced as occurring spontaneously.

student's suicide all involve beliefs that the agents take to be true and could turn out to be false. But when a situation is intuited a certain way, the agents' feelings are usually also engaged. They are alarmed on behalf of the stumbling old lady, made indignant by the lie, and feel sorry about the student (Kekes 1998: 119–20).

An ability to experience the emotion of disgust (alternatively, repugnance or revulsion) in appropriate circumstances is a particularly important component of well-functioning moral agency, according to many conservatives. Well-functioning moral agents feel disgust when they observe the gross violation of fundamental moral conventions. Kekes understands disgust as 'a reaction to seeing the unthinkable happen, to treating a person as no one should be treated, no matter what' (Kekes 1998: 106). According to Kekes, disgust is important to proper moral functioning, not only because it helps us identify gross violations of our moral conventions, but also because, when these occur, we sense the presence of a threat to our way of life. Emotions, like disgust, that accompany moral intuitions might be termed 'moral emotions'. Whilst we do not take conservative thinking to be characterised solely in terms of intuition, it is this aspect of conservative thought that is of most relevance in debate about the morality of introducing transformative technologies.

As well as playing a central role in conservative moral reasoning, appeals to intuition are evident in debates about transformative technologies. Recognising this will be key to our suggested strategy for introducing these technologies into democratic societies. Many of those who are opposed to transformative technologies, or who advocate a highly cautious approach to them, voice an intuitive aversion. That their objections are at least partly intuitive can be seen from the fact that those who advance them often find them difficult to articulate. Leon Kass asks,

> What is disquieting about our attempts to improve upon human nature, or even our own particular instance of it?

> It is difficult to put this disquiet into words. We are in an area where initial repugnances are hard to translate into sound moral arguments (Kass 2003: 17).

Sandel comments that,

> When science moves faster than moral understanding, as it does today, men and women struggle to articulate their unease…The genomic revolution has induced a kind of moral vertigo (Sandel 2004: 1).

And Mary Midgley notes that objections to biotechnology often involve 'feelings' that 'always incorporate thoughts, [but] often ones that are not yet fully articulated' (Midgley 2000: 8).

To the extent that opponents of transformative technologies believe that an ethical evaluation of them should take account of incompletely articulated intuitions, these opponents can be viewed as conservatives. For those who take a liberal stance in the debate, the fact that some conservatives have an intuitive aversion to certain technologies is not itself sufficient justification for restricting the liberty of those who wish to use them. Liberals demand that, if intuitions are to be allowed to influence decisions about the permissibility of transformative technologies, then these intuitions must be unpacked and shown to be supported by persuasive arguments. However, many conservatives are resistant to the idea that, if their

intuitions cannot be adequately articulated and supported, liberals should win by default. Such conservatives believe that intuition may embody important insights that are unavailable (or not readily available) to rational reflection. One's inability to articulate one's intuition does not show that one's intuition is not worth heeding. This view of intuition as insight is often encapsulated using a term coined by Kass (1997): 'the wisdom of repugnance'.

Given that, typically, liberals refuse to consider moral judgments unless these are supported by sound argument, whilst conservatives demand that even their unsupported intuitions are given due consideration in moral decision making, how can liberals and conservatives hope to engage with each other in moral debate, let alone reach an agreement?

3 Intuition and Reason

To view conservative moral deliberation as solely guided by intuition and moral emotion, and liberal moral deliberation as entirely explicit and purely rational, would be to over simplify the debate about transformative technologies, and disagreements between conservatives and liberals more generally. Liberals often appeal to intuition and moral emotion, and many conservatives recognise the need to buttress their intuitions with argument in order to convince others of their views. Considering some such instances will help to highlight both the benefits and the limitations of appeals to intuition in moral deliberation.[8]

A direct appeal to intuition is made by the liberal-minded philosopher, Judith Jarvis Thomson, in her argument for the permissibility of abortion. She asks you, the reader, to imagine that you wake up to discover that you have been kidnapped, and that your circulatory system has been hooked up to a sick, famous violinist. On waking, the hospital director expresses regret about what has happened to you, but asks you to allow this situation to continue for nine months in order to ensure the survival of the violinist (Thomson 1971: 48–9). Thomson introduces this scenario as a way of inviting us to examine our intuitions. She suggests that, whilst it would be generous of you to accede to the wishes of the hospital director, 'you would regard … as outrageous' (49) the suggestion that you are morally obliged to do so. She then examines and reflects on this intuition, and weighs it against commonly held views. In other words, she introduces the intuition into reflective equilibrium, the influential method of evaluating information described by the liberal Rawls (Rawls 1951, 1971).[9] Reflective equilibrium involves conducting an ongoing revision and reconciliation of new and existing beliefs, reasoned judgments, intuitions and observations in order to obtain a maximally coherent set of beliefs. At the end of this process, Thomson rebuts the

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[8] A notable liberal appeal to particular moral emotions, as well as a careful discussion of the proper role of those emotions in legal and philosophical reasoning, which we do not discuss here is Nussbaum (2004).
[9] Thomson (1971) does not explicitly state that her assumptions about our common reaction to this thought experiment rest on an appeal to intuition. However, as she does not introduce any theoretical considerations that would do the work of accounting for this reaction, it seems clear that this is the best way to understand her, and indeed it is how she is very often understood.

'plausible-sounding argument' (49) that a foetus's right to life outweighs its mother's right to decide what happens in and to her body, and that therefore abortion is wrong. Her paper is an example of a liberal approach to moral debate that combines argument and intuition. It is by no means an isolated example: academic philosophy abounds with examples of liberal thinkers who make use—via thought experiment—of intuition in order to argue for this or that conclusion.

Whilst some (Brandt 1979; Singer 2005) have argued that ordinary moral intuitions can be misleading and should therefore be rejected, this is a minority view, even among liberals. Moral intuitions play an important role in our thought and action. One might doubt whether we could form any moral beliefs whatsoever without relying, at some level, on intuition. At the very least, in cases where we can choose between making a decision informed by intuition or solely by rational deduction from first premises, attending to our intuitions frequently helps us make sensible decisions far quicker than we could by relying solely on rational deduction, as those persuaded by Thomson's defence of abortion could no doubt attest. Furthermore, intuitions can enable us to make more accurate or advantageous decisions, under some circumstances, than we could make by relying chiefly on conscious reason (Kleinmuntz 1990; Bechara et al. 1997). And sometimes, decisions made on the basis of intuition can be life-saving: Gary Klein describes a case in which a chief firefighter, acting on nothing more than a strong feeling that something was not right, orders his team out of a burning building which collapses the moment they leave (Klein 1999: 32). In this case, intuition helped the firefighter avoid a fatal scenario by enabling him to perceive a danger far quicker than he would have been able to do by relying on conscious reasoning. As Klein comments, intuition can help us 'recognis[e] things without knowing how we do the recognising' (Klein 1999: 33).

However, intuition alone is not always a reliable guide to action. Klein goes on to argue that the firefighter was able to save his own life and that of his colleagues only because his intuition had been educated by experience: experience which includes conscious reflection and reasoning. Not all intuitions are educated in this way, and they can be distorted by various, well-documented cognitive biases (Gilovich et al. 2002). But one does not need to read psychological literature to see that intuitions, including moral intuitions, can mislead. One need only consider, first, the fact that the moral intuitions of different people can conflict. Consider, for example, the divergent, strongly held responses to embryonic stem cell research that are often reported in the media. Given their diversity, not all of these moral intuitions can embody true insights. Second, even those moral intuitions that are shared by the majority of people in a particular culture can change over time. Only a few decades ago, the prevailing attitude in the UK towards homosexuality was one of intuitively grounded disapproval; whereas today homosexuality is widely accepted. Again, that conflicting moral intuitions are held at different times reveals that not all such intuitions can be truly insightful.

Many conservatives recognise the limitations of moral intuitions. Whilst urging that we should pay attention to strong intuitive objections to transformative technologies because '[w]e might find something serious' (Midgley 2000: 10). Midgley also concedes that 'these feelings are not an infallible guide. Of course we need to supplement them by thought, analysing their meaning and articulating them in a way that gives us coherent and usable standards' (Midgley 2000: 9). Kekes, too, recognises that intuitions can be mistaken and should sometimes be rejected, even by

conservatives. He suggests that conservatives adopt an approach to contested intuitions that resembles a Rawlsian reflective equilibrium (Kekes 1998: 121–3): a method generally favoured by liberals.

Whilst some conservatives recognise the need to engage in something like a reflective equilibrium, this approach goes against the grain for many conservatives in at least two ways. First, it is often hard to articulate moral intuitions and relate them to other moral concerns, which is a requirement of engaging in reflective equilibrium. Second, the act of articulating a moral intuition in public can undermine its authority. Yuval Levin tells us that

> The very fact that everything must be laid out in the open in the democratic age is destructive of the reverence that gives moral intuition its authority. A deep moral taboo cannot simply become another option among others, which argues its case in the market place. Entering the market and laying out its wares take away from its venerated stature, and its stature is the key to its authority. By the very fact that it becomes open to dispute—its pros and cons tallied up and counted—the taboo slowly ceases to exist (Levin 2003: 59).

Nevertheless Levin concludes that conservative bioethicists who wish to help shape policy in a democratic society have no alternative but to participate in public debate and attempt 'to develop and articulate a coherent worldview' (Levin 2003: 64). Many contemporary conservatives have risen to this challenge, with some success: consider opponents of abortion in the USA, who have gained influence in part because the case against abortion has been backed up by argument as well as appeals to intuition (e.g. Beckwith 2007; Sider 1987). To a lesser extent, and so far with less success, this has happened in the debate about transformative technologies, too: those who oppose them on intuitive grounds have attempted to support their position with argument at least to some degree (e.g. Fukuyama 2002; Kass 1997, 2003; Sandel 2004, 2007).

However, even those conservative scholars who try to defend their intuitions with argument can be hostile in response to the explicit demand to justify their appeals to intuition. Kass writes:

> Can anyone really give an argument fully adequate to the horror which is father-daughter incest (even with consent), or having sex with animals, or mutilating a corpse, or eating human flesh, or even just (just!) raping or murdering another human being? Would anybody's failure to give full rational justification for his or her revulsion at these practices make that revulsion ethically suspect? Not at all. On the contrary, we are suspicious of those who think that they can rationalise away our horror, say, by trying to explain the enormity of incest with arguments only about the genetic risks of inbreeding (Kass 1997: 20).

Fukuyama expresses a similar view. Motivated by the concern that '[d]enial of the concept of human dignity … leads us down a very perilous path' (Fukuyama 2002: 160), he condemns the 'legions of bioethicists and casual academic Darwinians' who deny that there is something special about being human that a 'posthuman' might lack.

If liberals and conservatives fail to engage in constructive moral debate about transformative technologies, then this is greatly concerning. We may end up foregoing the benefits of transformative technologies for no good reason if conservative intuitions win the day, and we may end up introducing dangerous

new technologies without proper ethical assessment if some liberal arguments are not weighed against the insights that intuitions can often enable us to make.

4 Moral Intuitions and Social Factors

What factors determine people's moral intuitions? Conservative authors who urge us to base our moral judgments on unreflective intuitions, particularly those associated with repugnance, often appear to presume a naïve moral realism, as if some of our emotionally charged moral responses track objective moral truths. According to this view, if we experience repugnance in response to act x then this is, all things being equal, because it is a moral truth that act x is wrong. There are various difficulties with this view; most obviously that it demands an explanation of how that part of our emotional system responsible for generating moral intuitions could be capable of reliably detecting objective moral truths, and how there could be room for something as apparently unnatural as moral truth in the natural world.[10] But it would take us too far afield to discuss these issues here. Instead, we will focus on one specific problem for the view that moral emotions track the truth.

If moral emotions tracked the truth, then, assuming that moral truths are unchanging, we should expect that moral emotions would generally be invariant— or, at least, that over time they would gravitate in a systematic manner towards the truth, in much the same way as we often take the views of scientists to progress ever closer to the truth. If it is an unchanging moral truth that incest is wrong, and we have identified this moral truth by experiencing a sense of repugnance at the sight or thought of incest, then we could expect to experience a similar sense of repugnance every time we observed or thought of incest. But disgust and other moral emotions are not invariant: they shift over time, often fading in intensity. Levin notes that 'repugnance fades with habit' (2003: 56); and both Levin and Kass cite Dostoevsky's Raskolnikov, who warns us that 'man, the beast, gets used to everything' (Levin 2003: 56; Kass 1997: 18). Moreover, the way in which our moral emotions change is not—unlike the changing views of the scientific community— suggestive of gradual progress towards truth, and is even viewed by some conservatives as tending to move *away* from the truth. For example, Kass reports responding with disgust to observing people eating in public, and licking ice cream in particular. He laments the fact that many people who used to respond similarly do so no longer, so accustomed have they become to the increasingly common sight of people eating in public (Kass 1994: 148–9).

The propensity of repugnance and other moral emotions gradually to change in intensity poses a dilemma for those conservatives who are naïve moral realists. It seems that conservatives cannot claim both that moral emotions generally track the truth and that moral truths are unchanging. If our changing moral emotions generally track the truth, then moral truths themselves must gradually change: our repugnance about public ice cream eating fades over time because public ice cream eating

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[10] Prominent recent challenges to the possibility of our having the ability reliably to detect moral truths turn on consideration of evolutionary theory. See Joyce 2005 and Street 2006. For a contrary view see James 2009.

becomes less wrong. On the other hand, if moral truths are unchanging, then at most only one time-slice of an ever-changing series of emotionally derived moral views should be singled out as being especially truth apt.

Neither option is attractive for the conservative. Choosing the former is ruled out by the fact that different people experience different, conflicting moral emotions at a single time. Kass currently responds to eating in public with disgust, others perhaps with mild distaste, and still others with no emotion at all. If all these responses are equally truth apt, we are led to the contradictory conclusions that eating in public is very wrong, that it is somewhat wrong, and that it is not wrong at all. As a result, it seems that that not all moral emotions track the truth; at best, some of them do.

Conservatives who choose the latter option must provide an explanation of how and why we should single out one time-slice of a changing series of emotionally derived views as correct. What would a plausible such explanation look like? Is the first, often most intense, sensation of disgust to be prioritised? Or the most recent, which has been subdued by reflection and familiarity? We often dismiss initial, intense emotional responses as over-reactions. But, neither do we always trust later, subdued responses: consider the concern that children exposed to violence on television cease to respond to it with the level of emotional intensity that many believe appropriate. Yet, whilst both the initial and most recent responses may seem too extreme, there seems no non-arbitrary reason to choose any one of the intervening responses as the one most worth heeding.

It is worthy of note, moreover, that it is not only the emotionally derived moral responses of liberal-minded people that fade over time. The moral views of conservatives, too, can change as the intensity of their emotional responses fade. As a result, the conservative plea to respect intuitive moral responses ill suits the way in which even conservative moral thinking operates. Consider the case of Raymond Vande Wiele, who in the 1970s was chairman of the Department of Obstetrics and Gynecology at the Columbia College of Physicians and Surgeons and chief of Presbyterian Hospital's obstetrics and gynaecology service. In 1973, learning of a colleague's maverick attempt to enable a patient to conceive using in vitro fertilisation (IVF)—a process which was, in those days, experimental, not yet successful, and widely viewed with the same sort of horror that now surrounds cloning (Henig 2003)—Vande Wiele seized and froze the test tube containing the material destined for fertilisation, thereby thwarting the IVF attempt. As a result, Vande Wiele and his employing organisations were successfully sued by the patient and her husband, the Del Zios. In the years following the trial, however, hundreds of 'test tube babies' were born and public acceptance of IVF grew to such an extent that in 1983, Vande Wiele accepted co-directorship of the first IVF clinic (Powledge 1978; Henig 2003).

If it is implausible to think of emotionally derived moral views as truth apt, how should we think of them? We advocate an account that diverges from the naïve moral realism to which many conservative writers seem to subscribe. On our view, moral intuitions do not track objective moral truths. Instead, they are primarily a reflection of the standards of the community in which we reside. Adopting this view does not commit us to either the rejection of moral realism or the acceptance of cultural relativism. There may be other routes to moral truth, and there may be more

to say about morality than is captured by our particular culture. We simply make a claim about the way in which moral intuitions change and what factors cause those changes. Our views of the way in which moral intuitions change accord with recent work by the influential social psychologist Jonathan Haidt.

Haidt (2001) endorses the common conservative view that emotionally laden intuitions play a key role in moral judgment. He argues that the vast majority of the population—not just conservatives—forms moral judgments on the basis of emotionally laden intuitions. He allows that conscious reason can sometimes override intuitively based moral judgment, but he argues that this does not happen very often. On his view, most conscious moral reasoning consists in the post hoc justification of views that have already been formed via intuition.[11] Further, according to his Social Intuitive Model of moral judgment (SIM), individuals' moral intuitions are powerfully affected by the reasoning and judgments of people around them. This feature of the formation of moral judgment helps to explain the ongoing divide between liberals and conservatives within a particular society. It is largely because liberals associate with other liberals that they continue to have liberal intuitions, these being reinforced by exposure to the reasoning and judgment of other liberals. Similarly, conservatives associate for the most part with other conservatives; consequently their intuitions are reinforced by the reasoning and judgment of other conservatives.[12]

Haidt and some of his co-authors have conducted other work which helps further explain the divide between liberals and conservatives.[13] Haidt and Graham (2007) see the morality of liberals as grounded in two broad sorts of concerns: concerns about fairness and concerns about harms. Conservatives accept that these are legitimate sources of moral concern, but their morality involves three additional sorts of concerns which liberals typically do not recognise: concerns about loyalty (which grounds conservative virtues including patriotism and heroism), concerns about respect for authority (often antithetical to liberals who take pride in questioning authority), and concerns about sanctity, which links morality to religious practices. Conservative morality, on this view, results from intuitively derived compromises between these five competing sources of moral concern. Liberals may be concerned, to varying degrees, about loyalty, respect for authority and sanctity, but they generally do not construe these concerns as moral concerns.

This view does not entail that conservatives and liberals always agree about moral issues when these relate to harm and fairness. Conservatives sometimes believe that concerns about harm and fairness are outweighed by other moral concerns, and this can lead to disagreement. Consider, for example, the controversial views of John Choon Yoo, former official in the Bush administration's Department of Justice. He has argued that torture is justified when it is necessary to protect the nation from foreign threats (Yoo 2009). We can view this position as prioritising purely

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[11] Haidt's account has been challenged by a number of defenders of rationalist accounts of moral judgment who consider various ways in which reason may play a larger role in the formation of moral judgment than Haidt allows (Clarke 2008: 808–10).

[12] This process of reinforcement through interaction with like-minded others is part of the process of 'group polarisation'. Group polarisation also involves an increase in the degree to which members of own group sense that they are different from other rival groups (see Sunstein 2005).

[13] See Haidt and Joseph 2004, Haidt and Graham 2007, 2009, and Graham et al., 2009.

conservative concerns about loyalty over concerns about harm, which both liberals and conservatives recognise.

If Haidt and Graham are right about the differing grounds for conservative and liberal moral thought, we may be able to explain a curious asymmetry in debates between conservatives and liberals. When liberals appeal to concerns about fairness and harm, they are making appeal to factors that conservatives consider to be legitimate moral concerns. However, when conservatives appeal to concerns about loyalty, authority and sanctity they are appealing to factors that liberals do not accept as moral considerations at all. As a result, conservatives are generally able to understand the morality of liberals, although they may believe that the moral concerns of liberals are overblown. Liberals, on the other hand, are able to understand those conservative moral concerns relating to fairness and harm, but are left bewildered by moral concerns relating to loyalty, authority, and sanctity. Since liberals do not see the latter three concerns as relevant to morality at all, they may suspect conservatives who claim to be moved by these concerns of using them as a smokescreen to advance hidden agendas.

As well as reinforcing existing moral intuitions, social factors can lead to changes in moral intuitions. This happens when peoples' practices change. As practices change, the reasoning and judgment of the people who engage in those practices often changes, and this affects the moral intuitions of others around them. Such changes in moral intuitions in turn affect behaviour, which affects reasoning and judgment, thereby affecting the intuitions of still more people. For example, the availability of ice cream in cones changed the practices of some people, which changed their views about where and how it was practicable to eat. This, in turn, changed intuitions about the wrongness of eating in public. Ultimately, we have shifted from a situation where many thought it was wrong to eat food in public places to one where this intuition is now held by only a very few people. Another, less frivolous, example: the admission of black students to hitherto segregated colleges in the American South in the 1960s has had the effect of changing people's intuitions about the wrongness of desegregated education. Becoming used to seeing black students on campus affected the reasoning and judgments of some of the students and faculty members at these institutions, which led to the weakening of racist moral intuitions in those around them who were exposed to such reasoning and judgment. Changing intuitions affected behaviour, and the circle of people on campus with less racist attitudes widened still further.

5 The Possibility of Consensus

The development of a new transformative technology usually leads to debate between liberals and conservatives about the morality of introducing that technology into society. Such debates typically involve liberals and conservatives talking about the same subject, but appealing to very different considerations. In a democracy, each group demands that the government takes account of its particular moral concerns when formulating policy; at the same time, a democratic government hopes to build consensus of support for new policies. Is this possible, given how different liberal and conservative concerns are?

Simple democratic procedures offer an unpromising route to consensus. Allowing the opinion of the majority to determine policy may be democratic, but it is not a good way of convincing a substantial minority that the right decision has been made. Such 'moral minorities' may believe that they have a moral responsibility to agitate for a reversal of the majority decision. As such, application of democratic procedures to decisions about the introduction of transformative technologies can lead to lasting dissensus rather than consensus.

Can 'deliberative democratic' procedures do any better? Participants in the deliberative democracy movement are motivated inter alia by a desire to develop democratic procedures that can achieve consensus (Bohman 1998). Proposals for instituting deliberative democracy vary, but the basic idea is that dialogue between proponents of differing viewpoints can produce consensus where simple voting would not. Conservative critics of deliberative democracy are very sceptical about the possibility of producing genuine consensus among groups with different moral outlooks (e.g. Trotter 2006, pp. 239–40); and if Haidt's SIM accurately models the formation of moral judgment then such critics are right to be sceptical. If liberals and conservatives deliberate together about a controversial moral subject then they can be expected to talk past one another. Conservatives will appeal to moral intuitions that liberals do not have, and moral concerns about fairness and harm will weigh much more heavily for liberals than they do for conservatives. Furthermore, conservatives will typically experience the very thought of a controversial new transformative technology as repugnant and will—unlike liberals who may also experience a similar intuitive response—view this as morally significant. Despite this, we do see some value in liberals and conservatives engaging in dialogue. In keeping with Haidt's views, exposure to different opinions can be expected to have a diluting effect on their underlying moral intuitions, and so deliberation can make an indirect contribution to consensus building.[14]

Knowing how people's moral beliefs and moral intuitions change in response to changes in their practices, which in turn tend to result from changes in their circumstances, enables a government—or, indeed, any influential organisation—to attempt deliberately to alter people's moral judgements so as to produce consensus in the long term. One obvious way in which this might be achieved is by selectively exposing people to the factors that cause feelings such as repugnance, in order bring about a chain of events that will lead to reduction in the strength of such feelings.

Selective exposure can be expected to help people overcome their feelings of disgust at the thought or sight of transformative technologies. On our view, the growing acceptability of cosmetic surgery will have the effect of reducing people's feelings of repugnance in response to other technologies that they associate with cosmetic surgery. A government that wanted to reduce controversy about, say, the use of memory enhancement techniques could do so by drawing associations with accepted enhancement techniques, such as those used in cosmetic surgery. Once memory enhancement obtains more general acceptance, the

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[14] We thank Walter Sinnott-Armstrong for this point.

public could be induced to accept still more associated enhancement techniques, and so on.[15] Should we be encouraging governments to 'manipulate' the moral views of citizens in order to build consensus? Manipulation is an objectionable term; many citizens would be outraged if they were to discover that their government was deliberately seeking to change their beliefs and values without their knowledge or consent. Even if this was done for the benefit of society as a whole, it is arguably an instance of unacceptably paternalistic behaviour. But what if this manipulation was done with the knowledge and consent of citizens? If so then it would be much less objectionable; indeed it might be welcomed by those who particularly value unity in a society, as do many conservatives.

Is it possible to change people's behaviour with their full knowledge and consent? A series of strategies to achieve this end has recently been articulated by Thaler and Sunstein (2008). They advocate the use of 'nudges' by government (and others), which is to say that they advocate drawing on findings in psychology to frame people's choices in such a way as to alter those choices indirectly, without forbidding any choices. They refer to this process as 'choice architecture'. An example of a nudge can be found at Schiphol airport in the Netherlands, where an image of a fly is etched into the inside of urinals. It turns out that when men urinate, they are much more likely to pay attention to where they aim when they have a target to aim at, and the urinals have been designed with this fact in mind. This innovation has reduced spillage from the urinals by 80% (Thaler and Sunstein 2008: 4). Another example of a nudge is the deliberate placement of healthy food options in cafeterias at eye level where these can be easily seen and reached. This simple nudge can have the effect of dramatically increasing customers' choice of healthy foods and dramatically diminishing their choice of unhealthy food options, without denying any unhealthy food alternatives to them (Thaler and Sunstein 2008: 1–2). The success of these nudges does not depend on the lack of knowledge or consent of the people whose behaviour it aims to affect.[16] Governments can openly create nudges that will have an effect on the behaviour of its citizens, without coercing those citizens to change their behaviour and without denying them any elements of the set of choices that they had before the nudge was created.

Thaler and Sunstein defend the use of nudges as being consistent with 'libertarian paternalism'. Although they advocate a mild form of paternalism—they endorse altering people's behaviour in ways that make them better off—they only advocate instances of paternalistic intervention that are compatible with transparency, and which do not restrict choice. We suggest taking the concept of nudges a conceptual step further than Thaler and Sunstein: we endorse the use of nudges that have the effect of changing people's moral preferences in such a way as to increase social harmony in the long term. We think this can be done in ways that are broadly consistent with the principles of libertarian paternalism.

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[15] We have focused on instances where conservative moral views are altered; however, this strategy is not tailor-made for the purpose of manipulating the moral views of conservatives. It could be used to manipulate any moral beliefs that are at least partially underpinned by intuitions, regardless of the political orientation of the subject.

[16] However Bovens (2008) suggests that some nudges may be significantly less effective if the use of these is apparent to the people who are being nudged.

If a university wishes to implement a policy of allowing black students to enrol in a formerly all-white campus, with the expressed purpose of breaking down racist attitudes and thereby increasing racial harmony, then, as long as prospective students are still free to choose which university in which to enrol, and as long as the goals of that policy are transparent, then that policy is consistent with the principles of libertarian paternalism. Similarly, the strategy of a government that wished to reduce conservative opposition to transformative technologies by selectively exposing its citizens to those novel technologies would, in our view, be unobjectionable, provided that this policy goal was transparent and that individuals were free both to choose whether or not to take advantage of such technologies and to express ongoing concerns about them. We would expect such nudges to have the effect of moving the views of conservatives in the direction of liberalism. These are the sort of nudges that a liberalised, democratic government might favour in order to win round conservatives.[17] Most instances of government manipulation will be thought by many to be objectionably paternalistic, but those that are consistent with the principles of libertarian paternalism will not be subject to this line of criticism.[18]

One way in which we are stretching the notion of libertarian paternalism is by advocating the deliberate use of nudges to create long term changes in people's preferences. Thaler and Sunstein (2008) do not consider this possibility. However, we do not think that they would have grounds to object to this form of stretching. We have two reasons to hold this view. First, Thaler and Sunstein (2008) focus their attention on choices rather than preferences because, inter alia, they think that people often lack stable, clear and well ordered preferences in the first place (Sunstein and Thaler 2006: 233). Second, many of the particular nudges that they advocate plausibly have the effect of creating long term changes in people's preferences. For example, it is plausible to think that the consistent choice of healthy foods as a result of successful nudges would strengthen people's preference for healthy food choices over unhealthy ones.[19]

However, there is one way in which we are doing more than merely stretching the notion of libertarian paternalism and going beyond the conception which Thaler and Sunstein (2008) have been trying to develop. Thaler and Sunstein (2008) envisage utilising nudges to correct for the effects of cognitive bias on behaviour and we are advocating using these to make long-term alterations to moral intuitions and to change moral preferences. We are not advocating doing so without respecting the principle of transparency, which Thaler and Sunstein place much weight on (2008: 244); however, we clearly are flouting one of their other considerations, which is the aim of political neutrality. A nudge to decrease urinal spillage seems politically neutral, whereas we advocate the use of politically

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[17] Similarly, a conservative government could use nudges to increase the strength and breadth of conservative intuitions. For example, a government might make it cost effective to attend education institutions that stressed the development of patriotism and obedience to authority in curricula.

[18] Thoroughgoing libertarians may suspect that libertarian paternalism lacks genuine libertarian credentials. They may suppose that one can have one's liberty interfered with without having one's choice set altered. If so, then they will find reasons to object to our approach too. See Hausman and Welch (2010) for further discussion of the libertarian credentials of libertarian paternalism.

[19] Amir and Lobel (2008: 2121) argue somewhat similarly.

partisan nudges, albeit for the long term benefits of the whole of a society. However, arguably, many of the nudges that Thaler and Sunstein (2008) advocate are not politically neutral either.[20] Amir and Lobel (2008) argue that the use of nudges is inevitably value-driven, and that the ideal of neutrality is unrealizable. While we are not convinced that there are no nudges that are politically neutral, we think that the vast majority lack neutrality. Even some of the seemingly benign examples of nudges cited by Thaler and Sustein (2008) are not politically neutral. For example, producers and suppliers of unhealthy foods will have grounds to oppose the use of nudges to favour the consumption of healthy over unhealthy foods, as the use of these will disadvantage and disempower them. And those who are sceptical of government categorizations of the healthiness of food items will also consider the use of such nudges to be far from politically neutral, as these presume politically contentious food categorizations. Because the aim of political neutrality is unrealizable for libertarian paternalists who wish to use nudges, we suggest that libertarian paternalists abandon this aim, and accept and embrace the partisan nature of nudging. Rather than condemn all politically partisan nudges outright, libertarian paternalists should instead focus on the more difficult—but, we contend, more important—question of which politically partisan nudges are ethically acceptable, and which are not.

We have seen that much opposition to transformative technologies has its roots in conflicts between divergent moral intuitions. We have also seen that whilst moral intuitions can be useful tools in moral deliberation, intuitions alone are an unreliable final arbiter of what is right and wrong, and they are highly likely to be influenced by social factors. Because moral intuitions are susceptible to the influence of social factors, they are also susceptible to external manipulation. When this sort of manipulation involves deception and/or coercion it is objectionable, but when it involves neither of these features it does not appear to us to be objectionable. Openly exploiting the malleability of moral intuitions, then, could be an effective and ethical way for governments to facilitate technological progress.[21]

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[20] Thaler and Sunstein concede that neutrality will not always be possible (2008: 243).

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