

A whole new... you? ‘Personal identity’, emerging technologies and the law

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Abstract In this article, I argue that lawmakers must abandon their previous reluctance to engage with questions of personal identity (PI). While frequently seen as an esoteric subject, of limited interest outside of academic philosophy departments, I attempt to show that, in fact, assumptions about PI—and its durability in the face of certain psychological or genetic changes—underpin many current legal rules. This is most perhaps obviously exemplified with regard to reproductive technologies. Yet the Parfitian challenge to identify a victim of ‘bad’ reproductive choices has been largely overlooked in framing legislative responses to such technologies. Furthermore, I argue, it is not only with regard to emerging technologies that questionable assumptions about PI play a role; legal responses to questions about the attribution of criminal responsibility, and about the treatment of demented or brain-injured people, necessitate a frank engagement with such questions. It may be, however, that a multi-faceted approach to PI, which takes account of genetic, psychological and social factors—will prove a better fit for the myriad needs of the legal system than any sort of ‘unified theory of identity’.

Keywords Emerging technology · Personal identity · Regulation

Lawyers, and lawmakers, have an often thankless task. When they attempt to formulate rules in response to technological or scientific advances, they are accused of lagging behind, of seeking to apply yesterday’s solutions to today’s (and tomorrow’s) problems. Yet when they endeavour to anticipate such advances, they run the risk that the rules they formulate will be a poor fit for the specific technologies that actually emerge; of bringing about what Roger Brownsword has

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referred to as ‘descriptive disconnection’ between the regulation and the technology (Brownsword 2008). Consider the example of human reproductive cloning in the UK, when the statutory prohibition specified what transpired to be only one of the techniques by which this could be accomplished. When they seek to formulate rules that are specific and predictable, those rules are accused of being overly rigid and narrow; when they attempt a more flexible approach, the rules are too vague and unpredictable, leaving a zone of uncertainty in which the legality of certain actions cannot be ascertained in advance.

The difficulty of regulating emerging technologies may owe something to the differing rationales of law and of science; as John Braithwaite has pointed out, ‘by design, law aims for stability whereas science aims at growth and transformation by revolutionary paradigm shifts’ (Braithwaite 1984). These competing imperatives—of certainty and flexibility, of stability and progress—present a mighty task for regulators or rule-makers (or rule-interpreters) operating in this domain. If they do not always strike the right balance, or make the right predictions about the directions that science and technology will take, we are right to criticise, but we should do so in a spirit of recognition of the inherent difficulties of juggling so many objectives.

Occasionally, though, a more unforgiving response may be merited. Occasionally, the balance between those imperatives is so lopsided, or the predictions underpinning the rules or decisions are so far-fetched, that it is almost impossible to conclude that any kind of proper evaluation of certain arguments or items of evidence has been undertaken at all. In some instances, and for whatever reason, those who draft, implement, interpret and apply the rules seem to have cultivated a selective blind spot with regard to some of the implications of those rules.

It is my contention that personal identity (PI) is in danger of becoming just such a blind spot.

While philosophers of the mind have grappled through the ages with the question of persistence, with qualitative and numerical identity, with the notorious ‘fission problems’, law has carried on seemingly unburdened by such concerns. And now, as emerging and existing technologies in the fields of genetics, neurology and pharmacology have raised pressing new concerns about personal identity, law has continued to turn a blind eye.

It is not difficult to imagine why lawmakers have steered clear of this subject. It runs the risk, I think, of acting as what Daniel Dennett has described, in another context, as a sort of ‘universal acid’ (Dennett 1995), burning away not only the immediate problem, but also the very foundation assumptions upon which much of the legal system rests (and this, I suspect, applies to almost any currently existing legal system).¹ Faced with such a challenge, it is perhaps understandable that they elect to treat such questions as the property of a discrete and esoteric academic domain, located far from the pragmatic workshop of real-life rule-making. It is becoming increasingly apparent, however, that such an act of distancing is both highly artificial and effectively impossible. Embedded within many of law’s normative underpinnings are assumptions about the nature of identity; assumptions

¹ It could, I think, be argued that recent discoveries in neuroscience and genetics could pose a similar threat to the normative foundations of the attribution of personal responsibility; in decades to come, we may well be reading similar volumes about Libet’s Dangerous Idea!

hitherto untested and unarticulated, certainly, but which are increasingly being held up to scrutiny by the challenges of regulating new technologies.

Indeed, PI is, I think, becoming one of the dominant themes and discourses of our time. It is within this context that law in general—and the law governing emerging technologies perhaps most urgently—needs to cast aside its suspicion of the overtly philosophical and engage head-on with an issue that, like the metaphorical elephant in the room, is becoming increasingly difficult to ignore or work around.

Personal identity in popular culture

It is true, of course, that when writing about a subject, it is easy to see it everywhere. But even allowing for authorial perception bias, it seems as though the theme of PI has, in recent times, become pretty ubiquitous in popular culture. The loss of those psychological properties (memories, personality traits) upon which, for many people, PI depends has featured prominently in recent works of popular culture. The gradual erosion of identity brought about through Alzheimer's disease formed the basis for best-selling novels such as Nicholas Sparks' *The Notebook* (Sphere 2006) and Lisa Genova's *Still Alice* (Pocket Books 2010). The protagonist in the latter specifically confronts the PI question when she asks rhetorically:

Is the part of my brain that's responsible for my unique "me-ness" vulnerable to this disease? Or is my identity something that transcends neurons, proteins and defective molecules of DNA? (Genova 2010: p 252)

The 2007 British television drama, *The Recovery*, on the other hand, was concerned with more sudden disruptions to psychological properties. After Alan (David Tennant) sustains brain injuries after being struck by a car, he is left with a dramatically altered personality—childlike, recklessly impulsive and at times explosively aggressive (a plight more than a little reminiscent of the oft-cited real-life instance of Phineas Gage (Macmillan 2008)). The somewhat hackneyed phrase, 'I don't even know you any more', has a real, literal poignancy when blurted out by Tricia (Sarah Parish), his anguished and bemused wife.

The extent to which punishment is justified for crimes committed many years hence has been the subject of several philosophical meditations, but was also one of the themes of Pat Barker's novel *Border Crossing* (Viking 2001). This concerns a meeting between Danny, recently released from custody for a murder he committed as a child, and Tom, the psychologist whose testimony led in part to Danny's conviction. At one point, Tom recalls an incident from his own childhood, where his bullying of a younger child almost ended in tragedy:

What interested him was how little sense of responsibility he felt now. If somebody had asked him about that afternoon, he'd have said something like, "Kids can be very cruel." Not, "I was very cruel." "Kids can be very cruel." He knew he'd done it, he remembered it clearly, he'd known then, and accepted now, that it was wrong, but the sense of moral responsibility was missing. In spite of the connecting thread of memory, the person who'd done that was not sufficiently like his present self for him to feel guilt (Barker 2001: p. 48).

Questions of more exotic forms of (putative) survival have continued to be pondered over in science fiction. The transfer of personalities into new bodies (sometimes more than one new body at a time) has formed a central plot device in the television series *Dollhouse* and *Battlestar Galactica*,² and in the novels of Richard Morgan³ and Charles Stross.⁴ Interestingly, although highly thought-provoking in various ways, all of these display a tacit acceptance of the psychological view, whereby accurate transfer of memories and mental states equates—fairly unproblematically—with survival of the same individual.

The psychological view, though influential (see for example Glannon 2001; Agar 2003; Zohar 1991), is by no means unanimously accepted. The highly successful BBC television series *Who Do You Think You Are?* unambiguously equates PI with genetic identity. Each episode follows a celebrity as they discover details of their family history—often with quite emotional results. The notion implied by the title is that one's sense of self could in some sense be mistaken, and that mistake could be corrected by genealogical data.⁵

Personal identity and the law

It is clear, then, that the sorts of questions that contemplation of PI pose, far from being restricted to the ivory towers of academic philosophy, are of very real concern to very real people. It is also clear that authors and television producers are not shy of addressing these sorts of questions in a variety of ways. Though the law, in its various manifestations, has displayed a marked reluctance to engage so overtly and explicitly with notions of identity, it is undeniable that identity questions are, with increasing frequency, demanding legal answers.

The relationship between identity and genetics, for example, has become of recent interest to the British courts, in some quite surprising ways. In December 2009, the UK Supreme Court had to decide an appeal by the Jewish Free School that involved the interplay between these concepts. The School's admission policy had previously been held, by the Court of Appeal, to be in contravention of the Race Relations Act 1976 because of the criteria by which it defined Jewishness and thereby, eligibility for admission to the school. Lord Phillips described the 'matrilineal test', according to which

It is... a fundamental tenet of the Jewish religion... that the child of a Jewish mother is automatically and inalienably Jewish.... It is the primary test applied by those who practise or believe in the Jewish religion for deciding whether someone is Jewish.⁶

² Indeed, the latter has received its own semi-academic discussion; (see Kind 2008)

³ Particularly the Takeshi Kovacs series—*Altered Carbon* (Morgan 2002), *Broken Angels* (Morgan 2003) and *Woken Furies* (Morgan 2005)—where 'resleeving' is used as a routine means of long-distance space travel, and 'back-ups' are an insurance policy against sudden death.

⁴ 'Delete the wrong pattern, and you can end up becoming someone else.' *Glasshouse*, Orbit, 2007.

⁵ Though interestingly, television presenter Nicky Campbell used his appearance on the show to learn more about his *adoptive* family, suggesting that he at least rejected a straightforwardly genetic explanation of identity.

⁶ *R (on the application of E) (Respondent) v Governing Body of JFS and the Admissions Appeal Panel of JFS (Appellants) and others* [2009] UKSC 15, at paragraph 2

The admission criteria, it should be said, were not straightforwardly genetic; it is possible (though not easy) for a mother to convert to Judaism, and provided she had done so before the child had been born, and in a manner accepted by the school, the eligibility criteria would have been satisfied. It is also of interest that the father's faith is of no relevance in defining Jewish identity, although he will have contributed roughly half of the child's genetic material. Furthermore, as Lord Phillips pointed out

because the Orthodox test focuses exclusively on the female line, any Jewish national or ethnic blood can become diluted, generation after generation, by the blood of fathers who have no Jewish characteristics of any kind. This is likely to happen if a Jewish woman marries out of and abandons the Jewish faith.⁷

Nonetheless, the majority in the Court shared Lord Phillips' view that 'one thing is clear about the matrilineal test; it is a test of ethnic origin. By definition, discrimination that is based upon that test is discrimination on racial grounds under the Act.'⁸

The relationship between genetic origins and PI has also been central to the debate surrounding the (putative) right to anonymity of gamete donors, and its corollary, the (equally putative) right of the children conceived thereby to learn details of their genetic origins. As of April 2005, those offspring of gamete donation who have turned 18 have been entitled to identifying information about the gamete donors.⁹

Although the change appears to have had adverse effects on donation rates,¹⁰ the interests of donor offspring were deemed the more important consideration. The case for legal recognition of the 'right to know' was passionately articulated by David Gollancz, himself conceived by sperm donation:

When my father told me the truth back in 1965, I felt as though someone was standing in front of me, tearing up my autobiography page by page. Of course, all the things in my story had happened—but the "me" to whom they had happened was not the me who had been telling himself the story. Not the descendant of Polish Jewish rabbis and scholars; not, in fact, cousin to my cousins or even, it seemed, properly entitled to my name.¹¹

The 'need' identified by Gollancz, and by others like him, might strike most of us as embodying a somewhat extreme version of genetic essentialism, seeming as it does to rely on the belief that his identity—the 'me' to whom events happened—was shaped at conception, and to deny that those very lived experiences and personal relationships had any significant bearing on determining that identity. What seems practically impossible to dispute, however, is the sincerity and conviction of such

⁷ Ibid., at paragraph 29

⁸ Ibid., at paragraph 45

⁹ Human Fertilisation and Embryology Authority (Disclosure of Donor Information) Regulations 2004

¹⁰ 'the most obvious consequence of the legal change is an acute donor shortage. The decrease in the number of donations has led to pressure to accept donors with suboptimal characteristics, long waiting lists, and the development of a fresh semen market on the Internet, often with unscreened semen.' (Turkmenoglu et al. 2008: p. 284).

¹¹ David Gollancz, 'Time to stop lying', *The Guardian*, 2 August 2007

views, despite many decades of emphasis by social science academics on the importance of environment in shaping the sorts of lives we grow up to live.

It is also interesting to speculate about the future of such a need, in the face of what it is now almost trite to refer to as ‘the genetic revolution’. In particular, will technologies that promise to give us more direct access to information about our own, individual genetic composition, without the need to extrapolate from visible phenotypic ancestor traits, diminish the urge to locate those ancestors? If an over-the-counter testing kit—a more sophisticated successor, perhaps, to those offered by companies like 23andMe (<https://www.23andme.com/>)—will allow me to predict how I will age, which health problems I am likely to face, perhaps even when I am likely to die, all with far greater accuracy than at present, (though still, of course, subject to the customary caveats about fortune interfering in the form of a swerving bus!), why should I care about what my grandfather looked like?

There are, however, various ways in which genetic identity surely does have a strong bearing on personal identity. Consider, for example, the long-running and ongoing debate surrounding pre-implantation genetic diagnosis (PGD), the technology that allows prospective parents to test, and choose between, various in vitro embryos for implantation.

I have argued elsewhere¹² that how we think about identity has profound implications for how we should respond to the sorts of choices that PGD allows. Section 14(4)(9) of the new Human Fertilisation and Embryology Act 2008, for instance, requires that embryos known to have a significant risk of ‘serious physical or mental disability’ or ‘serious illness... must not be preferred to those that are not known to have such an abnormality’.

The scenario envisioned by the Act’s drafters was akin to that wherein a deaf couple in the USA deliberately sought to maximise the chances that their future child would share their deafness. Perhaps, on a common sense, first glance approach, the prohibition has a certain appeal; choosing to bring about the birth of a deaf—or otherwise disabled—child when that was easily avoidable may strike many people as a perverse choice, maybe even a negligent or abusive choice.¹³ After all, we do not typically allow parents to forego beneficial treatments for their pre-competent children; if the administration of a short course of medication in infancy would prevent a child from becoming deaf, we (or most of us) would take a dim view of any parents who refused that treatment. Perhaps—depending on our jurisdictions—the law would not even allow them to do so. Why, then, should our response to ‘perverse’ PGD choices be any different?

The analogy (at least arguably) breaks down when we consider what the PGD choices actually entail. The nature of the technology is such that it does not allow repairs or alterations to a ‘disabled’ pre-implantation embryo, but only the option of replacement with another, ‘better’ embryo. To return to the analogy with conventional medical treatment, implanting a different embryo will not make a child better, but rather, make a better child.

If our rationale for curtailing parental choices revolves around the interests or the well-being of the future child, then we are faced with the fact that it only makes sense to

¹² See ‘Defending the Genetic Supermarket: The law and Ethics of Selecting the Next Generation’ (Gavaghan 2008) and ‘Disability, identity and choice: embryo testing and the Human Fertilisation and Embryology Act 2008’ (Gavaghan 2009).

¹³ See, for example, Daniel Finkelstein, ‘Choosing a deaf baby is criminal’, *The Times*, March 12, 2008.

speak in terms of harming the resulting, disabled child if a better alternative existed for that child. As Derek Parfit pointed out a quarter of a century ago, if choosing to create a disabled baby is bad for anyone, it cannot be said to be bad for the baby itself, for whom the only alternative to disabled life is no life at all (Parfit 1984).

The conclusion that must follow is that—in the vast majority of cases (i.e. all of those that do not involve the creation of a life foreseeably so awful that we might sensibly worry that the child's very existence is an injury to it)—the decision whether to implant the 'disabled' embryo or the 'healthy' embryo is a matter of ethical indifference, at least with regard to our duties to the resulting child. As for the potential alternative child that could have resulted—well, unless we wish to attribute to the early embryo some sort of interest in developing interests, then it cannot be said that it was harmed at all.

It would be something of an understatement to say that the Parfitian thesis has proved both counterintuitive and controversial (see, for example, Peters 1999: pp. 384–385). Numerous attempts have been made to salvage the more intuitively plausible position that the prospective parents' choice as between the embryos does matter; I have evaluated some of the more ingenious attempts elsewhere (Gavaghan 2010) and do not intend to repeat my conclusions here, other than to say that my respect for those efforts has not diminished my support for the Parfitian position.

What I would like to turn to here, instead, is the premise underlying the Parfitian conclusion, the assumption that a different embryo, composed from different gametes and comprising different DNA, would result in the birth of a different child. This view has been described by Bernard Williams as the *Zygotic Principle*, according to which

the identity of human beings, as of other sexually reproducing creatures, lies in the union of two given gametes: if either the sperm or the ovum or both had been different, a different human being would have been formed and born (Williams 1990: p.169).

If we accept this conclusion, does it follow that we must regard PI as fundamentally, or most importantly, about genetic identity? Such an approach would leave us open to charges of genetic essentialism, or of naively neglecting the important role that environment and upbringing and even chance events play in shaping the people we grow up to be. Robert Elliott has shown that such an approach could lead to highly counterintuitive outcomes: 'a genotype is an abstract object, a complex universal, which may be instantiated in any number of different organisms, for example in both C and in C's identical twin, C*. Identifying C with its complete genotype requires accepting the strongly counterintuitive view that C is the very same individual as C*' (Elliott 1993: p. 32).

As Grant Gillett, my friend and colleague at University of Otago, has plausibly opined, 'personal identity is not genetic identity' (Gillett 2008), but rather, '[a] human individual is located in a network of relationships in which he or she is given a name and develops an identity through that being-in-the-world-with-others, an engagement normally contingent on a certain (kin-based) origin.'¹⁴ Certainly, it is easy enough for me to imagine my existence had I inherited my father's dominant brown-eyed gene allele rather than his recessive blue-eyed gene. Having lived with

¹⁴ Ibid., at p. 51

brown eyes seems much easier to reconcile with the sort of life I have had than a counterfactual life in which the same embryo was born into an entirely different family, with different values—say, a large family of conservative Baptists in Kansas.

To say, then, that our genes *matter* is certainly not to say that they are *all that matters*, nor even that they are what matters *most*. Yet—at least intuitively—most of us seem to believe that they matter to some (non-trivial) extent in determining our identities. How else could we account for the distress of parents who discover that the child they took home from the maternity ward, or carried after IVF, is not actually their genetic offspring?¹⁵ If identity is predominantly relational—dependent on how we are viewed or treated by those around us—then any distress from the parents after discovering such a mix-up would be irrational. Even the knowledge that some other couple, somewhere, was raising ‘their’ child would make no sense, within a paradigm that sees the child become ‘theirs’ only when it is accepted and treated as such.

Of course, the fact that many people feel something is not sufficient evidence of its philosophical robustness; I have already argued, after all, that we should accept Parfit’s non-identity approach despite the alternative view being much more intuitively acceptable. Nonetheless, I want to suggest that genetic identity is in fact one important element of personal identity; that the stuff of which we are made does determine, to a significant extent, who we become.

That said, I would not wish to contend that *any* genetic change is necessarily identity-affecting. To return to my earlier example, I can imagine being born with brown rather than blue eyes without seriously doubting that I would be ‘Colin Gavaghan with brown eyes’ rather than another person altogether. But what if ‘I’ had received one of my father’s X-rather than Y-chromosome sperm, and been born a girl? What if (assuming there to be any genetic basis for this) I had received his aptitude and inclination for working outdoors and building things rather than my own for reading books and arguing about them?

If my identity is even partly based on a certain alignment of nucleotides, then does it follow that any alteration to ‘my’ genetic code will see me replaced by someone else? If not, then how much could be changed before such an existential threat presents itself? The question might be thought to occupy the rather fanciful space that is the exclusive realm of philosophers and science fiction authors. In fact, it is possible that it will not be long before it becomes a legitimate concern for legislators, judges and doctors.

Remedy or replacement?

Imagine the following scenario: Ursula and Aldous the parents of a newborn child, Isaac, are informed that he has trisomy 21, better known as Down’s syndrome (DS). They are initially shocked, but come to accept and love Isaac, frequently marvelling at his capacity to surprise them. Four years later, Ursula and Aldous are informed by their

¹⁵ Following one instance of error in a Cardiff IVF clinic, a woman who found herself pregnant with another couple’s embryo elected to terminate the pregnancy—leading almost inescapably to the conclusion that, in her estimation, even the experience of gestation and childbirth would not provide her with ‘her own’ baby. See ‘Couple in IVF mix-up speak of devastation’, *The Times*, June 15, 2009.

GP that a new form of ‘gene therapy’ has been developed that can substantially ‘remedy’ the DS. If this is given to Isaac as soon as possible, he will develop ‘normally’.¹⁶

Let us assume for the moment that the ‘treatment’ is highly effective and free of significant side effects. What would be our reaction were Ursula and Aldous to decline the intervention? We may think that, unlike the PGD cases discussed above, this does not involve replacing one child with another, but rather, a modification to *this* child. Isaac will still exist, but will be free from the disabilities associated with DS. If that intuition is correct, then declining the intervention may indeed bear a closer resemblance to neglect. If, all else being equal, a life with Down’s syndrome is worse (from the perspective of the person living the life) than a life without, then it may seem that Ursula and Aldous are choosing a worse life for Isaac, when a better life could easily be brought about. We would not allow parents to choose to ‘disable’ their child physically by refusing to have a broken limb set so, by analogy, we should not allow them to disable him intellectually by declining this intervention.

Several of the assumptions underlying this approach are, of course, open to question. First is the claim that a Down’s syndrome life is in some sense worse, subjectively speaking, than an ‘ordinary’ life. It is to be hoped that our society has progressed some way in the past 20 years, such that we would not expect to hear Court of Appeal judges speaking of ‘mongoloid’ children in the same tragic terms as Lord Justices Templeman and Dunn in the influential ‘Baby Alexandra’ case,¹⁷ and the media now fairly regularly carry accounts of DS children who have achieved academic, artistic or athletic success that would previously been considered impossible.

For the purposes of this discussion, though, the more significant concern about the intervention would be whether it would be consistent with preserving the identity of the affected child. Suppose that Ursula and Aldous responded to the proffered treatment in something like the following terms: ‘We love the son we have, thank you. We have no desire to exchange him for a different one, however greater the intellectual abilities of that substitute.’

In a 1991 article in the journal *Bioethics*, Noam Zohar offered an argument very much in tune with that of Ursula and Aldous:

In proposed “genetic therapy”, we must be prepared to ask whether a procedure will be beneficial to the individual before us, or will it in fact involve rubbing out this individual and introducing a new individual in its stead?(Zohar 1991: p. 279)

Certainly, if we accept a largely psychological view of personal identity, then an intervention that will have the effect of substantially altering a child’s mental properties poses a coherent risk to the continuation of that child. As Walter Glannon has written:

Genetic identity is not personal identity. But the manipulation of genes at different stages in the life of a human organism or a person can affect the nature of and connections between mental states and over time determine

¹⁶ The scenario, though presently hypothetical, is not entirely fanciful. In 2003, researchers at Stanford University Medical Center predicted that, while DS may not ultimately prove entirely curable, many of the symptoms associated with it could potentially be reversible; *Los Angeles Times*, Oct. 16, 2003.

¹⁷ *Re B (A minor)* [1981] 1 W.L.R. 1421

whether a given set of mental states is that of one person or distinct persons (Glannon 2001: p. 25).

A ‘cure’ of Down’s syndrome, we might think, could impact significantly on how Isaac views the world, how he relates to his peers and relatives, the hopes and aspirations he holds for the future—and his potential ability to fulfil these hopes and aspirations. Indeed, were it not for precisely these changes, we might well wonder about the utility of the intervention.

If this is so, then the question of whether a given genetic intervention was genuinely therapeutic, as opposed to substituting, would depend on the extent to which it left important mental properties intact. If these are likely to be altered in a radical manner, then the claim of Ursula and Aldous that the proposed therapy is not in the best interests of *this* child at all looks to have some merit.

Not all commentators would share this perspective. David de Grazia espouses a very different view of personal identity, in which psychological properties play a much less central role. His ‘robustness thesis’, for example, would hold that Isaac without DS would still be ‘this Isaac’:

Once one exists, one can change a great deal without going out of existence. When I was a child, a neighbour was hit by a car, causing him to become mildly mentally retarded. Although the accident had a significant impact on his intellectual abilities and on the life he would lead, it surely didn’t kill him or otherwise end his existence, and replace him with a mentally retarded successor. Similarly, once one comes into existence as a fetus, the individual can change substantially—whether due to genetic interventions of factors in the uterine environment (such as trauma to the pregnant woman’s body)—without going out of existence (DeGrazia 2005: p. 257).

Our intuitions about whether the post-treatment child would be ‘the same Isaac’ may depend to an extent on whether he retains memories of his pre-treatment life. A continuous chain of direct memories was what mattered most for John Locke, and a disruption of that chain is what concerns us when we read books like *Still Alice*. Yet memory is a complicated phenomenon. Isaac may recall events from his past but view them in such a different light as to raise doubts as to whether they are *the same* memories. When Charlie, the protagonist in Daniel Keyes’ novel *Flowers for Algernon* (Keyes 2000), undergoes experimental treatment to increase his low IQ, he comes to realise that events that he remembered hazily become much clearer—but also, at times, bring with them painful and embarrassing realisations. His new insights also lead him to realise that people he regarded as friends were in fact frequently mocking and taking advantage of his disability.

A third response would be to argue that, while the treatment would alter Isaac’s personal identity, this does not greatly matter, since the mental properties upon which identity is predicated will inevitably change as the 4-year-old Isaac grows up anyway. Of the values, relationships, memories or aspirations I hold now, very few were present in the 4-year-old Colin Gavaghan. Regardless of what had happened to me in the intervening 36 years, there was never any prospect of identity being conserved indefinitely.

But while there is little by way of strong connectedness between CG₄₀ and CG₄, there does exist what Parfit referred to as continuity between us, ‘an overlapping chain of direct memories’ (Parfit 1984: p. 205). Without the intervention, it may be

thought, Isaac will change, but in a gradual way consistent with us recognising him as the same person from one day to the next. The treatment, on the other hand, depending on how it works, might constitute the sort of radical interruption to this chain experienced by Charlie in *Flowers for Algernon* or Alan in *The Recovery*.

Genetic ‘therapy’ does not possess a monopoly on such existential questions. As Derek Morgan has argued, ‘[m]edical technologies, increasingly, invite us to reflect upon questions that go to the heart of who I think I am’ (Morgan 2008). Neuropharmaceutical ‘cures’ for conditions such as autism are likely to pose similar questions, and perhaps in the more immediate future. Furthermore, the inevitability of ever greater numbers of people affected by Alzheimer’s disease,¹⁸ and the question of continued legal and moral responsibility for long-past deeds demonstrate that need to grapple with ‘who we think we are’ is not contingent upon any future technological development.

It is my argument, then, that the law—in the form of the legislature, the courts and the regulatory bodies that frequently act as gatekeepers to new technologies—must abandon its unwillingness to engage with questions of personal identity. I have argued that UK law’s current treatment of PGD is inadequate, in large part, because no approach predicated on the welfare of ‘the child’ can really avoid asking ‘which child are we talking about’? Furthermore, it seems inevitable that the legal response to emerging technologies—most obviously neuropharmaceutical and genetic—will be similarly compromised if analogous questions are side-stepped.

This will not be a simple task, and we should not expect a simple answer. Perhaps one all-encompassing theory of PI will prove to be both overly ambitious and unnecessary, and a more complex, multi-faceted approach—attaching value to genetic, psychological and narrative traits as appropriate—will present the best way forward. If the offspring of gamete donation *think* that their identities are largely dictated by genetic factors, then perhaps that is sufficient reason for the law to take seriously their claims for information—even if most of us do not, in other contexts, share that intuition.

With regard to the sorts of choices faced by the hypothetical Aldous and Ursula, though—or the real-life Sharon Duchesneau and Candy McCulloch—it may be that such a pluralistic approach is a luxury the law cannot afford. A model which regards identity as robust enough to survive even significantly mind-altering intervention may offer parents little chance to oppose ‘treatment’ for conditions such as Downs or autism. Given the possibility that such parents will regard this as substituting *their child*, I would argue that—as with the PGD cases—we at least owe them a considered explanation of the rationale for such compulsion.

Finally, we may wonder whether the complexity of these sorts of cases really admits of the sort of binary, me/not-me approach to identity taken by Parfit, Agar and others—or if it does, then whether ‘identity’ is really the right tool for the job. Given the possibility of incremental change to mental states and genetic composition, perhaps we will find ourselves turning a pronoun into an adjective, and asking not ‘Is it still *me*’ but ‘Is it still *me enough*?’

¹⁸ A long-running bioethical and medico-legal debate concerns the extent to which the wishes of a previously competent person should dictate the treatment—or non-treatment—of the non-competent demented individual that they become. For some commentators, the absence of sufficient psychological connection between them renders this analogous to one person deciding to forego life-saving treatment for another.(see Dresser and Whitehouse 1994; May 1997)

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