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## Human Genetics and the Image of the Triune God

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*The initial sequencing of the human genome, together with the rapidly developing technology of genetic manipulation, has brought into sharp focus some acute questions about what it means to be human. In this paper, some key issues are identified: biological determinism and reductionism, the meaning of health, the effect on personal identity of manipulating our genes and the moral limits which should be placed on our use of genetic manipulation. A Christian account of human personhood, made in the image and likeness of God, is developed, drawing on various theological sources including the Trinitarian theology of John Zizioulas and Jürgen Moltmann and the theological anthropology of Alistair McFadyen. It is argued (1) that our being and identity are rooted and grounded in God's creation of us; (2) that human personhood, made in God's image, is inescapably relational; (3) that even the best human relationships fall short of the fullness of God's image, so that the work of God in Christ is needed for the fulfilment of God's creative purpose. On the basis of this account, a response is given to deterministic and reductionist views of the human person, an understanding of health is articulated and some ethical conclusions about the use of genetic manipulation are drawn.*

**Keywords:** Human genome, genetic manipulation, theological anthropology, personhood, ethics, health, determinism, reductionism.

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### Introduction

In the past few decades, developments in genetics, evolutionary theory and other areas of biology have raised some acute questions about what it means to be human – questions of great importance for Christian theology and ethics. At the time of writing, these questions once again have a high public profile thanks to the recent flurry of interest in the initial sequencing of the human genome.<sup>1</sup>

Firstly, there is the well-known issue of biological determinism, which is illustrated in different ways by recent work on the genetics of male homosexuality<sup>2</sup> and of violence.<sup>3</sup> Popular accounts of such work have often used the lan-

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1 International Human Genome Sequencing Consortium, "Initial sequencing and analysis of the human genome", *Nature* (2001) 409, 860-921.

2 Hamer, D.H. *et al.*, "A linkage between DNA markers on the X chromosome and male sexual orientation", *Science* (1993) 261, 321-327.

3 Brunner, H.G. *et al.*, "X-linked borderline mental retardation with prominent behavioral disturbance: phenotype, genetic localization and evidence for disturbed monoamine metabolism", *American Journal of Human Genetics* (1993) 52, 1032-1039.

guage of 'a gene for' homosexuality, violence or whatever trait is being discussed (though the researchers themselves are usually careful not to imply anything so simplistic). The use of such language seems to assume that if a behavioural trait can be wholly accounted for by genes and environment, there is no room for genuine freedom or moral responsibility in the exercise of that trait.<sup>4</sup>

Sometimes a more sweeping determinism is asserted: that all human behaviour is biologically determined, and that our sense of free will is basically illusory. Such an assertion can be found in Edward O. Wilson's book *On Human Nature*:

[I]f our genes are inherited and our environment is a train of physical events set in motion before we were born, how can there be a truly independent agent within the brain? The agent itself is created by the interaction of the genes and the environment. It would appear that our freedom is only a self-delusion.<sup>5</sup>

In his more recent work, Wilson appears to soften this assertion somewhat, concluding that 'in every operational sense that applies to the knowable self, the mind *does* have free will'. However, he appears to mean this in a very limited sense, since he also attributes the decisions of the mind to neural and hormonal activity, and writes that 'the hidden preparation of mental activity gives the *appearance* of free will'.<sup>7</sup>

Secondly, along with biological determinism goes a kind of biological reductionism which is again well illustrated by Wilson's writings; for example, he speculates that religious experience 'can all ... be explained as brain circuitry and deep, genetic history'. The qualification that follows, 'But this is not a subject that even the most hardened empiricist should presume to trivialise', while striking a more eirenic note than some of his colleagues' language, can hardly be much more than a sop to his religious critics.<sup>8</sup>

Thirdly, the sequencing of the human genome offers enormous scope for the detailed understanding and manipulation of human traits. In medicine, there is the prospect of understanding both single-gene disorders and the genetic factors in complex, multifactorial traits.<sup>9</sup> This in turn could allow the diagnosis of such traits at any stage from the embryo *in vitro* to the adult, the prevention of the birth of children with such genes (either by selective implantation of

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4 Peters, T., *Playing God? Genetic Determinism and Human Freedom*, New York and London: Routledge (1997), pp. 63-113.

5 Wilson, E.O., *On Human Nature*, Harmondsworth: Penguin (1978 / 1995), p. 71.

6 Wilson, E.O., *Consilience: The Unity of Knowledge*, London: Abacus (1999), p. 132 (emphasis original).

7 *ibid.*, p. 131 (my emphasis).

8 Wilson, *Consilience*, p. 290.

9 *op. cit.*, International Human Genome Sequencing Consortium, pp. 911-912; Chakravati, A., "... to a future of genetic medicine", *Nature* (2001), 409, 822-823.

embryos or by abortion) and treatment by genetic manipulation.

There is also the prospect of the understanding, selection and manipulation of a vast range of human characteristics that have nothing to do with disease. Although this is a more remote prospect than the use of genetic manipulation in medicine, it is by no means unknown for researchers in the field to speculate about non-therapeutic as well as therapeutic uses of the technology. For example, reproductive scientist Roger Gosden said in a television interview in 1999 that

The closing decades of the twentieth century have been ones where we've been pre-occupied in reproductive science with trying to overcome problems of infertility ... In the twenty-first century, I believe that we'll be emphasising much more the quality of those children, so that people can have a healthy child at the time they want, and perhaps with other characteristics that they seek.<sup>10</sup>

Furthermore, since the concepts of 'health' and 'disease' are themselves contested, it may not be easy to say where medical applications of genetics end and what we might call social applications begin.<sup>11</sup>

The sequencing of the genome and the prospect of genetic manipulation raise two separate, though related, kinds of question. Firstly, there are what might be called 'descriptive' questions: how should we *describe* such activity in terms of a Christian theological anthropology? If we map our genome, how much does that tell us about who we are? If we manipulate our genes, how true is it to say that we are 'redesigning *ourselves*'? Secondly, there are *moral* questions: what *ought* we, or ought we not, to do? What sort of people and communities ought we to *be*? What does our use of this science reveal about our character as individuals and as societies, and how might our character be affected by the decisions we make in this area? The remainder of this paper will outline a Christian understanding of human personhood and show how such an understanding might illuminate these questions.<sup>12</sup>

## The Image of God

The person is a key concept in secular as well as Christian debate about bioethics, though there are widely divergent understandings of what 'the person' means. Contemporary accounts of personhood frequently claim that in order to be considered as a person, a being must possess certain characteristics, such as rationality and self-awareness. Such an understanding of person-

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10 *The Baby Makers: Unnatural Practices*, Channel 4, 25 May 1999.

11 See Boyd, K.M., "Disease, illness, sickness, health, healing and wholeness: exploring some elusive concepts", *J. Med. Ethics: Medical Humanities* (2000) 26, 9-17, for a recent review.

12 See Messer, N.G., "Human cloning and genetic manipulation: some theological and ethical issues", *Studies in Christian Ethics* (1999) 12 (2), 1-17, for an earlier treatment of some of these questions.

hood is expressed by John Locke's famous definition:

[What *person* stands for], I think, is a thinking intelligent being that has reason and reflection and can consider itself as itself, the same thinking thing in different times and places; which it does only by that consciousness which is inseparable from thinking and, as it seems to me, inseparable from it: it being impossible for anyone to perceive without perceiving that he does perceive.<sup>13</sup>

This kind of understanding has been highly influential on many modern thinkers, both Christian theologians such as Joseph Fletcher<sup>14</sup> and secular thinkers such as Peter Singer.<sup>15</sup>

It is not always acknowledged that the concept of a person, as a philosophically and morally significant entity, is deeply rooted in Christian theological reflection. In classical antiquity, the Greek word *prosopon* and the Latin *persona*, both now customarily translated 'person', originally referred to the masks worn by actors to represent characters on stage, and derivatively to social roles. The beginnings of a fuller understanding can be found in some Biblical texts, but it was not until the doctrinal debates in the first few centuries of the Church's history that, in John Habgood's words, 'the concept of 'person' received a huge injection of theological meaning.'<sup>16</sup> Christian thinkers had to develop a new language in order to articulate their central affirmations about God and his work, particularly the doctrines of the Trinity and the Incarnation. How could one God be Father, Son and Holy Spirit? How could Jesus be at once human and divine? In order to articulate these doctrines, theologians imported the terminology of 'person' from classical literature, but gave it a distinctively new and richer meaning. The history of the concept of *human* persons, as beings with an inner life, settled identity and moral significance, developed along with this talk about God and cannot be detached from it.<sup>17</sup>

Modern accounts such as those of Fletcher and Singer are the heirs of these Christian theological sources. However, as will become clear in the following discussion, such modern accounts are very different from the Christian sources in which they are rooted, and important aspects of the older Christian concept of 'person' have been unwittingly or intentionally lost along the way.<sup>18</sup>

In order to recover a more adequate Christian understanding, it is helpful to go back to some of the Biblical roots of the tradition. As is well known, one key

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13 Locke, J., *An Essay Concerning Human Understanding* (1690), Book II, Chapter XXVII; Everyman edition, London: J.M. Dent & Sons Ltd. (1961), p. 280.

14 Fletcher, J., "Four indicators of humanhood – the enquiry matures", *Hastings Center Report* (1975), 4, 4-7.

15 Singer, P., *Practical Ethics*, 2nd ed., Cambridge: Cambridge University Press (1993), pp. 86-87.

16 Habgood, J., *Being a Person: Where Faith and Science Meet*, London: Hodder and Stoughton (1998), p. 38.

17 *ibid.*, pp. 43-54.

18 Habgood traces this history in outline: *ibid.*, chapters 4-7.

text is found in the Genesis 1 creation narrative:

Then God said, 'Let us make humankind in our image, according to our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth.'

So God created humankind in his image,  
in the image of God he created them;  
male and female he created them.

God blessed them, and God said to them, 'Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.' (Gen. 1:26-28, NRSV).

In the light of this text, a central strand of Christian reflection about human personhood has been the doctrine of the *imago Dei*, or image of God. While many Christian accounts of the *imago Dei* have stressed rationality, self-awareness and so on in similar terms to Locke, some recent writing has emphasised *communion* or relationship as central to the image of God. One contemporary thinker who has argued in this way is the Orthodox theologian John Zizioulas, who argues that communion is fundamental to the being of God, as made known in Scripture and Christian tradition: 'The Holy Trinity is a *primordial* ontological concept and not a notion which is added to the divine substance ... The substance of God, 'God,' has no ontological content, no true being, apart from communion.<sup>19</sup> This communion, however, does not exist by itself as some impersonal structure or principle, but is caused by the Father. Since the being of God is not constrained by an impersonal structure, but originates in a free person, freedom as well as communion is a *sine qua non* for true being. 'True being comes only from the free person, from the person who loves freely – that is, who freely affirms his being, his identity, by means of an event of communion with other persons.'<sup>20</sup> This understanding leads to a theology of the person in which there can be no 'individual' prior to communion, and in which communion must come from a 'concrete and free person' and lead to 'concrete and free persons' if it is to be in the image of God. For human beings, as creatures rather than Creator, this freedom and communion can only be fully realised by means of a new birth from 'on high'. Therefore, for Zizioulas, human personhood 'in the image of God' is fulfilled by membership of the Church, which is entered by baptism and whose life is constituted by the eucharist.<sup>21</sup>

Alistair McFadyen, drawing on Western Protestant rather than Eastern Orthodox sources, has also developed a theological anthropology in which [per-

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19 Zizioulas, J.D., *Being as Communion: Studies in Personhood and the Church*, London: Darton, Longman and Todd (1985). The quotation is from p. 17 (emphasis original).

20 *ibid.*, p. 18.

21 *ibid.*, pp. 18-20.

sons] are somehow the product of their relations.<sup>22</sup> He differentiates the image of God into 'vertical' and 'horizontal' dimensions: that is to say, the dimension of the divine-human relationship and the dimension of our relationships with one another. Our personal identity is built up from what he calls a 'sedimentation' of the history of our communications with God and with one another. By the use of this metaphor, he means to claim that our identity *as persons* is 'laid down' or 'deposited' by the history of our 'significant relations' with God and one another.<sup>23</sup> Since each person's relationships and history are different from anyone else's, each person's identity is unique and develops in ways that cannot be exactly replicated by any other.

The starting point in the 'vertical' dimension is God's loving address to us, 'structured from God's side as a dialogue'<sup>24</sup> – in other words, characterised by communion and freedom. God invites, but never forces, from us the appropriate response to his love, the response of thanks and praise which is seen in many of the Psalms (for example, Pss. 24, 33, 104, 136, 148).

In the 'horizontal' dimension, we learn right ways of relating to one another from the God in whose image we are made: here McFadyen draws on the Trinitarian thought of Jürgen Moltmann.<sup>25</sup> Just as the Persons of the Trinity 'are what they are only through their relations with the others',<sup>26</sup> so our unique personal identities are shaped by our relations with one another. If our relations are to reflect the image of God in undistorted ways, they must not be coercive, but must take the form of dialogue which leaves the other free to respond as he or she chooses. Furthermore, they must not be self-centred, but centred on the other. Following Karl Barth's exposition of the Genesis 2 creation narrative, McFadyen sees particular significance in our creation as male and female: relationships of dialogue require a fellow creature who is neither identical nor so different as to exclude the possibility of communication, and the paradigm of a relationship with another who is both alike and different is the male-female relation.<sup>27</sup>

Because God's relations with us are not coercive, but take the form of dialogue, our response to God is a matter for our choice, rather than being forced or manipulated by God. Therefore it is open to us to choose what McFadyen calls 'distorted' or 'undistorted' ways of relating to God and to one another. He expounds the Fall narrative (Gen. 3) as the refusal of right relationships with God and one another, and the consequent fracture of these relations:

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22 McFadyen, A.I., *The Call to Personhood: A Christian Theory of the Individual in Social Relationships*, Cambridge: Cambridge University Press (1990). The quotation is from p. 18.

23 *ibid.*, p. 318.

24 *ibid.*, p. 19.

25 Moltmann, J., *The Trinity and the Kingdom of God*, trans. by M. Kohl, London: SCM Press (1981).

26 *op. cit.*, McFadyen, p. 27.

27 *ibid.*, pp. 31-39; Barth, K., *Church Dogmatics III/1*, trans. J.W. Edwards *et al.*, Edinburgh: T & T Clark (1958), pp. 184 ff.

The narrative offers a powerful image of this disruption in terms of shame: Adam and Eve can no longer stand before one another openly, in their nakedness, neither can they stand before God and admit what they have done – first they hide, then Adam blames Eve and Eve the serpent (3:7-14).<sup>28</sup>

But in a world where these relations have been fractured by wrong choices, we are all born into relationships and social structures which are more or less distorted; this distortion affects our communication history and the development of our personal identities, so that we in turn are unable to relate to others in undistorted ways. Our freedom to choose right relationships is radically constrained by the distortion of which we are all heirs: this, in brief, is how McFadyen understands the doctrine of original sin. Because of this, undistorted relationships which fully reflect God's image are only possible through God's redemptive work in Christ. The Gospel narratives of the call to follow Jesus (e.g. Mark 1:16-20) are to be understood as God addressing the disciples (and us) in an undistorted way, and inviting us into similarly undistorted relationships.<sup>29</sup> The community of those who have answered this call is the Church, and here the energy of the Holy Spirit is made available, enabling us to live in transformed ways in a still-distorted world.<sup>30</sup>

As we might expect, there are many points of contrast between Zizioulas and McFadyen, but there are also a number of common threads which may help us to address some of the questions posed by the sequencing of the human genome and the possibilities of genetic manipulation. The first is that our being and identity as persons are rooted and grounded in God's creation of us. This suggests an understanding of personhood radically different from the modern assumptions referred to at the beginning of this section, according to which one must meet certain criteria such as rationality and self-awareness in order to qualify as a person. The Christian account developed here implies that it is God's gracious call, not our meeting of criteria, which makes us persons and underpins our personal identities.<sup>31</sup> Secondly, if relationship or communion is intrinsic to the being of the triune God, then human personhood, made in God's image, is also inescapably relational. Human persons are not adequately described as the isolated, autonomous individuals of much modern thought, but are in some sense the products of their social relations. And thirdly, even the best human relationships of this present age fall short of the fullness of God's image, so that the work of God in Christ is needed for the fulfilment of God's creative purpose. These common threads may help us to develop responses to some of the questions posed by human genetics.

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28 *op. cit.*, McFadyen, p. 43.

29 *ibid.*, pp. 48 ff.

30 *ibid.*, pp. 61-65.

31 McFarland, I.A., "Who is my neighbour? The Good Samaritan as a source for Christian anthropology", *Modern Theology* (2001), 17 (1), 57-66.

## Implications of a relational Christian anthropology

In the Introduction, a number of theological and ethical issues were identified that are raised afresh by the sequencing of the human genome: must humans be understood in determinist and reductionist terms? To what extent can we be said to be manipulating *ourselves* if we manipulate our genes? What do we understand by human 'health' and 'disease', and what are the implications of these understandings for the uses we make of human genetics? How is human genetic manipulation to be evaluated ethically, and what limits, if any, should be placed upon it? We are now in a position to address these questions with the help of the relational Christian anthropology outlined above.

### (i) *Determinism*

The sweeping determinism exemplified by the quotes from Wilson in the Introduction is vulnerable at many points. Firstly, Ted Peters has pointed out that it makes the 'fixed-pie assumption': that the more of our behaviour is determined by our genes or environment, the less freedom we have.<sup>32</sup> But it is a fallacy to assume that greater determination or predictability means less freedom: it is often said that the opposite of predictability is random chance, which is very different from free and responsible human behaviour.

Secondly, on the account of human personhood outlined in the previous section, there should be many different determinants of human behaviour: not just the neural and hormonal activity stressed by Wilson, but also the enormously complex web of relationships, past and present, that have helped shape our identities and characteristics. These relationships are ones in which we are active participants, not merely the passive recipients of external influences, which suggests that sweeping claims that our freewill is illusory are simplistic and misleading.

Furthermore, in the account of personhood presented here, it has been claimed that the relationship which is prior to all others, and on which all others depend, is God's relationship with us. It is God's address to his creatures which calls them into being and constitutes them as persons. And since God's address to us takes the form of dialogue, leaving us free to respond as we choose, it can be said that human freedom and the responsibility that goes with it are underwritten in the most fundamental way.

Having said all this, our human experience is frequently not of complete freedom to do what we would like or what we know we ought. It is often closer to the experience described by Paul: 'I do not do the good I want, but the evil I do not want is what I do' (Rom. 7:19, NRSV). We experience both internal and external constraints on our freedom: we do not have the moral resources to live

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32 Peters, T., *Playing God? Genetic Determinism and Human Freedom*, London: Routledge (1997), p. 159.

in ways we know to be right, and we also find the possibilities of moral action constrained by the circumstances in which we find ourselves. In the words of the hymn-writer Brian Wren, we are

Half-free, half-bound by inner chains,  
by social forces swept along.<sup>33</sup>

In the previous section, McFadyen's account of fallenness and original sin was briefly outlined: that we are all born into distorted relationships and social structures, and so the development of our own identities and our capacity to relate to God and others is in some measure distorted. This account sheds light on our ambiguous moral experience of being part-free, part constrained, and points to the need for God's redeeming work in Christ to liberate us from these constraints. As Paul continues his argument in Romans 7, 'Wretched man that I am! Who will rescue me from this body of death? Thanks be to God through Jesus Christ our Lord!' (Rom. 7:24, 25). Both McFadyen and Zizioulas, albeit in very different ways that reflect their different theological and church traditions, emphasise the importance of the church and its sacramental life as the place where the most fully human and transformed lives can be experienced and lived.

### **(ii) Reductionism**

Many Christian writers have offered critiques of reductionism;<sup>34</sup> the particular contribution of the theological anthropology outlined here is that it can give an account of personhood that is rooted in the physical but not reduced to it. For example, it should not surprise us if a believer's prayer or religious experience could be correlated with observable neurobiological phenomena: we would simply be witnessing what McFadyen would call the 'sedimentation' of the believer's communication with God. Nor should it surprise us if such 'sedimentation' could be mimicked in a distorted way by neurological disorders that give rise to hyperreligiosity. To infer as Wilson does from such observations that 'the emotions that accompany religious ecstasy clearly have a neurobiological source',<sup>35</sup> or that neurobiology and evolutionary biology will eventually discredit 'transcendentalist' understandings of religion and result in 'the secularization of the human epic and of religion itself',<sup>36</sup> is simply a *non sequitur*.

### **(iii) Health**

It follows from the relational Christian anthropology outlined in this paper

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33 Wren, B., "Great God, your love has called us here", in *Rejoice and Sing*, Oxford: Oxford University Press (1991), no. 339.

34 See, e.g., Polkinghorne, J., *Science and Christian Belief: Theological Reflections of a Bottom-Up Thinker*, London: SPCK (1994), pp. 28-29, and references therein.

35 Wilson, *Consilience*, p. 288 (emphasis added).

36 *ibid.*, p. 296.

that human flourishing must be understood in terms of communion and freedom in relationship to God and one another. This suggests that a Christian account of health should go beyond the merely physical, and encompass right (or in McFadyen's language, undistorted) relationships with God and others. Nonetheless, the physical is a crucial dimension of a complete understanding of health. If 'the command of God the creator', as Karl Barth puts it, is a call to right relationships with God and one another, there is also a necessary 'third dimension' to this command: 'Obedience to the command of God the creator is also quite simply man's freedom to exist as a living being of this particular, i.e. human, structure.'<sup>37</sup> We obey God's command by being the creatures God has made us – by living a human (which means an embodied) life. This is why Barth can define health as 'capability, vigour, freedom ... strength for human life ... the integration of the organs for the exercise of psycho-physical functions.'<sup>38</sup> Furthermore, complete human flourishing can never be attained in this present life, constrained by original sin (in the sense outlined earlier) and bounded by our mortality. So a healthy participation in this present life should include a realistic attitude to our mortality, and a recognition that our true hope is located in God's faithfulness and promise of resurrection.<sup>39</sup>

In short, the Christian anthropology outlined here argues for an understanding of health that encompasses physical integration and wholeness, right relationships with God and others and a realistic attitude to our mortality which recognises that our ultimate hope cannot be solely located in this present life. Not all aspects of health, understood in this way, would be proper goals of medical, surgical or genetic interventions: this point will be developed later. But such an understanding argues that health professionals must take a wider-ranging view of their patients' well-being than the merely physical. It also encourages some modesty and restraint in the use of medical interventions: the overall well-being of patients is not always best served by attempts to preserve their *physical* health.

McFadyen's emphasis that undistorted relationships must not be coercive has a further implication: we should be cautious about having too prescriptive a notion of others' health, or of defining too narrowly what it would mean for another person to flourish and be fulfilled. To borrow a phrase from Stanley Hauerwas, we should beware 'the tyranny of normality'.<sup>40</sup> A more adequate vision is illustrated by the story of Dorothy, told elsewhere by Hauerwas and his co-author William Willimon. Dorothy was an important and respected member of her local church, someone whom many members of that church felt

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37 Barth, K., *Church Dogmatics* III/4, trans. A.T. Mackay *et al.*, Edinburgh: T & T Clark (1961), p. 324.

38 *ibid.*, p. 356.

39 Cf. Moltmann, J., *God in Creation: An Ecological Doctrine of Creation*, trans. M. Kohl, London: SCM Press (1985), p. 274.

40 Hauerwas, S., "Community and diversity: the tyranny of normality", in *Suffering Presence: Theological Reflections on Medicine, the Mentally Handicapped and the Church*, Edinburgh: T & T Clark (1988), pp. 211-217.

privileged to have known. It was the world, not the church, which told them that Dorothy was ‘afflicted’ or ‘disabled’ by Down’s syndrome.<sup>41</sup>

**(iv) Personal identity and redesigning ourselves**

If our personal identity is in some sense a product of the history of our relationships with God and one another, then knowing the sequence of the human genome is a very long way from understanding who we are. However, genetic manipulation could affect a person’s identity in significant ways. It could become a powerful tool for altering people’s physical characteristics, even from the earliest moments of their history. Since our communication with God and each other depends on our embodiment, altering a person’s physical nature will very likely affect the ‘sedimentation’ of his or her communication history (to use McFadyen’s terminology). But genetic manipulation, though significant for personal identity, is by no means the *most* significant thing. Affecting one another’s personal identity is part of being human – we do it all the time, through parenting, education, friendship, marriage, the arts, church life and in countless other ways. We are perhaps accustomed to thinking of personal identity in static terms, as a given, but the account presented here suggests that our identities are always changing and developing, while emphasising that there is nonetheless a settled ‘core’ to our identities that enables us to know ourselves and each other as the same persons over time.

It must also be said that our power to determine one another’s personal identity, whether by genetic manipulation or by any other means, is by no means limitless. As McFadyen affirms, we owe both the fact and the form of our personal existence to God.<sup>42</sup> It is God who calls us into being, and God’s loving address to us makes it possible for us to exist as free and responsible persons. Thus, there are limits to our power over ourselves. We can choose distorted ways of relating to God and others, but we cannot refuse all relationship, since a refusal of all relationships would be a choice not to exist as a personal being, and that choice is not given us to make.<sup>43</sup> Similarly, there are limits to our power over others: since we are not God, we do not have the power to call persons into being, nor to take total control over the shape and development of their identity.

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41 Hauerwas, S., and Willimon, W., *Resident Aliens*, Nashville: Abingdon (1989), pp. 93-97.

42 *op. cit.*, McFadyen, pp. 18-23.

43 It might be thought that suicide is just such a choice. Suicide could indeed be understood as the attempt to choose not to exist as a personal being, but a traditional Christian belief in the resurrection of the dead would imply that the attempt is bound to be unsuccessful. Indeed, the fact that it is an attempt to make a choice which is not ours to make is one reason why the Christian Church has traditionally considered suicide to be wrong, notwithstanding that the circumstances leading to it may well make it understandable and demand compassion rather than condemnation as the appropriate response. See Thomas Aquinas, *Summa Theologiae*, IIa IIae, Q64, art. 5.

**(v) Moral discernment**

Such an account of personhood might also help us develop an understanding of what we *ought*, and ought not, to do. Some moral conclusions and warnings may be drawn from what has been said thus far.

Firstly, it has been argued that human genetic manipulation has the potential to affect the development of personal identity; however, it has that in common, for good or ill, with a great deal of established medical practice. Arguments about personhood do not give grounds for prohibiting the use of genetic manipulation as a therapeutic tool. Nevertheless, it is a serious matter to intervene in this way in the development of someone's personal identity, and such intervention is only justifiable for purposes that are both good and important.<sup>44</sup> I have argued elsewhere, partly on these grounds, that human genetic manipulation could only ever be justified for therapeutic purposes.<sup>45</sup>

But what is meant by 'therapeutic'? The claim was made earlier that health should be understood in wider terms than the merely physical; however, it does not follow from this that genetic manipulation is an appropriate means by which to promote every aspect of health. In view of its far-reaching potential to influence human health and identity, and the possibilities it offers for coercive or otherwise destructive use, it is reasonable to suggest that human genetic manipulation should be restricted to the overcoming of specific, identifiable, physical impediments to health. It would be inappropriate, for example, to contemplate genetically engineering people to behave in less violent and more cooperative ways, should this ever be technically conceivable.

Finally, the phrase I have borrowed from Hauerwas, 'the tyranny of normality', serves to express a warning. There is a danger that the technical know-how of genetic manipulation, along with the techniques of modern reproductive medicine, may lead gradually to a general expectation that the birth of children will be subject to a kind of quality control. A warning sign of such a shift in expectations may be detected in the comments of Gosden quoted in the Introduction. There are a number of reasons to resist such a development. Firstly, it is easy to imagine how it could lead to a situation in which a genetic élite enjoyed privileged access to employment, insurance and health care, and a correspondingly higher social status than the remaining underclass. This is the scenario vividly dramatised by Andrew Niccol's film *Gattaca*.<sup>46</sup> Secondly, it could lead to a narrowing of society's image of what it means to be healthy or normal, and to a growing intolerance of those who do not fit those norms.

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44 This is not a utilitarian claim that the end justifies the means. Rather, it is an argument about the proportionality of means to ends: while the means are in principle legitimate, they may nonetheless entail some cost or burden, so the benefit that is sought must be sufficiently great to be in proportion to the cost of the means. For example, a major genetic intervention would almost certainly not be justified as a way of conferring partial immunity to the common cold on otherwise healthy people, good though that end, in and of itself, might be.

45 *op. cit.*, Messer, 10-15.

46 A. Niccol (dir.), *Gattaca*, Columbia Pictures (1997).

Thirdly, it would mark a crucial shift in our attitudes to our children: if we no longer have to accept them as they are, but instead can select or determine what they will be like, it is possible that the unconditional love which is central to the structure of human parenting could be seriously undermined.<sup>47</sup>

A Christian account of personhood can give robust answers to the questions raised by the sequencing of the human genome and the prospect of human genetic manipulation, and furthermore can call into question some of the attitudes and practices implied by current and projected uses of genetics in medicine. Christians have every reason to engage vigorously in debate on these issues, on the basis of a thoroughgoing Christian understanding of what it is to be human, made in the image and likeness of God.

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47 See further Waters, B., "One flesh? Cloning, procreation and the family", in Cole-Turner, R. (ed.), *Human Cloning: Religious Responses*, Louisville: Westminster John Knox Press (1997), pp. 78-90.

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