

# What are the Implications of Genetic Sciences for the Christian Understanding of Free Will

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**Abstract:** *This paper will consider the implications of genetic science for the Christian understanding of free will. The notion of humans as created in the image of God, with freedom to cooperate with or reject the divine will for the world, is essential to Christian spirituality, ethics and mission. Genetic determinism would challenge the very reality of such free will. Consider for example the following dilemmas: Is a religious vocation (which requires voluntary surrender of many freedoms) a genuine choice, or just the result of genetic predisposition to religious interpretations of experience, combined with familial and cultural factors? Would the presence of a gene predisposing one to a homosexual orientation negate the understanding within some Christian traditions of homosexual acts as intrinsically morally disordered?*

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**Key Words:** genetic determinism; sociobiology; free will; human freedom; Christian anthropology; behavioural genetics; science-theology dialogue

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**D**oes a genetic basis for behaviours imply that attempts to reform societal structures which contribute to poverty and crime be abandoned in favour of genetic manipulation either directly in the germline of those in affected groups, or through selective breeding initiatives? It is the contention of this paper that whilst genetics may help illuminate human nature; it does not undermine the Christian understanding of free will. Human freedom can be defended, because our nature is more than the sum of our genes, and our actions whilst sometimes culturally or biologically driven, can still result from conscious volition rather than habit or passion. Hence we are moral agents, capable of responding in love and to love without seeking advantage in doing so.

The misguided belief that genetic science precludes a Christian understanding of free will can arise on two grounds. One is the inaccurate extrapolation of the science of genetics to posit complete biological determinism in human action. The second is inaccurate understandings of free will, which assume either that freedom is complete, rather than within creaturely restraints; or else freedom is illusory within the inexorable workings of Divine Providence. Drawing on science, philosophy and theology, this paper will describe and refute these inaccuracies; and argue that the exercise of free will in the construction of a moral, responsible and cooperative world is the fulfilment of our genetic capabilities, not an achievement in spite of them. It will conclude with some positive implications of genetic science for the Christian who wishes to transcend selfish, vengeful or aggressive impulses so as to better imitate Christ and call forth the Kingdom he preached.

### *Genetic Determinism: Scientific Claims*

The rhetoric of genetic scientists regarding free will ranges from humans as robot slaves to our “selfish genes,”<sup>1</sup> that is the product of unconscious genetic mechanisms over which we have no control or the unknowing hosts of parasitic memes that manipulate human behaviours to serve only their own interests; to belief that humans can “consciously deflect the processes of natural and cultural selection in order to develop and practice public virtues.”<sup>2</sup> Scientists who may label themselves sociobiologists, evolutionary psychologists, or population geneticists routinely consider evidence such as behavioural traits in animal populations (particularly primates), twin studies, or the results of medical neurobiological intervention on behaviour, as for example in use of artificial neurotransmitters to manage mental illness. In formulating conclusions they may speculatively apply evolutionary logic, and posit the existence of genes or gene clusters to explain correlations between familial identity and patterns of behaviour.<sup>3</sup>

Typical conclusions regarding whether humans genuinely possess self-control find there *may* be *partial* determination by genetic factors. For example, twin-studies compared correlations on locus of control between monozygotic and dizygotic twins raised together or apart. Their results suggest that genetic factors explain more than 30% of the variance in both life direction... and responsibility (beliefs about how responsible people are for misfortunes in their lives).<sup>4</sup>

Similar conclusions are found for particular behaviours assumed to involve personal control, such as smoking and alcohol use. For example, a literature review in this area reveals “When grouped together, genetic factors account for between 36% and 56% of the variance of “polysubstance” use (Swan, Cardon, & Carmelli, 1994)... (However) the precise degree of genetic–environmental contribution to personal control and health behaviours remains unclear (Rose, 1995). Finally, the phenomenon of social dominance observed in a number of animal species (e.g., Koolhaas & Bohus, 1989) may be a genetic link to the human desire to exert control and socially dominate others (Fiske, 1993).”<sup>5</sup> Sociobiologists such as E.O. Wilson, Richard Dawkins and Robert Wright present both altruism and immorality as manifestations of genetic selection, whilst the philosopher Michael Ruse posits objective values as a collective illusion fostered by our genes.<sup>6</sup> Contentiousness frequently arises from such speculations being reported as fact, either by scientists themselves or by the media.

### *Genetic Determinism: Scientific Critique*

Strong criticism of genetic determinism comes first from science itself. If the question is, “Does the available scientific evidence actually tell us that our genes determine our

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<sup>1</sup> Blackmore (1999) cited in Carolyn M. King *Habitat of Grace: Biology, Christianity and the Global Environmental Crisis* (Adelaide: Australian Theological Forum, 2002).

<sup>2</sup> King, *Habitat of Grace*, 73.

<sup>3</sup> See for example, K. Blum, E.P. Noble, P.J. Sheridan, A. Montgomery and J.B. Cohn, “Allelic Association of Human Dopamine D2 Receptor Gene in Alcoholism,” *Journal of the American Medical Association* 263 (1990):2055 -2060, or D. Hamer, S. Hu, V.L. Magnuson, N. Hu and A.M.L. Pattatucci, “A Linkage between DNA Markers on the X-Chromosome and Male Sexual Orientation,” *Science* 261 (1993): 321-327.

<sup>4</sup> Deane H. Shapiro Jr., Carolyn E. Schwartz and John A. Astin, “Controlling Ourselves, Controlling Our World: Psychology’s Role in Understanding Positive and Negative Consequences of Seeking and Gaining Control,” *American Psychologist Volume* 51.12 (1996): 1216.

<sup>5</sup> *Ibid*, 1221.

<sup>6</sup> Ian Barbour, *Nature, Human Nature, and God* (Minneapolis: Fortress Press, 2002).

behavioural, emotional, and cognitive characteristics?" the prevailing scientific opinion is no; because of the methodological drawbacks and interpretative biases in linkage and twin studies, and the evidence of complexity found in neurobiological studies of gene regulation.<sup>7</sup> There is also no support for the common misinterpretation which takes a claimed linkage between gene and behaviour to mean it is unalterable - as in studies for alcoholism and homosexuality like those cited above- such that neither "personal choice or societal conditions contribute to the characteristic."<sup>8</sup> Consider recent headlines such as 'Cheating husband: Blame It on His Genes?'; 'Is There a Gene for Compassion?'; 'Is Prejudice Hereditary?'; 'A Scientist Weighs the Evidence That the X-Chromosome May Carry a Gene for Gayness.' There is insufficient unambiguous evidence to support genetic evolution of behaviour, as these are based on

- Evolutionary logic supported by casual observations or statistical data
- Behavioural analogies and comparisons with animals
- Statistical analyses of data generated by non-experimental research methods.<sup>9</sup>

Physical traits whose genetic origin is uncontested, such as eye colour or ear shape are impervious to environmental change outside their intrinsic genetic range. However the experimentally well-established ability to dramatically and permanently alter behaviours such as psychotic behaviour, cooperation, aggression and mutism via operant conditioning<sup>10</sup> or drug and cognitive intervention<sup>11</sup> argues against their having a purely genetic origin.

Indeed, freedom to choose behaviour is arguably a predictable consequence of evolution. Where some are "strangely determined to take genetic and social explanations as alternatives instead of using them to complete each other,"<sup>12</sup> proponents of cultural evolution claim that "the capacity for morality, but not particular moral judgments, is the product of natural selection"; and through communication of cultural information with language, tradition, education, and social institutions it is possible to arrive at the altruism of the Good Samaritan or the life of Mother Theresa, for which "covert self-interest or the expectation of future reciprocation or social approval" (the standard explanations of group selection by sociobiologists) are simply unconvincing.<sup>13</sup> To suggest biology is destiny or identity neglects the polygenic and interactive nature of phenotype; neglects the role of the wider environment in gene expression, is reductionistic and ignores top-down causality in our "distinctively human whole which is more than the sum of our parts";<sup>14</sup> and ignores the emergence of behaviour and self-concept via language, culture and interpersonal interactions.

The biologist Shaw goes further in making a case for human choice beyond biological imperatives. From a basis of the evolution of brain function, he argues no clear biological explanation exists for:

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<sup>7</sup> Ari Berkowitz "Our Genes, Ourselves?" in *The Biological Basis of Human Behaviour: A Critical Review*, ed. Robert W. Sussman (Upper Saddle River, NJ: Prentice-Hall, 1999), 362.

<sup>8</sup> Berkowitz, "Our Genes, Ourselves?," 368.

<sup>9</sup> Henry D. Schlinger, Jr. "How the Human Got Its Spots: A Critical Analysis of the Just-So Stories of Evolutionary Psychology" in *The Biological Basis of Human Behaviour: A Critical Review*, ed. Robert W. Sussman (Upper Saddle River, NJ: Prentice-Hall, 1999), 320-321.

<sup>10</sup> *Ibid*, 327.

<sup>11</sup> Adrian Raine, "Not Guilty," *New Scientist* 166.2238, 13 May 2000, 42-45.

<sup>12</sup> Mary Midgley, *The Ethical Primate: Humans, Freedom and Morality* (London: Routledge, 1994), 3.

<sup>13</sup> Holmes Rolston in Barbour, *Nature, Human Nature, and God*, 41-42,

<sup>14</sup> Francis Fukuyama, "Life, but Not as We Know It" *New Scientist* 174.2339, 20 April 2002, 43.

- a motivation to avoid limbic system rewards of behaviour without ultimate selfish purpose.
- the existence of true unselfish religious altruism observed in many people of faith, in spite of the obvious reduction in genetic fitness which should result from this type of behaviour.
- the sense of guilt and need of redemption or divine approval felt among many humans.
- the energy spent by many in the relentless pursuit of a supernatural God.

He concludes no current better explanation than a supernatural one exists for these phenomena.<sup>15</sup>

The language of sociobiology can contribute to the false impression of genetic determinism. On hearing Dawkins' highly influential "selfish-gene" terminology, one can forget it is only a metaphor, since genes have neither a self nor emotions. It is taken out of context to become a paradigm reflective of competitive social values, more than of science. Sociobiological arguments frequently ignore the distinction between evolutionary and vernacular egoism, the conscious individual self-interest that overrides natural or cultural selection, by using language which personifies genes as independent active agents capable of personal selfishness.<sup>16</sup> Whitehead's "fallacy of misplaced concreteness" is commonplace: that is "the tendency to organize knowledge in terms of abstractions and then to reach conclusions and apply them to the real world as if abstractions and reality were the same thing."<sup>17</sup> No animal computes itself only from its DNA, but is the unique consequence of its developmental history. "Not only theologians and philosophers, but also practicing geneticists, reject the notion of the selfish-gene metaphor as nonsense... attempting to interpret all the glorious complexity of the natural world as the unconscious product of natural selection operating at the level of the gene, is widely and severely criticized."<sup>18</sup>

Another broad strand of criticism of genetic determinism from within the scientific community comes from those who challenge the ideological lens through which evidence is interpreted. For example Wilson, the father of modern sociobiology, presumes genetic coding for aggression, allegiance, altruism, conformity, ethics, genocide, indoctrinability, love, male dominance, the mother-child bond, military discipline, parent-child conflict, the sexual division of labour, spite, territoriality, and xenophobia. Fellow-scientists challenge the scientific content and rigour underlying these presumptions, particularly that these constitute a universal human nature, that conclusions can be extrapolated from animal to human societies, and that social traits are the expression of specific genetic structures, when "there is no direct evidence for the existence of such structures";<sup>19</sup> however they also condemn the social Darwinism which is Wilson's philosophical lineage. According to this deterministic view, "people of different races, genders and sexual orientation are born different, and there is nothing to be done about the inevitable disparities in wealth and

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<sup>15</sup> Timothy J. Shaw "The Human Brain, Religion, and the Biology of Sin" in *Investigating the Biological Foundations of Human Morality*, ed. James P. Hurd (Lewiston, NY: Edwin Mellen, 1996), 162.

<sup>16</sup> King, *Habitat of Grace*, 103.

<sup>17</sup> *Ibid*, 107.

<sup>18</sup> *Ibid*, 102.

<sup>19</sup> Science as Ideology Group of the British Society for Social Responsibility in Science, "The New Synthesis Is an Old Story" in *The Biological Basis of Human Behaviour: A Critical Review*, ed. Robert W. Sussman (Upper Saddle River, NJ: Prentice-Hall, 1999), 77.

status between them.”<sup>20</sup> Such determinism reduces culpability but at a price of lessening human dignity.<sup>21</sup> Similarly, many feminist scientists suspect the validity of sociobiology “despite its pseudoscientific trappings,” and scrutinise its interpretation of observations for ideological bias, as in Hardy’s refutation of the axiomatic assumption of female coyness and male promiscuity.<sup>22</sup>

The political bias of pseudo-scientific hereditarians who espouse, for example, the existence of genetically based intellectual inferiority and increased criminal tendencies for blacks, is exposed in the source of their funding and ideological roots. The financial sponsor of the major neo-hereditarian theorists has been The Pioneer Fund, which dates from the 1930s when it was founded by members and supporters of the American Eugenics Society. The resurgence of such notions favours those who wish to avoid expensive government activism to address the problems of poverty, given that the overwhelming majority of the American poor are non-white.<sup>23</sup>

### *Christian Understanding of Free Will*

While all Christians might assert that people have free will by the grace of God, the nature of this freedom is by no means uniformly understood. Theology of free will starts with the Genesis reference to humans as “*imago Dei*,” taken to refer to “particular traits such as rationality, moral agency, or the capacity for love.”<sup>24</sup> Free will flows necessarily from this, as humans are “created beings capable of understanding (to some degree) their own nature and their place in the scheme of things entire; creatures moreover that were fit to be loved by God and to love Him in return and to love another. But love implies freedom... For God to create beings capable of loving Him, therefore, it was necessary... to risk the possibility that the beings He created would freely choose to withhold their love from Him.”<sup>25</sup> However, Genesis does not imply humans possess the same degree of freedom as God does. God’s activity requires no more than will, but no amount of willing on a human’s part can change chaos to an ordered universe, nor a tempest to a calm sea. The freedom of creatures is within the limits of this cosmos’ natural order in a way fundamentally different to their creator. Genetic influences on behaviour do not disprove this freedom any more than all the other physical forces limiting or obstructing the human will.

A different conflict with Christian understanding is predestinarianism,<sup>26</sup> which holds that free will is an illusion, as human fates are already known and hence determined by God. The classic Catholic understanding of divine Providence rejects this equation of God’s governance or knowledge with determination,<sup>27</sup> and asserts the possibility of refusing to cooperate with God’s will for the world as a human freedom, not a damnable fate God

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<sup>20</sup> King, *Habitat of Grace*, 103.

<sup>21</sup> C.E. Tygart, “Genetic Causation Attribution and Public Support of Gay Rights,” *International Journal of Public Opinion Research* 12.3 (2000): 259-276.

<sup>22</sup> Zuleyma Tang-Martinez, “The Curious Courtship of Sociobiology and Feminism: A Case of Irreconcilable Differences,” in *The Biological Basis of Human Behaviour: A Critical Review*, ed. Robert W. Sussman (Upper Saddle River, NJ: Prentice-Hall, 1999), 283.

<sup>23</sup> Michael Lind “Brave New Right” in *The Biological Basis of Human Behaviour: A Critical Review*, ed. Robert W. Sussman (Upper Saddle River, NJ: Prentice-Hall, 1999), 243-245.

<sup>24</sup> Barbour, *Nature, Human Nature, and God*, 49.

<sup>25</sup> Peter Van Inwagen, *God, Knowledge and Mystery: Essays in Philosophical Theology* (Ithaca: Cornell University Press, 1995), 98.

<sup>26</sup> Gary Watson (ed.), *Free Will* (Oxford: Oxford University Press, 1982), 8.

<sup>27</sup> Cf. *Catechism of the Catholic Church* (Liguori MO: Liguori, 1994), §302.

would ever predestine.<sup>28</sup> Such traditional as well as open or process theologies assume that love determines the essential form God's power takes in the universe. Process and open theists reject "the notion of God as all-controlling, as the sole determiner of everything that takes place in the universe," and further, the idea God *can* foreknow the free, contingent future.<sup>29</sup> They assume "God relates to the creatures in ways that respect and preserve their integrity. Consequently, God cannot prevent, negate, or undo their decisions and actions. In a world of genuine freedom, then, actions have consequences, and not even God can [or rather will, according to traditional theology] cancel or reverse the decisions others make."<sup>30</sup>

Christians who believe all eventualities, including their own impulses, are the will of a benign Providence, may indeed have their faith challenged by findings of genetic science that underline the radical inequality of human nature. However, a more reconcilable picture is of the "natural indeterminism" of the universe, where a given state of affairs can have more than one outcome, and result neither from divine nor human willing. Providence sustains all things by continuously holding "the elementary particles in existence" and supplying them "with their causal powers," but does not decree the outcomes of their "swerves in the void."<sup>31</sup> Every particular evil need not have a purpose nor result from a choice: rather God allows "His creatures to live in a world in which many of the evils that happen to them happen to them for no reason at all."<sup>32</sup>

### *Reconciling Free Will with Genetic Influence: Philosophical, Scientific and Theological Insights*

Arguments can be found from philosophy, science and theology which support this free will within creaturely limits, even allowing for genetic influences on behaviour. Philosophers argue free will is irreconcilable with any "determinism" discovered by science only if such determinism is construed as "necessitation,"<sup>33</sup> which is a metaphysical belief rather than a scientific postulate, as long as agents retain "the power to refrain from acting... on will."<sup>34</sup> This does not deny the possibility of mitigation of responsibility by forms of unfreedom (e.g. addiction, compulsion, impotence) or social conditioning of the character or will; however "no sum of influences amounts to a cause."<sup>35</sup> Humans are not passive stimulus-response mechanisms but able to envisage novel possibilities and decide deliberately and responsibly amongst alternatives, even to well-established habits where "changes are not easily made, but they can occur if a person seeks a supportive context, as twelve-step programs for alcoholism have shown."<sup>36</sup> Case-studies of adoption amongst other examples suggest "the autonomy of choice is not a delusion, since in situations of extreme conflict between biological impulses... we can transfer innate behaviour patterns

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<sup>28</sup> Ibid, §1037.

<sup>29</sup> Hasker in John B. Cobb Jr. and Clark H. Pinnock (eds.), *Searching for an Adequate God: A Dialogue Between Process and Free Will Theists* (Michigan: William B. Eerdmans, 2000), 217-218.

<sup>30</sup> Rice in Cobb and Pinnock (eds.), *Searching for an Adequate God*, 184.

<sup>31</sup> Van Inwagen, *God, Knowledge and Mystery*, 54-55.

<sup>32</sup> Ibid, 65.

<sup>33</sup> Bernard Berofsky, *Freedom from Necessity: The Metaphysical Basis of Responsibility* (London: Routledge & Kegan Paul, 1987), 4.

<sup>34</sup> Ibid, 5.

<sup>35</sup> John Thorp, *Free Will: A Defence Against Neurophysiological Determinism* (London: Routledge & Kegan Paul, 1980), 139.

<sup>36</sup> Barbour, *Nature, Human Nature, and God*, 62.

from their biologically defined objects to individually chosen ones”: for good as in adoption, or for ill, as in the case of the woman in war who survived by cannibalizing her own baby.<sup>37</sup> Humans “are not alone in having desires and motives, or in making choices... It seems to be peculiarly characteristic of humans, however, that they are... capable of wanting to be different, in their preferences and purposes, from what they are.”<sup>38</sup> Note that the freedom of will implied by the existence of such desires does not necessarily translate to freedom of action: just because one is unable to do as one wills does not mean one’s will is not free. Hence the unwilling addict who keeps using drugs possesses free will, and is conscious of the struggle between her will to be drug-free, and her desire for a ‘hit.’

Even were some explanations of a genetic basis for human behaviour to be valid, this in no way justifies the behaviour, or makes it inevitable. The common but unfounded assumption that “*the mechanistic displaces the purposive*, and any mechanistic (or causal) explanation of human motions takes priority over, indeed renders false, any explanation in terms of desires, beliefs, intentions,”<sup>39</sup> means that knowing causal factors leading to people’s behaviours, we tend too readily to exempt them from responsibility. An example of this “naturalistic fallacy”<sup>40</sup> is presuming double standards are morally acceptable where a biological explanation exists, such as for “the greater proclivity towards sexual promiscuity among males and towards restraint among females”<sup>41</sup> or for mothers contributing “more than fathers to child care, hypothetically because maternity is more certain.”<sup>42</sup> Sociobiology seeks to understand morality in terms of gene-based selective advantage. But this does not mean that any moral behaviour which advantages the group must work by self-deception: such a view falls into the fallacy of misplaced concreteness, and confuses evolved, impersonal and unconscious biological altruism with cultural, personal, conscious morality. Sociobiology is in error where it describes humans as potentially but not naturally moral, for “basic human kindness may be as animal as human nastiness... Functioning societies may require reciprocal altruism. But these acts need not be coded into our consciousness by genes; they may be inculcated equally well by learning.”<sup>43</sup> Christian biologists point out that true human ethics might well be a later development of religion. Morality becomes the fulfilment of nature, not a rebellion against it.<sup>44</sup>

The ideas of sociobiology may be compared with theology of original sin. Both assert that humans have innate conflicting tendencies, among which we only have limited freedom to choose. But neither deny the capacity to “make moral judgements and establish social rules that channel our innate dispositions in constructive rather than destructive directions.”<sup>45</sup> What the resources of a religious tradition can lead to is a personal transformation that extends our genetic heritage. For example, Christ teaches to “love your neighbours as yourself” and even to “love your enemies and pray for those who persecute you” (Mat 22:39). This seems an impossible ideal if sociobiologists are correct

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<sup>37</sup> William B. Drees *Religion, Science and Naturalism* (Cambridge: Cambridge University Press, 1996), 219.

<sup>38</sup> Gary Watson (ed.), *Free Will* (Oxford: Oxford University Press, 1982), 82-83.

<sup>39</sup> Dennett in Sussman (ed.), *The Biological Basis of Human Behaviour*, 151.

<sup>40</sup> Randy Thornhill ‘Crimes of Passion?’ *New Scientist* 165.2226, 19 February 2000, 46.

<sup>41</sup> Peter Singer in Sussman (ed.), *The Biological Basis of Human Behaviour*, 217.

<sup>42</sup> James W. Kalat, *Biological Psychology*, 7<sup>th</sup> ed. (Belmont, CA: Wadsworth Thomson, 2001).

<sup>43</sup> Stephen J. Gould in King, *Habitat of Grace*, 114.

<sup>44</sup> King, *Habitat of Grace*, 188.

<sup>45</sup> Barbour, *Nature, Human Nature, and God*, 52.

that we have been programmed by our genes to favour our genetic kin and in-group, but to be aggressive toward others. The Christian tradition has recognized this ideal of love is not easily achieved; however, if love is “an extension rather than a denial of capacities present in our pre-human ancestors (such as empathy and parental care),”<sup>46</sup> Christianity simply seeks to widen the circle of concern from kin to all people, by seeing them as siblings in the family of God. Nor do the presence of genetic influences on behaviour rule out the possibility of divine grace perfecting our nature, drawing it on to another stage unattainable via biological or cultural selection. For Christians morality “is indispensable: but the Divine Life, which gives itself to us... intends for us something in which morality will be swallowed up. We are to be remade. Morality is a mountain which we cannot climb by our own efforts... [but] it is *from* there that the real ascent begins.”<sup>47</sup>

### *Positive Contributions from Behavioural Genetics to the Exercising of Free Will*

Determination of our innate tendencies has positive implications for Christian understanding of free will, as it allows behaviour which has been the product of evolutionary chance to be reassessed in a deliberate fashion.<sup>48</sup> Some insights from sociobiology include:

- Understanding human nature is easier if we understand biology;
- Free will must be exercised within biological restraints;
- Moral systems have a biological component;
- Our security and even our happiness depend on living consistently within our biological natures; and
- Our social structures – government, education, economic institutions, and religion - work best when they take account of our evolved social natures.<sup>49</sup>

Sociobiology’s insistence on the genetic components (not determinants) of human behaviour has been “a needed if overstated corrective to the excesses of emotivism and pluralism that abound in ethics today... It is not that we are somehow “free” of our genetic inheritance, not that we are completely “controlled” by it; rather, we respond to it.”<sup>50</sup> Scientific knowledge of that inheritance helps formulate that response. For example, anti-drug vaccines in development<sup>51</sup> may respond to the genetically determined craving for a particular drug. However new drugs for which vaccines do not yet exist may still be sought out by those who have no ethical basis for their objection to drug abuse, founded on notions of what constitutes a worthwhile life. For this, the exercise of free choice on the basis of reasoned belief is still essential.

### *Conclusion*

Genetic science does not preclude free will, because proper interpretation of the evidence reveals only genetic influences on behaviour, not genetic determinants. This fits with the Christian understanding of free will as real, but limited by our created nature; an

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<sup>46</sup> Ibid, 58.

<sup>47</sup> C.S.Lewis in King, *Habitat of Grace*, 153-154.

<sup>48</sup> Drees, *Religion, Science and Naturalism*.

<sup>49</sup> King, *Habitat of Grace*, 102.

<sup>50</sup> Garrett E. Paul, “Taste, Natural Law, and Biology: Connections and Separations Between Ethics and Biology” in *Investigating the Biological Foundations of Human Morality*, ed. James P. Hurd (Lewiston, NY: Edwin Mellen, 1996), 88.

<sup>51</sup> Philip Cohen, “No More Kicks,” *New Scientist* 166.2242, 10 June 2000, 22-26.

interpretation supported by philosophy and science. Genetic science helps to understand this nature, but is not sufficient to encompass both questions of mechanism and meaning. It can give insight to failures of human cooperation such as child abuse, sexual harassment and intergenerational conflict;<sup>52</sup> not to legitimate these realities, but to better resist them. It can assist us evaluate better our moral feelings, impulses and actions, to critique whether their moral authority is not derived solely from emotional intensity or social custom. Contemplative religion reaches the same conclusions: much of what passes as normal human love is ultimately carnal and selfish, or as Jesus the Nazarene tells us, even the evil give good things to their children and even the wicked respond to reciprocity, but *his* followers must love their *enemies*. However when genetic science debunks hypocrisy disguised as love, it often also resists the idea of the genuine article existing. A Christian understanding in asserting free will points out that beyond “the false comfort of sentimentality, or the false safety of cynicism,”<sup>53</sup> there is an alternative vision of what it means to do away “with childish things... Still, now abide faith, hope, love, these three; but the greater of these is love.”<sup>54</sup>

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<sup>52</sup> Jeffrey P. Schloss, “Sociobiological Explanations of Altruistic Ethics: Necessary, Sufficient, or Irrelevant?” in *Investigating the Biological Foundations of Human Morality*, ed. James P. Hurd (Lewiston, NY: Edwin Mellen, 1996), 136.

<sup>53</sup> *Ibid*, 138.

<sup>54</sup> 1 Corinthians 13:13.