



GENETICS AND HUMAN SELF-UNDERSTANDING: NATURE, NURTURE AND CHOICE

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FOR LIFE, LIBERTY AND PROPERTY

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Sherlock Holmes once asked his friend and colleague Dr. Watson: “Did you notice the remarkable thing about the dog which barked in the middle of the night?” Watson replied: “I heard no dog barking in the middle of the night.” To this the response of Holmes was characteristic: “That was the remarkable thing.”

About the influence of genetics on human self-understanding also the most remarkable thing is, not that there has been absolutely no influence at all, but that that influence has been and remains so small and limited. The present article, therefore, will have in the main to deal with the implications for human self-understanding of the discoveries of the geneticists, and with some of the sometimes extraordinarily widespread and stubborn refusals to take proper account of those discoveries, rather than with that remarkably small and limited actual influence.

There is, however, one area in which genetic discoveries are already of enormous perceived importance for all those immediately concerned. Genetic defects in the fetus are with increasing frequency construed as indications for abortion. Consider, for instance, the case of Sardinia, a still strongly traditional Roman Catholic society in which until very recently many children were born with an inheritance of anaemia. Nevertheless,

Nine-tenths of couples at risk of having an affected child now know this, and when the woman becomes pregnant nine tenths of them choose to end pregnancies which would have produced a genetically damaged infant.¹

Although this is immediately a matter of a practical application rather than of any sort of theoretical self-understanding, in the longer term, if it becomes possible to produce ‘designer babies’ by determining their genetic equipment, then the impact upon human self-understanding is bound to be enormous.

1. Genetic facts ignored, or outright repudiated

The system of hereditarian ideas that in our century won by far the most numerous and powerful converts, and led to the most catastrophic consequences, was developed long before even the creation of the concept of the gene. Nor did many if any of those converts

later display much concern over the fact that the developing science of genetics provided no basis whatsoever for their cherished racial doctrines. The seminal figure here was a Frenchman, Arthur de Gobineau (1816-82), who is now rated the “Father of Racism.” His master idea was that of a supposedly superior “Aryan” stock, which alone possessed true civilizing potential. That stock, he believed, had been irrevocably debilitated by miscegenation; and it was now under threat from lesser white elements within Europe, and still more destructive nonwhite hordes beyond.

These ideas, mediated through de Gobineau’s friendship with Richard Wagner and his Bayreuth circle, had an immediate appeal in Imperial Germany. British-born Houston Stewart Chamberlain (1855-1927), who had married Wagner’s youngest daughter, acquired German nationality on the eve of the First World War. He became a personal friend of Kaiser Wilhelm II, and was recruited as an official propagandist for the German cause, a cause he presented as an attempt – made by the nation that was manifestly superior to all others in art, music, literature, philosophy and science – to dominate the European heartland.

Chamberlain’s magnum opus was *Die Grundlagen des 19ten Jahrhunderts* [The Foundations of the Nineteenth Century], first published in German in 1899, and published in English translation in 1910. A monstrous book, it is a mixture of contorted pseudo-history with fanatical Germanic mysticism, presenting the world as a stage for a Manichean conflict between an “Aryan” principle of good and the “Jewish” principle of evil. In October 1923 Adolf Hitler and Alfred Rosenberg visited Wagner’s Haus Wahnfried, where they immediately recognized and accepted Chamberlain as the prophet and seer of the future Third Reich.² There is no reason to doubt that Alfred Rosenberg, as official philosopher to the National Socialist German Workers’ Party, considered his own *Der Mythos des 20ten Jahrhunderts* [The Myth of the Twentieth Century] to have been erected upon foundations laid by Chamberlain.

Another tradition also originated long before genetics emerged as a science. Here the founding father was again a Frenchman, albeit one writing a century earlier than de Gobineau. Claud-Adrien Hel-

vétius (1715-71) was a philosopher and one of the Encyclopaedists. In his *De l'esprit* [Concerning Mind] (1758) he maintained that

all men are born equal in mental capacity; the manifold differences that seem so conspicuous result from nothing but the inequalities in men's social condition and opportunities.

The book was, but for reasons which are here irrelevant, condemned by the Sorbonne, the University of Paris, and publicly burnt. Fifteen years later, in his *De l'homme* [Concerning Man], the watchword of Helvétius became "l'éducation peut tout" [education can do everything].

Whereas the tradition stemming from de Gobineau simply ignored the claims of genetic science, in its boldest form the tradition descending from Helvétius outright denies that there are or could be any relevant findings about hereditary factors in the production of different mental capacities. As his later statement makes clear, the prime purpose of this denial was to clear the way for a doctrine and program of environmental absolutism, according to which we are all in all things completely creatures of our several and usually different environments. The presumably unfulfillable promise of that program was epitomized in a famous Behaviourist boast:

Give me a dozen healthy infants, and my own world to bring them up in, and I'll guarantee to take any one at random and train him to become any type of specialist you like to select – doctor, lawyer, merchant, soldier, sailor, beggar-man or thief.³

Helvétius limited his environmentalism to the development of mental capacities. The author of the article 'Behaviorism' for the *Encyclopaedia of the Social Sciences*, writing in the late 1920s, put no such limitations upon his contention that

At birth human infants, regardless of their heredity, are as equal as Fords.⁴

This assertion, just as it stands, is so flagrantly false that we have to construe it as tacitly taking some crucial qualification for granted. For whereas it used to be notorious that customers could have their Model T in any color they wished, just so long as they wanted it black, babies came in a variety of skin pigmentations. They also come in two alternative sexes or, fashionably, genders. Furthermore, whereas skin pigmentations are paradigmatically skin-deep, the differences in the sex/gender case extend to the deep structure and relate to different biological functions.⁵ So perhaps we should charitably construe Kallen as contending: not that there are in fact no discernible differences since, very obviously, there are; but that these observed differences, along with all other genetically determined differences, however obvious or

however far from obvious, are actually unimportant and/or irrelevant.

The two common mistakes here are, first, to assume that anything innate must be manifest at birth. That is quite wrong. For instance: although human males do not display facial hair on the delivery table they do begin to do so, in an extremely wide range of environments, in their early teens. The second mistake is to assume that it is possible to determine a priori that some difference is too small to be relevant and important. This is a point which can be most effectively enforced by drawing an example from the natural rather than the social sciences. Even though the difference between the two natural isotopes of uranium is only three neutrons – about 1 percent of the atomic weight of uranium – those three neutrons are what makes the difference between being able and being unable to sustain an explosive chain reaction.

Even supposing that all human beings were at birth as similar to one another as Model T Fords, it would still not necessarily follow that our innate human nature could, by supplying the appropriate environment, be moulded into any shape desired. Decisively to establish this possibility in any particular case – and it is, surely, only case by particular case that it could be established decisively – it is necessary to show that moulding of the kind desired has on some occasion actually been achieved. For, as Aristotle somewhere rightly remarks, the argument from actuality to possibility always goes through. If, that is, anything is actual then it must be possible.

It was in hopes of her establishing just how completely the behavior of adolescents is shaped by the cultures in which they have been socialized that in 1925 Franz Boas – a protagonist for nurture in the great nature/nurture controversy of the twenties – despatched his doctoral student Margaret Mead to the South Seas. Her mission resulted in the publication three years later of the all time anthropological best seller *Coming of Age in Samoa*, significantly subtitled "a psychological study of primitive youth for western civilization".

Although Mead's findings have all been totally discredited⁶ – many of the most exciting were the diametric opposite of the truth – there can be no question but that, in its day, which was a day lasting several decades, her book had a very substantial influence upon a great many people's understanding. That substantial influence, however, was not exercised through the acceptance of the discoveries of geneticists but rather through a reaction against the perceived threat arising from their previous and possible future discoveries. The threat was to the protagonists of nurture in the nature/nurture controversy. They maintained that the prime determinant of all human behaviour is the environment, and they were reluctant to allow that genetics has any relevance or importance.

2. Implications of basic general facts of human genetics

An exploration of the true implications of genetic discoveries for a late twentieth century understanding of human nature must begin from a statement of two fundamental and complementary facts.

The first of these is the fact of genetic diversity. Except for identical twins – monozygotic, “one egg” as opposed, that is, to dizygotic, “two egg” twins – no two people who have ever lived or ever will live have been, are or will be built on the same genetic plan; the chance that any particular array of particular genes either has occurred in the past or will occur in the future is for all practical purposes nil. And, furthermore, this genetic uniqueness is compounded by environmental uniqueness, because the phenotypic expression is conditioned at every step in development by environmental forces that are forever changing: even identical twins become different persons because, during intrauterine life and increasingly after birth, they are exposed to different environmental conditions.

Leo Loeb, whose life’s work was a study of biological individuality, put this first fundamental fact into an evolutionary perspective:

We find, phylogenetically, a progressively increasing complexity in the activities of organisms and increasing differences between members of the same species, an increasing individualization which reaches its highest development in man.⁷

The second fundamental and complementary fact is that, along with this enormous genetic diversity *as individuals*, we nevertheless have *as a species*, presumably because our species evolved so recently, an equally remarkable genetic homogeneity:

This means that if, after a global disaster, only one group – the Albanians, the Papuans or the Senegalese – survived, most of the world’s genetic diversity for functional genes would be preserved. ... Other creatures vary much more from place to place ... The difference between the highland and the lowland populations of the mountain gorilla a few miles apart in central Africa is more than that between any two human groups.⁸

Directly to deduce normative and prescriptive conclusions from such purely factual and neutrally descriptive premises would be to commit the naturalistic fallacy; a fallacy which is perhaps most commonly committed in attempts directly to derive such normative conclusions either from would-be factual allegations about human nature or from statements of laws of nature.)

We cannot therefore validly deduce from the facts of genetic homogeneity any doctrine of the moral unity of human kind. Nevertheless it does become

very awkward to insist, in the face of these facts, that there are fundamental and innate differences between Greeks and Barbarians or between blacks and whites or between members of any other pair of contrasted groups which justify treating members of such contrasted groups in importantly different ways. Again, while we cannot validly deduce any prescriptive conclusions from the facts of genetic diversity, it would surely be perverse to advocate placing a high value upon the widest possible freedom of choice for individuals if all those individuals were in fact so similar, so uniform that they would be making whatever choices were offered to them in similar senses. Similarly, were it not for this diversity of talents and inclinations, the possibilities of a wealth-creating division of labor combined with a free and effective market for labor would not be nearly so great as they in fact are.⁹

To those, let us call them the Procrustians,¹⁰ for whom a main if not the supreme political objective is raising or, as the case may be, reducing everyone to the same equal condition, the facts of our genetic diversity must constitute a formidable embarrassment:

For ... a thoroughgoing egalitarian ... inequality that derives from biology ought to be as repulsive as inequality that derives from early socialization.¹¹

It was, presumably, under pressure of that embarrassment that the distinguished social scientist who wrote the sentence just quoted refrained from speculating about the eventual, no doubt extremely long term possibilities of reproducing human populations by big-batch clonings, and instead proceeded to discuss approaches to the ideal of “cognitive equality”.¹² Notorious facts of genetic diversity surely guarantee that this curious and depressing ideal could be realized only by achieving and maintaining an universal, near-total nescience.

These same facts of genetic diversity and genetic homogeneity are comfortably conformable with the rights claims of the American Declaration of Independence; and this notwithstanding that those claims have sometimes been misunderstood to have been grounded upon a denial of that diversity. Certainly the signs of that Declaration held it “to be self-evident, that all men are created equal ...” But there is no full stop at the word “equal”. For, as Abraham Lincoln once explained, the signers

did not intend to declare all men equal in all respects. They did not mean to say that all men were equal in color, size, intellect, moral development, or social capacity. They defined with tolerable distinctness in what respects they did consider all men created equal – certain inalienable rights, among which are life, liberty and the pursuit of happiness.

These equal rights, therefore, are grounded not in any mistakenly assumed equality of ability or inclination but in our common humanity; not in our alleged genetic uniformity; but in our actual genetic homogeneity. Furthermore, it is nowadays necessary to insist, they are option not welfare rights; rights, that is to say, simply to be left alone to do our own things not rights to be supplied with goods at other people's expense.

3. Implications of genetic facts about individuals and collectives

Thomas Jefferson himself – the man who, thanks to his “peculiar felicity of expression”, was asked to draft that Declaration – was under no illusions about equal talents. On the contrary: in his sole published book, *Notes on the State of Virginia*, he developed a scheme for a fiercely selective system of primary education, in the course of which “twenty of the best geniuses will be raked from the rubbish annually”. Then, after six further years of schooling, only ten of those twenty “are to be chosen, for the superiority of their parts and dispositions”, and sent on to study “at William and Mary College”.¹³

In this as no doubt in many other ways Mr Jefferson was by contemporary standards in the highest degree ‘politically incorrect’. Certainly Sir Andrew Huxley – a great grandson of T. H. Huxley – was in his 1977 Presidential Address to the British Association for the Advancement of Science constrained to speak of

the assumption of equal inherited ability as something which ... does not require experimental evidence ..., and which it is politically wicked to question.

He went on to complain:

There is in fact a taboo on openminded investigation ... at least as strong as the resistance in Darwin's day to questioning the authority of the Bible.

This taboo appears to be even stronger in the US, where the media systematically misrepresent what seems to be the contrary if largely tacit consensus of the researchers.¹⁴ If and in so far as the truth is that inherited abilities are extremely unequal, then any such failure or refusal to take account of the genetic facts must contribute substantially to human self-misunderstanding and to consequent policy misdirections.

Nor is there any reason to believe that Jefferson, having rejected the notion that talent is distributed among individuals equally, would nevertheless have been content to concede that, among different collections of unequally talented individuals, such unequal talents are always distributed in the same way. He would not, for instance, have accepted uncritically a categorical pronouncement issued in 1965 by the U.S. Department of Labor; a pronouncement which – like

many politically correct assertions – would appear to have been derived through an inverse Naturalistic Fallacy. Because it supposedly *ought* to be true, therefore it *is* the case that

Intelligence potential is distributed among Negro infants in the same proportion and pattern as among Icelanders or Chinese, or any other group. ... There is absolutely no question of any genetic differential.

Whether or not that pronouncement is after all true, there is no question but that it does not follow from the previously quoted assertion

that if, after a global disaster, only one group ... survived, most of the world's genetic diversity for fundamental genes would be preserved.

For even if not most but all the genetic diversity was preserved – even if, that is, at least one single specimen of every functional gene was preserved – that would not begin to show that the distribution within the group surviving was the same as that within all those others which, by the hypothesis, did not survive.

On the other hand the truth of that assertion about the survival of most if not all “the world's genetic diversity for fundamental genes” would be preserved does carry some practically important implications. In the first place it means that to be true statements about the genetically determined abilities or inclinations of particular subsets of the total human population must be statements about averages rather than categorical statements to the effect that either all or no members of that subset are either able to do this or are strongly inclined to do that. But from statements about the average characteristics of some set it is impossible immediately to infer any conclusion about the characteristics of any particular member of that set. Thus from the statement that the members of some set are on average five feet nine inches tall we are certainly not licensed to infer that any single member of that set is either five feet nine inches tall or has any other particular height.

The practical importance of this elementary logical truth is that people cannot properly be ruled out from consideration from appointments on the ground that some set to which they belong is on average deficient in characteristics essential in those appointments. So we can be reassured that, even if that pronouncement by the U.S. Department of Labor is already known or later shown to be false, this falsification does not or would not, so long as the assertion about the survival of most if not all “the world's genetic diversity for fundamental genes” was known to be true, provide any justification for hostile discrimination against the members of any of the subsets concerned.

We need nevertheless to appreciate something which holds of differences on average between sets of all sorts. We have here another of those cases mentioned

earlier where what seems comparatively small can turn out to make a very large difference. For where a characteristic is normally distributed – as in the case with most characteristics measured by psychologists – then a difference between two averages of only a single standard deviation will produce quite dramatic changes in the numbers at the extremes.

Take, for instance, the much measured characteristic of IQ. This certainly is both normally distributed and at least in part genetically determined. And suppose that we have two sets of people differing by one standard deviation in respect of that characteristic. Then all other things being equal we should expect, absent either substantial hostile discrimination or gross social disadvantage, that the set with the higher average IQ will be by comparison heavily over-represented in whatever sorts of occupation and achievement demand very high IQs. On the same assumptions we should also expect that set to be correspondingly underrepresented among those rated, by whatever are the prevailing standards, as educationally subnormal (ESN).

Now the findings of the psychologists apparently are that the set of US blacks differs in this respect and to this extent from the set of US whites. (By Cantor's Axiom for Sets, by the way, the sole essential feature of a set is that its members have at least one common characteristic, any kind of characteristic.) These findings are substantially confirmed by the further finding that in the US blacks are proportionately overrepresented among the ESN and proportionately underrepresented among practitioners of mathematics and the hard sciences.

Since these findings are all about averages they provide no basis for conclusions about any particular individuals. But collectivists, for whom individuals are always and only representatives of some collective, must, if they insist on the truth of that US Department of Labor pronouncement, find themselves promoting systematic racist discrimination under the false banner of 'anti-racism'. For instance: as early as fifteen years ago IQ tests of schoolchildren in California were discontinued for no other or better reason than that they were revealing disproportionate representation of blacks among the ESN. Surplus to quota ESN black children were in consequence excluded from special ESN classes in which they would have got the specialized teaching which they so desperately needed. Instead they were conscripted into ordinary classes, where they – deplorably yet very understandably – forthwith proceeded to disrupt the teaching and learning of all concerned.¹⁶

4. The challenge of sociobiology

Any consideration of the influence of genetics upon human self-understanding has to attend to E. O. Wilson's *Sociobiology: The New Synthesis*, 'sociobiology'

being defined as "the systematic study of the biological basis of all social behaviour".¹⁷ In the final chapter an earlier treatise he had envisaged that "the same principles of population biology and comparative zoology", which had

worked so well in explaining the rigid systems of the social insects, could be applied point by point to vertebrate animals.¹⁸

This application in the case of human societies will apparently involve a takeover by evolutionary genetics. For

Sociology *sensu stricto* ... still stands apart from sociobiology because of its largely ... nongenetic approach ... Taxonomy and ecology ... have been reshaped entirely ... by integration into neo-Darwinist evolutionary theory – the 'Modern Synthesis' as it is often called – *in which each phenomenon is weighed for its adaptive significance and then related to the basic principles of population genetics*.¹⁸

This particular paragraph, however, concludes cautiously:

Whether the social sciences can be truly biologized in this fashion remains to be seen.¹⁹

In subsequent writings Wilson has been less cautious and more explicit in his reductionist ambitions. The issue at stake is the extent to which human cultures, and the behaviors which are a part of them, can be accounted for by "genetic determinism". So, in his latest work Wilson stresses that it is on the interpretation of this "key phrase" that

the entire relation between biology and the social sciences depends.²⁰

The final chapter of *Sociobiology: The New Synthesis* gets off to a splendid start with the sentence:

Let us now consider man in the free spirit of natural history, as though we were zoologists from another planet completing a catalog of social species on Earth.

Suppose now that we actually do begin in this way, as Wilson in fact did not. Then the first peculiarity which we have to pick out is, surely, the far-extended period between birth and maturity, the incomparable capacity for learning, and the importance of learned (as opposed to instinctual) behaviour.

This unrivalled capacity for learning, together with its instrument and expression developed language, provides our species with a serviceable substitute for the (genetic) inheritance of acquired characteristics. It is this serviceable substitute for the (genetic) inheritance of acquired characteristics which constitutes the first threat to the project for a reductionist human sociobiology. For it makes it impossible fully to understand the workings of human societies, as it is

certainly not impossible to understand those of insect societies, without constantly taking account of their pasts as well as of the previously acquired information stocks to which their members have access. (What is peculiar to our species, it must be emphasized, is: not the exogenetic (i.e. non-genetic) transmission of specific possible behaviors from one generation to the next, as such; but the enormous number and variety of possible behaviors which, thanks to the hypertrophy of the human brain and to the presumably concurrent and connected development of language, can now be transmitted exogenetically.)

No doubt this “unrivalled capacity for learning”, like all our other innate capacities and innate dispositions, is itself genetically determined. But – and here we come to the second of these peculiarities which threaten the project for a reductionist sociobiology – the directions to which we turn such capacities, and how far we inhibit or pursue such inclinations, is precisely not already determined by our genes. It is instead for us to decide. For we are creatures of a kind the members of which are all, to a greater or lesser extent, agents; and in so far as we are, we can and cannot but make choices between alternative courses of action. Agents as such always could have done and could do other than they did do or will do – and this too in a strong sense which can and perhaps can only be explained ostensibly.

Presumably there are in some non-human mammals embryonic developments on these lines; just as there certainly are in several species other than ours cases of the exogenetic inheritance of the acquired characteristic of a learned behavior. In both instances, however, the prehuman anticipations of what has in our species become a vastly extended and elaborately sophisticated development appear to be comparatively minor. It is this second peculiarity of our species, even more than the first, which makes the human sciences irreducibly different from the natural.²¹ Wilson does in his own way recognize the reality of choice. But, once again, he fails altogether to appreciate its revolutionary and relevant significance.

The issue at stake is the extent to which cultures, and the behaviors which are a part of them, can be explained in terms of a “genetic determinism”. It is on the interpretation of this “key phrase”, as Wilson stresses, that

the entire relation between biology and the social sciences depends.²²

So, as an example of the organism whose behavior is genetically “predestined”, he instances the mosquito: “The mosquito,” he writes,

is an automaton [with] a sequence of rigid behaviors programmed by the genes to unfold swiftly and unerringly from birth to the final act of oviposition.²³

He then goes on to offer one of an abundance of possible examples of a “restricted” as opposed to a “rigid behavior”, in which

the genes have their way unless specifically contravened by conscious choice.

Yet it will not do, as Wilson does, to leave it at that. For whenever genes have causally necessitated their – shall we say owners, or subjects, or whatever else? – to have not uncontrollable reflexes but inhibitable and controllable desires or dispositions or orientations or inclinations; then this must open the possibility that choice will intervene to contravene.

5. A scientific Calvinism?

In 1932 in an essay published under what would now be deemed a provocative title, *The Inequality of Man*, J. B. S. Haldane, at that time Britain’s leading geneticist, told how his distinguished predecessor William Bateson had during World War I been lecturing about innate differences. A Scottish soldier commented:

Sir, what you’re telling us is nothing but scientific Calvinism.

Haldane then proceeded to develop this theme by reference to Johannes Lange *Crime as Destiny: A Study of Criminal Twins* translated by Charlotte Haldane (London: Allen and Unwin, 1931). This book, first published in Germany in 1929, Haldane thought might one day be seen as “the most important ... of this century.” It reported the results of a study of pairs of brothers at least one of whom was serving time in a south German jail. Of the 428 non-twin brothers studied, only about one in twelve had a record of criminal imprisonment.

Of the sixteen undoubtedly dizygotic (two-egg) twins, only two had criminal brothers, and in one of these cases one brother was a habitual criminal while the other after going off the rails one year had kept straight for the following fifteen. So the record of the dizygotic twins seems fairly similar to that of the non-twin brothers.

But the case of the thirteen monozygotic (one egg) pairs was very different. Ten of these pairs were both criminals. The stories of these ten pairs are given in great detail, and the behavioral resemblances between one twin and the other are often quite extraordinarily close. Haldane, echoing Lange, construed these findings as counting against a doctrine of the freedom of the will. They tend to show that most if not all

of those moral decisions that land us in jail or otherwise are predetermined.

So what do these and similar more recent findings, including the claims about supposedly criminal chromosomes, actually tend to show? Since there is here no reference either explicit or implicit to a creator

God, these findings can at most be compatible with, without in any way providing positive support for, the specifically theological doctrine of predestination; a doctrine which, though commonly identified with Calvin and Calvinism, was in fact substantially shared by Aquinas, Luther and other classical theologians.²⁴ It is important to be clear about this. For it is that specifically theological doctrine which carries the infinitely appalling implication that we are all creatures of an omnipotent creator God who secretly and irresistibly makes us freely choose to act in ways which, absent gratuitous exercises of divine grace and forgiveness, are to earn the punishment of eternal torment.

So do such genetic findings, considered in an entirely secular and this-worldly context, constitute anything more than an approach to a genetic explanation of something which everyone knew to be the case long indeed before there was such a thing as a science of genetics or any science at all; namely, that most of us have some, though by no means in everyone the same, natural inclinations? Surely they do not even begin to show that none of our behaviours are – to reemploy Wilson’s terminology – “restricted” as opposed to “rigid”. The former are those in which “the genes have their way unless specifically contravened by conscious choice”; those in which, that is to say, agents are strongly inclined to behave in particular ways yet could do differently if they so chose.

To conclude, it is necessary to distinguish more from less fundamental senses of “having a choice” and “could have done otherwise”. When Martin Luther before the Diet of Worms protested “Here I stand. I can no other. So help me God,” he was not asserting that he had been afflicted with a general paralysis leaving him physically incapable of withdrawing to his Saxon refuge. In the more fundamental sense he certainly could have done that. But for him any such alternative was altogether intolerable. When some unfortunate businessman receives from *The Godfather* “an offer which he cannot refuse” we may say that he has no choice but to sign the document transferring his property to The Organization. But that in the more fundamental sense he did have a choice can be brought out by comparing his situation with that of the treacherous Mafioso who is without warning simply gunned down from behind. And to anyone who nevertheless tries to maintain that those who in those fundamental senses did have choices and could have done otherwise really did not, what can be said but that those expressions are definable only by reference to the sort of situations to which they are conventionally applied.

NOTES

1. Steve Jones, *The Language of the Genes*, BBC, London, 1992, p. 60.
2. Alan Bullock, *Hitler, a Study in Tyranny*, Penguin, Harmondsworth, Middlesex, 1962, pp. 79-80.
3. J. B. Watson, *Behaviorism*, Norton, New York, 1921, p. 104.
4. Horace M. Kallen, ‘Behaviorism’, in the *Encyclopaedia of the Social Sciences*, Macmillan, New York, 1930-5, Vol. II, p. 498.
5. I take this welcome opportunity to recommend to libertarians my friend Michael Levin’s brilliant and often rollicking polemic *Feminism and Freedom*, Transaction Books, New Brunswick, New Jersey, 1987.
6. Derek Freeman, *Margaret Mead and Samoa: The Making and Unmaking of an Anthropological Myth*, Harvard University Press, Cambridge, Massachusetts, 1983. Freeman tells me that he hopes very soon to publish another book, continuing the story. This will contain not only a mass of further evidence but also an account of persistent, scandalous attempts by the American anthropological establishment to suppress and/or discredit Freeman’s discrediting of Mead.
7. Quoted in Roger J. Williams, *Free and Unequal: The Biological Basis of Individual Liberty*, Liberty Press, Indianapolis, Indiana, 1978, p. 45.
8. Jones 1992, p. 51.
9. See again Williams 1978, *passim*.
10. Compare my *The Politics of Procrustes: Contradictions of Enforced Equality*, Temple Smith, London, 1981, Ch I-IV.
11. Christopher Jencks and others *Inequality: A Reassessment of the Effect of Family and Schooling in America*, Basic Books, New York, 1972, p. 73.
12. *Ibid.*, pp. 54 and 109.
13. Thomas Jefferson, *Notes on the State of Virginia* [1797], edited by William Peden, North Carolina University Press, Chapel Hill, North Carolina, 1955, p. 143; and compare 137-142. It is astonishing that both General Secretary Gorbachev and President Clinton should have proclaimed their admiration for Jefferson, who was no sort of statist, whether fully socialist or only social democratic.
14. See Mark Snyderman and Stanley Rothman, *The IQ Controversy: The Media and Public Policy*, Transaction Books, New Brunswick, New Jersey, 1988, and compare Ronald Fletcher, *Science, Ideology and the Media: The Cyril Burt Scandal*, Transaction Books, New Brunswick, New Jersey, 1991.
15. See Arthur Jensen, *Genetics and Education*, Methuen, London, 1972, pp. 241-2, 330-2 and *passim*; and compare Roger Pearson, *Race, Intelligence and Bias in Academe*, Scott-Townsend, Washington, 1991.
16. Antony Flew, *Sociology, Equality and Education*, Macmillan, London, 1976), pp. 75-6; and compare *Power to the Parents: Reversing Educational Decline*, Sherwood Press, London, 1987, Ch. 5.
17. E. O. Wilson, *Sociobiology: The New Synthesis*, Harvard University Press, Cambridge, MA, 1975, p. 41.
18. E. O. Wilson, *The Insect Societies*, Harvard University Press, Cambridge Massachusetts, 1971.
19. Wilson 1975, p. 4: emphasis added.
20. E. O. Wilson, *On Human Nature*, Harvard University Press, Cambridge, Massachusetts, 1978, p. 55.
21. Compare my *Thinking about Social Thinking*, Harper-Collins, London, 1992.
22. Wilson 1975, p. 532.
23. Wilson 1978, p. 55.
24. For some proof texts see my “The Case for Freewill: A Reply to Sean Gabb (2)”, in *Free Life* No. 18, May 1993, pp. 11-13.