

# Why the Darwinian Theory of Evolution Through Natural Selection is Relevant to Today's Moral Issues\*

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¿Por qué la teoría darwiniana de la evolución por selección natural es relevante para los problemas morales actuales?

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## Abstract

Charles Darwin's theory of evolution through natural selection, explaining geographical distributions and the fossil record, is rightly regarded as one of the greatest scientific theories of all time, taking its place alongside Isaac Newton's theory of gravitational attraction, explaining the Copernican heliocentric world picture. There is, however, a tendency to think that Darwin's work is finished. It belongs to Victorian history rather than as something that has crucial social relevance today. This essay shows how mistaken it is to make this assumption. Through a series of case histories—foreigners, class, sexual orientation, and women—Darwinism is shown to be as vibrant and important today as it was when Darwin was young. It is an essential tool for analyzing and solving some of the biggest and most pressing social issues facing us in the twenty-first century.

*Keywords:* Darwin - evolution - natural selection - social issues - foreigners - class - sexual orientation - women

## Resumen

La teoría de la evolución por selección natural de Charles Darwin, que explica las distribuciones geográficas y el registro fósil, se considera, con razón, una de las teorías científicas más importantes de todos los tiempos, y ocupa su lugar junto con la teoría de la atracción gravitacional de Isaac Newton, que explica la imagen heliocéntrica del mundo de Copérnico. Sin embargo, existe una tendencia a pensar que el trabajo de Darwin está acabado. Que pertenece más a la historia victoriana que a algo que tenga una relevancia social crucial en la actualidad. Este ensayo evidencia cuán equivocada es esa suposición. A través de una serie de casos históricos (extranjeros, clase social, orientación sexual y mujeres), se demuestra que el darwinismo es tan vibrante e importante hoy como lo era cuando Darwin era joven. Es una herramienta esencial para analizar y resolver algunos de los problemas sociales más importantes y apremiantes que enfrentamos en el siglo XXI.

*Palabras clave:* Darwin - evolución - selección natural - problemas sociales - extranjeros - clase - orientación sexual - mujeres

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## 1. Introduction

I am a “historian of ideas,” rather than a “historian of science.” Working within the realm of ideas rather than organisms, I use the past in the way of a biological evolutionist to understand the present. Showing the power of my approach, I shall look briefly at four different areas, where I argue that Darwin’s theory of evolution through natural selection helps us to move forward. My four areas are not chosen randomly, but rather for their contemporary significance. I live in Florida and a conservative governor (Ron DeSantis) and his conservative, compliant legislature have enacted laws showing prejudice against four groups. One hopes that, thanks to people of moral integrity, things will change somewhat in Florida. The issues undoubtedly will remain as pertinent. First, *foreigners*, especially immigrants. Showing his disdain, the governor tricked a group of immigrants into taking a flight from Florida that deposited them on Martha’s Vineyard, the island off the coast of Massachusetts. “We don’t want them; you can have them.” Second, *race*. The districts electing people to the US House of Representatives were gerrymandered, so the number of elected African-Americans dropped from four to two. If a way had been open to reduce that two to one, it would have been taken. Meanwhile, educational institutions, including public universities, are severely restricted in what they can teach about race. Third, *sexual orientation*. Schools are not allowed to teach about the existence, let alone the nature, of gay dispositions, and gay teachers are under huge pressures to keep their lives secret, or preferably to resign. The governor has an ongoing dispute with the Disney Corporation, the biggest employer and taxpayer in the state. He did not like its endorsing certain rights for homosexuals. Fourth, *women*. Florida has enacted laws that forbid abortion after the sixth week of pregnancy. Needless to say, medical means of abortion are illegal.

I shall take these topics in turn. In each case, I shall offer a three-part analysis. First, as a guide to the culture within which Charles Darwin was raised and lived, I shall see what the Bible has to say on these topics. Darwin was born and lived in Britain, from 1809 to 1882 (Browne 1995, 2002). At that time, by no means everyone was a Biblical literalist, but in a country like Britain with the established Anglican church, the Bible is a good place to begin our discussion. Since this would be the most widely read translation, I shall quote from the King James Version. Second, I shall see what Darwin himself has to say on the topics—warts and all, as one might say. Third, I shall ask where we stand today and the relevance of our knowledge to go on improving the wellbeing of people in society. One question that I shall slip in repeatedly is whether Darwin himself had any inkling of the true revolutionary nature of his theory. And whether he approved!

## 2. Foreigners

### *The Bible*

The Bible sends a clear message. Some people are ingroup. Others are not. It can equal Nigel Farage, the leader of the Brexit movement, when it comes to this sort of thing (Ruse 2022). “When the Lord your God brings you into the land you are entering to possess and drives out before you many nations—the Hittites, Girgashites, Amorites, Canaanites, Perizzites, Hivites and Jebusites, seven nations larger and stronger than you—and when the Lord your God has delivered them over to you and you have defeated them, then you must destroy them totally. Make no treaty with them, and show them no mercy” (Deuteronomy 7:1). Fundamental is the pact that God makes with Abraham, renewed with his son Isaac, and his son Jacob. You acknowledge me as your God, and you will be the “chosen people.”

#### ABRAHAM

12 Now the Lord had said unto Abram, Get thee out of thy country, and from thy kindred, and from thy father's house, unto a land that I will shew thee:

2 And I will make of thee a great nation, and I will bless thee, and make thy name great; and thou shalt be a blessing:

3 And I will bless them that bless thee, and curse him that curseth thee: and in thee shall all families of the earth be blessed.

#### ISAAC

26 2 And the Lord appeared unto him, and said, Go not down into Egypt; dwell in the land which I shall tell thee of:

3 Sojourn in this land, and I will be with thee, and will bless thee; for unto thee, and unto thy seed, I will give all these countries, and I will perform the oath which I sware unto Abraham thy father;

#### JACOB

28 13 And, behold, the Lord stood above it, and said, I am the Lord God of Abraham thy father, and the God of Isaac: the land whereon thou liest, to thee will I give it, and to thy seed;

(These quotations are all from Genesis).

To be fair. Not everyone was so harsh on foreigners as the writer in Deuteronomy. The most touching book in the whole Bible is the story of Ruth. A Moabite woman, married to an Israelite and then widowed, refuses to leave her mother-in-law Naomi when the latter returns to her homeland. "Intreat me not to leave thee, or to return from following after thee: for whither thou goest, I will go; and where thou lodgest, I will lodge: thy people shall be my people, and thy God my God. Where thou diest, will I die, and there will I be buried: the Lord do so to me, and more also, if ought but death part thee and me" (Ruth 1:16-17). She marries the rich landowner Boaz and is the great-grandmother of King David. One can be integrated into the chosen people; but, note that the whole point of the story is that this is exceptional.

#### *Charles Darwin*

Darwin exhibited the usual Victorian condescension towards foreigners. Entirely typical is a comment he made in 1875, to Thomas Henry Huxley, about a man who supposedly had professed indifference to the animal suffering caused by vivisection. "I am astounded & disgusted at what you say about Klein. I am very glad he is a foreigner; but it is most painful as I liked the man" (Letter to T. H. Huxley 1 November, 1875). Expectedly, the Irish did not escape censure: "What devils the low Irish have proved themselves in New York. If you conquer the South you will have an Ireland fastened to your tail.—" (Letter to Asa Gray 4 August, 1863) Darwin refers to the prominent role played by Irish immigrants in the riots in New York City in July 1863 against the drafting of men into the Union army; the riots resulted in the deaths of at least 105 people (McPherson 1988, 60.9–10) And, then, there was a notorious comment from a letter written towards the end of his life, where Darwin defends the application of natural selection to humans:

Lastly I could show fight on natural selection having done and doing more for the progress of civilisation than you seem inclined to admit. Remember what risk the nations of Europe ran, not so many centuries ago of being overwhelmed by the Turks, and how ridiculous such an idea now is in more civilised so-called Caucasian races have beaten the Turkish hollow in the struggle for existence. Looking to the world at no very distant date, what an endless number of the lower races will

have been eliminated by the higher civilised races throughout the world. (Letter to William Graham, July 3, 1881)

### Today

As a preliminary, it is important to note that Darwin is not quite the hidebound prejudiced Victorian that the last section implies. He does open the way to change, stressing that a lot of the differences between us and other folk are cultural rather than biological. For instance, in the *Descent of Man*, referring to the time on HMS *Beagle*, which carried three Tierra del Fuego natives who had on a previous trip been brought to England, he wrote: “The Fuegians rank amongst the lowest barbarians; but I was continually struck with surprise how closely the three natives on board H.M.S. ‘Beagle,’ who had lived some years in England and could talk a little English, resembled us in disposition and in most of our mental faculties” (Darwin 1871, 1: 34). Admittedly, often he sounds rather pessimistic: “The evidence that all civilised nations are the descendants of barbarians, consists, on the one side, of clear traces of their former low condition in still-existing customs, beliefs, language, &c.; and on the other side, of proofs that savages are independently able to raise themselves a few steps in the scale of civilisation, and have actually thus risen” (Darwin 1871, 1: 181). But, the opportunities are there. Talking of morality and the contrasts today: “Differences of this kind between the highest men of the highest races and the lowest savages, are connected by the finest gradations. Therefore it is possible that they might pass and be developed into each other” (Darwin 1871, 1: 35).

Moving to the thinking today, thanks to the study of ancient DNA and other techniques, we know that for about five million years after leaving the jungle, proto-humans were hunter gatherers in bands of about fifty. Always on the move and then, thanks to population numbers rising because of such things as the move to agriculture, as well as to climatic changes, people started to come into more and more contact with each other, leading to tensions and wariness moving to hostility towards strangers (Ruse 2022).

For a very long time our ancestors had been leaving Africa for Europe and Asia— up to two million years ago. Such invasions continued, hardly that surprising since these already-intelligent primates would always have been on the lookout for new opportunities and sources of food and shelter and the like. Move down to the most recent significant move out of Africa, some 50K years ago or a bit earlier. One group went east toward what we now call “Asia,” and another west to what we now call “Europe.” Over time, always on the move, looking for better opportunities, which of course could involve getting away from others in their present surroundings. (In moving from England to Canada when I was twenty-two, I was part of a long tradition). But then came an Ice Age, making much of northern Europe uninhabitable. People were squashed down to places like Spain, beyond the grip of the glacial ice. While you may not want to go to war with your competitors, there would be increasing pressure to keep your distance and not let others grab or move in on what you now had—and conversely. A wariness about outsiders would be of selective value—and this is something that could and would persist as the ice receded and people could start to move north.

Around five thousand years ago, there was a major invasion from the east into Europe, displacing the then-inhabitants. More efficient methods of agriculture were clearly a significant factor. This eventually pushed across to the extremes of the continent, specifically the British Isles. Named after their style of pottery, the “Bell Beaker culture” arrived more than four thousand years ago, and the genetic evidence is that the newcomers really pushed aside the established denizens of the isles. With ongoing consequences in our heredity:

The genetic impact of the spread of peoples from the continent into the British Isles in this period was permanent. British and Irish skeletons from the Bronze Age that followed the Beaker period had at most about 10 percent ancestry from the first farmers of these islands, with the other 90 percent from people like those closely associated with the Bell Beaker culture in the Netherlands. (Reich 2018, p. 115)

Since the initial building of Stonehenge predates this invasion, it means that those who started it and those who today celebrate the Summer Solstice around it have very different ancestries. One can readily see why the different groups involved in this ongoing change would have little love for each other. In come all these strangers, intent on pushing us to one side. They are not our friends.

There are three conclusions to be drawn from this. First, we are none of us very different from others. Claims of biological superiority are simply not well-taken. Second, there were—and obviously still are—reasons why people are hostile to outsiders. But these are cultural and can be dealt with culturally. No need for major enterprises of genetic reengineering. This is not to say it is or will be easy to move forward. Brexit is a prime example of stepping backwards. Stupidity squared and then cubed. Polish baristas are not about to move into your house and take your wives and sisters. For all that some of the rhetoric suggests that they are, there are nevertheless real possibilities of change. Third, Charles Darwin would be surprised. He would not be devastated, thinking that all he had done is totally worthless. One suspects, downplaying his earlier doubts, he would rather be basking in the implications of what he had done.

### 3. Race

#### *The Bible*

Noah gets blind drunk and his son Ham laughs at him.

24 And Noah awoke from his wine, and knew what his younger son had done unto him.

25 And he said, Cursed be Canaan; a servant of servants shall he be unto his brethren.

26 And he said, Blessed be the LORD God of Shem; and Canaan shall be his servant.

27 God shall enlarge Japheth, and he shall dwell in the tents of Shem; and Canaan shall be his servant.  
(Genesis 9)

In his *City of God*, the all-influential St Augustine had some thoughts on this:

He [God] did not intend that His rational creature, who was made in His image, should have dominion over anything but the irrational creation ~ not man over man, but man over the beasts. And hence the righteous men in primitive times were made shepherds of cattle rather than kings of men, God intending thus to teach us what the relative position of the creatures is, and what the desert of sin; for it is with justice, we believe, that the condition of slavery is the result of sin. And this is why we do not find the word "slave" in any part of Scripture until righteous Noah branded the sin of his son with this name. It is a name, therefore, introduced by sin and not by nature. This is prescribed by the order of nature: it is thus that God has created man. (Augustine 413-26, XIX: 15)

Slavery: "It is a name, therefore, introduced by sin and not by nature." Over the years, particularly as Europeans became more aware of Africans, black people were identified as slaves—slaves thanks to sin—a convenient justification of the status of Africans shipped (against their will) to the Americas (Haynes 2002).

#### *Darwin*

In common with his family, and indeed with many of his social class, Darwin was a lifelong opponent of slavery. Famous is Darwin's maternal grandfather's medallion of a kneeling black slave in chains: "Am I not a man and a brother?" This said, when it came to race, Darwin was very much a child of his time. Expectedly, his opinion on foreigners overlapped, was often the same as people of different races. "With civilised nations, the reduced size of the jaws from lessened use, the habitual play of different muscles serving to express different emotions, and the increased size of the brain from greater

intellectual activity, have together produced a considerable effect on their general appearance in comparison with savages” (Darwin 1871, 1: 247). Moral as well as physical. “Most savages are utterly indifferent to the sufferings of strangers, or even delight in witnessing them. It is well known that the women and children of the North-American Indians aided in torturing their enemies. Some savages take a horrid pleasure in cruelty to animals, and humanity with them is an unknown virtue” (1: 94).

This said, some of the mitigating things about Darwin’s thinking on foreigners applies directly to his thinking about race. Darwin did not seem to be referring to anatomical superiorities when grading different races, but rather, he underlined behaviorally plastic features (Desmond and Moore 2009, p. 96). Indeed, he emphasized that Western observers were often deceived by slight physical differences between themselves and the “lower” races, and often overvalued those differences. “Even the most distinct races of man, with the exception of certain negro tribes, are much more like each other in form than would at first be supposed. This is well shewn by the French photographs in the Collection Anthropologique du Museum of the men belonging to various races, the greater number of which, as many persons to whom I have shown them have remarked, might pass for Europeans” (Darwin 1871, 1: 215-16). In line with this, Darwin was strongly against polygenism, the suggestion that the races of humans are proof of different species. “Although the existing races of man differ in many respects, as in colour, hair, shape of skull, proportions of the body, &c., yet if their whole organization be taken into consideration they are found to resemble each other closely in a multitude of points” (1: 231).

#### Today

Where is the evidence that some races/groups are more—or less—intelligent than others? Even before you get into psychological testing and the like, biology is against it. If one is to speak of a race or subspecies, you need much more genetic differentiation than one finds between local (human) populations. Generally, there is a 25% genetic variability demanded to speak of different “races” (Smith *et al.* 1997). Hugely striking are the differences between chimpanzees and humans. For the apes, the empirical evidence:

[...] confirms the reality of race in chimpanzees using the threshold definition, as 30.1% of the genetic variation is found in the among-race component [...]. In contrast to chimpanzees, the five major “races” of humans account for only 4.3% of human genetic variation—well below the 25% threshold. The genetic variation in our species is overwhelmingly variation among individuals (93.2%). (Smith *et al.* 1997)

*Homo sapiens* went through bottlenecks. Hence, there simply is not that much genetic variation in our species. And where there is variation, reasons are not hard to find. The best-known—notorious—instance is difference in skin colors. It is a function of the distribution of pigment melanin, and from a Darwinian perspective makes perfectly good sense. A darker skin protects from ultraviolet radiation, a big problem in Africa. White skin does a better job of vitamin D synthesis, in the absence of strong sunlight—invaluable for those ongoing dark days of Northern Europe. Whatever later cultural overlays there may be, we are not talking here about brute intelligence or anything like that.

We may be prejudiced, but our biology shows that such attitudes are without foundation. Moreover, although Darwin was caught in the prejudices of the Victorian era, as we also see repeatedly, his theory had the seeds that led to their refutation. Most pertinently—natural selection! And Darwin himself had some suspicions that he himself did not know the whole truth and that today’s beliefs might be plausible.

## 4. Sexual orientation

### *The Bible*

Not much ambiguity here.

You shall not lie with a male as with a woman; it is an abomination. (Leviticus 18:22)

If a man lies with a male as with a woman, both of them have committed an abomination; they shall surely be put to death; their blood is upon them. (Leviticus 20:13)

For this reason, God gave them up to dishonorable passions. For their women exchanged natural relations for those that are contrary to nature; and the men likewise gave up natural relations with women and were consumed with passion for one another, men committing shameless acts with men and receiving in themselves the due penalty for their error. And since they did not see fit to acknowledge God, God gave them up to a debased mind to do what ought not to be done. (Romans 1:26-28)

### *Darwin*

Darwin proves to be very interesting on this topic. From the mid- 1830s, when he became an evolutionist, Darwin worried about why males have nonfunctioning female organs. Nipples on the chest, most obviously. Females the other way, too. The clitoris for a start. To explain such phenomena, he accepted the theory, promoted by the Scottish anatomist Robert Knox, of “primordial hermaphroditism” (Brooks 2021). The primeval ancestor of all animals was both male and female. As Darwin wrote in a private notebook, to this day, all human beings show the traces of both sexes—“every man and woman is hermaphrodite” (Darwin 1987, D 162). Came the late 1840s and the massive study of barnacles. Darwin was in clover, or perhaps one should say kelp (Browne 1995, 475–88). He discovered that there are hermaphrodite barnacles, there are hermaphrodite barnacles that nevertheless have males—very small males that Darwin called “complemental males”—that attach themselves for life to the much-larger hermaphrodites, there are females with complemental males, and there are regular two-sexed barnacles. What better proof could one have, thought Darwin, of the hypothesis of primordial hermaphroditism?

Continuing, in his post-*Origin* book *The Variation of Plants and Animals under Domestication* (1868), Darwin acknowledged cross-sex behavior and extended it to humans—after discussing birds and mammals, he allowed “we see something of an analogous behavior in the human species” (2: 51). And he made clear that he extended this observation to sexual behavior. By the time of the *Descent*, Darwin was locked in to accepting that homosexual behavior was something that would occur in the human species. But he didn’t want to say so overtly, and he certainly didn’t want to imply that such behavior, presumably natural in some sense, was going on among civilized folk today and that it was acceptable. He came up with a good Victorian solution. It’s all the fault of the savages! “The greatest intemperance with savages is no reproach. Their utter licentiousness, not to mention unnatural crimes, is something astounding” (Darwin 1871, 1: 96). Adding:

The hatred of indecency, which appears to us so natural as to be thought innate, and which is so valuable an aid to chastity, is a modern virtue, appertaining exclusively, as Sir G. Staunton [an employee of the East India Company] remarks, to civilized life. This is shewn by the ancient religious rites of various nations, by the drawings on the walls of Pompeii, and by the practices of many savages. (Darwin 1871, 1: 96)

### *Today*

Happy or not, Darwin had inserted the wedge against homosexuality as abnormal. The thin end of a very large wedge. Darwin’s reticence fooled no one. One of his correspondents noted that it is more than savages who indulge in homosexual activities. It was to be found in Ancient Greece:

I know no more instructive fact—disagreeable as it is, it is of high scientific interest—than that one practice (to denote it by the general term I have been using), paiderastia, in many countries became systematised. Thus in Greece the relation between a man and his youthful lover was constituted by a form of marriage after contract between the relatives on both sides. (Darwin 1985, 22: 56; letter from John McLennan, February 3, 1874).

Then, publicly, Catholic zoologist and Darwin critic St. George Mivart went after a short piece on human sexuality penned by Darwin's son George. He wrote, in the widely read *Quarterly Review*:

There is no hideous sexual criminality of Pagan days that might not be defended on the principles advocated by the school to which this writer [George Darwin] belongs. This repulsive phenomenon affords a fresh demonstration of what France of the Regency and Pagan Rome long ago demonstrated; namely, how easily the most profound moral corruption can co-exist with the most varied appliances of a complex civilisation. (Mivart 1874, p. 70)

The fat was in the fire. Darwin's theory suggests that homosexual behavior is natural. A conclusion quite unacceptable to Mivart; but, other ears were more receptive. At the beginning of the twentieth century, Darwin enthusiast, the English naturalist Edmund Selous, noted same-sex activity in birds, writing:

If we say it is vitiated or perverted instinct, still there must be a natural cause for what we regard as the perversion. As is well known, hermaphroditism preceded, in the march of life, the separation of the sexes, and all of the higher vertebrate animals, including man, retain in their organisms the traces of this early state. If the structure has been partly retained, it does not seem unlikely that the feelings connected with it have, through a long succession of generations, been retained also, and that, though more or less latent, they are still more or less liable to become occasionally active. This view would not only explain such actions as I have here recorded, but many others scattered throughout the whole animal kingdom, and might even help to guide us in the wide domain of human ethics. (Selous 1902, p. 182)

“Human ethics”! If homosexuality is natural, then should we condemn it as immoral? Our prejudice should be against people who condemn homosexuality, not those who practice it. One who picked up on this was Sigmund Freud. He was, as one might expect of one born in 1856, a deeply committed evolutionist and he acknowledged the *Descent of Man* (along with Copernicus in science and Goethe and Shakespeare in literature) as one of the ten most influential books he had read. Particularly significant was the claim that we evolved from small groups of hunter-gatherers: “From Darwin I borrowed the hypothesis that human beings originally lived in small hordes, each of which lived under the despotic rule of an older male who appropriated all the females and castigated or disposed of the younger males, including his own sons” (Ritvo 1990, p. 99, quoting *Moses and Monotheism*). We are on the way to the Oedipus Complex. Freud might praise Darwin, but is he doing it more to raise his own status rather than because of a genuine debt? Not so:

Judging from the social habits of man as he now exists, and from most savages being polygamists, the most probable view is that primeval man aboriginally lived in small communities, each with as many wives as he could support and obtain, whom he would have jealously guarded against all other men. Or he may have lived with several wives by himself, like the Gorilla; for all the natives "agree that but one adult male is seen in a band; when the young male grows up, a contest takes place for mastery, and the strongest, by killing and driving out the others, establishes himself as the head of the community." The younger males, being thus expelled and wandering about, would, when at last successful in finding a partner, prevent too close interbreeding within the limits of the same family. (Darwin 1871, 2: 362-363)

The debt notwithstanding, many of us are deeply uncertain about Freud and his theories. But one can forgive a lot on reading his “Letter to an American Mother,” written in 1935:

Dear Mrs [...] I gather from your letter that your son is a homosexual. I am most impressed by the fact that you do not mention this term yourself in your information about him. May I question you, why

you avoid it? Homosexuality is assuredly no advantage, but it is nothing to be ashamed of, no vice, no degradation, it cannot be classified as an illness; we consider it to be a variation of the sexual function produced by a certain arrest of sexual development. Many highly respectable individuals of ancient and modern times have been homosexuals, several of the greatest men among them (Plato, Michelangelo, Leonardo da Vinci, etc.). It is a great injustice to persecute homosexuality as a crime, and cruelty too. If you do not believe me, read the books of Havelock Ellis. By asking me if I can help, you mean, I suppose, if I can abolish homosexuality and make normal heterosexuality take its place. The answer is, in a general way, we cannot promise to achieve it. In a certain number of cases we succeed in developing the blighted germs of heterosexual tendencies which are present in every homosexual, in the majority of cases it is no more possible. It is a question of the quality and the age of the individual. The result of treatment cannot be predicted. What analysis can do for your son runs in a different line. If he is unhappy, neurotic, torn by conflicts, inhibited in his social life, analysis may bring him harmony, peace of mind, full efficiency whether he remains a homosexual or gets changed. [...] Sincerely yours with kind wishes, Freud (in Ruse 2022, pp. 240-241)

“Arrest of development”? One would need a lot more argument to persuade that Freud’s framework was correct. The letter, nevertheless, was very much in the mode of a Darwin-influenced thinker. Ahead of its time in arguing what we now believe is true. Homosexuality is not a matter of choice and, if homosexuals are unhappy, it is not because of their sexual orientation, but because society makes them unhappy. It is our fault as much as anyone’s.

The crucial point is that, as with foreigners, as with race, knowledge is all-important. The key to change is better understanding. Today, when thinking of proximate causes, most researchers think in terms of hormones, particularly as they affect fetal brain development. Comparative levels of testosterone during the third and sixth months of hypothalamus development seem to be the all-important factors (LeVay 2010). The possible causal role of natural selection is, as they say, highly contested. Repeated studies estimate the number of male homosexuals at around 3-4 percent; females are somewhat less. Of course, being homosexual does not mean that one will not have children, but the Kinsey studies show that orientation (especially of males) is a very significant (behavioral) factor in having fewer offspring (Bell & Weinberg 1978). Could the selective cause be kin selection, with gay or lesbian siblings helping other family members to reproduce? Could it be a case of heterozygote fitness, where the heterozygote has more offspring, balancing the fact that the homozygotes have fewer offspring? Could it be “parental manipulation,” with the mother’s biology kicking in to control the reproduction of her offspring? If resources are limited, it might not be a good thing to have all the sons competing equally. Generally, as one moves down to the bottom of the birth order, the higher the incidence of homosexual orientation. At the proximate level, it could be that the more boys, the more the female levels of pre-natal hormones get changed. Then, perhaps, at the ultimate level, selection picks up and makes use of this consequence. Whatever the case, it does seem that homosexuality is “natural,” and there is no reason at all to think it a deviancy, like psychopathy (Ruse 1988, Adriaens & De Block 2022).

Facts like these have led to change, if slowly. England is the country that sent Oscar Wilde to jail (1895) because of his relationship with Lord Alfred Douglas. Freud’s contemporaries did not always agree with him about homosexuality being in some important sense normal. Half a century after Wilde, nearly two decades after Freud’s letter, Franz Kallmann, noteworthy because of his twin studies, wrote that homosexuality is “an inexhaustible source of unhappiness, discontent and a distorted sense of human values.” At the same time, as readers of the (English) Sunday newspaper *News of the World* knew well, the police were extremely active in enforcing the law against (male) homosexual activity. It was called the “blackmailer’s charter,” because, when a wretched victim drew attention to his predicament, not only was the blackmailer prosecuted, but the victim too. For all that, as critics pointed out, sending a homosexual to prison was about as effective as sending a drunkard to a brewery, in 1954 over a thousand gay men were in jail because of their illegal activities. The law was not repealed until 1967. Even then there were restrictions not lifted until 2000. Gay sex was forbidden in a

hotel or in a house where another person was present, even if that person were in another room! At the same time, slowly homosexuals of both sexes (as well as others under the category LGBT) were granted the rights of heterosexuals. Civil unions were allowed from 2005 and same sex marriage from 2014. (A similar tale can be told of the United States).

The pope's recent pronouncements warn us that we still have a way to go: "It is a sin, as is any sexual act outside of marriage." Change is possible. Change has occurred. We are not yet at journey's end. Darwin deserves full credit for his role in all of this.

## 5. Women

### *The Bible*

As with homosexuality, not much ambiguity on this topic, starting with the fact that the reason why humans are always in such a mess is that Eve could not resist the apple and seduced Adam into going along with her. Fig leaves all around! An attitude that persisted. St Paul on women.

34 Let your women keep silence in the churches: for it is not permitted unto them to speak; but they are commanded to be under obedience as also saith the law.

35 And if they will learn any thing, let them ask their husbands at home: for it is a shame for women to speak in the church.

(I Corinthians 14)

Even today there are biblically based decisions that are breathtaking in their belittlement of the status of women. The Southern Baptists, America's largest Protestant denomination—over fourteen million members, 85% white—have voted overwhelmingly to expel those churches that have permitted female pastors. This includes the mega-church Saddleback, founded by Rick Warren author of the best-selling *The Purpose Driven Church*. We seem to have a story that has been made up by a New Atheist. Not so, I am afraid.

### *Darwin*

Darwin shows himself to be very Victorian on this topic. "Man is more courageous, pugnacious, and energetic than woman, and has a more inventive genius. His brain is absolutely larger, but whether relatively to the larger size of his body, in comparison with that of woman, has not, I believe been fully ascertained" (Darwin 1871, 2: 316-17). And much more along the same lines. Women just cannot win. "The chief distinction in the intellectual powers of the two sexes is shewn by man attaining to a higher eminence, in whatever he takes up, than woman can attain—whether requiring deep thought, reason, or imagination, or merely the use of the senses and hands" (2: 327). If one drew up a list of six male and six female philosophers, "the two lists would not bear comparison." (One notes he does not compare novelists, and argue the case with the authors of *Pride and Prejudice* and of *Middlemarch*. Just as well for family harmony, given that Emma Darwin was a huge fan of George Eliot).

### *Today*

Before we plunge right into today's issues, take note of the fact that whatever Darwin's personal views—and we shall see reason shortly to think they were more sophisticated than the impression just given—as many Victorian-era feminists pointed out, if Darwin be true then Adam and Eve are not, and in one stroke the theological basis for male superiority is gone. "Woman can no longer be taunted with having brought on humanity the traditional curse" (Hamlin 2014, p. 37). Indeed, ignoring well-known worries about progress, his theory was used to support female superiority: "if we find God gradually advancing in his work from the inorganic earth to the mineral kingdom, then to the

vegetable kingdom, and last of all making man, the fact that woman is made after man suggests her higher qualities rather than man's superiority" (p. 39). A similar sentiment: "It was not, however, until the year 1886, after a careful reading of *The Descent of Man*, by Mr. Darwin, that I first became impressed with the belief that the theory of evolution, as enunciated by scientists, furnishes much evidence going to show that the female among all the orders of life, man included, represents a higher stage of development than the male" (Gamble 1894, p. v).

Turn now to the present. What does science tell us today? Go back to what Freud seized on, what has, jocularly, been referred to as our five-million-year camping trip. Small bands of hunter-gatherer, proto-humans. The evidence both from present-day groups and from archaeology—health, tooth wear, artifacts—is that females played an active role. One hates to disillusion the adolescents of my generation—not to mention Darwin and Freud—but the typical *National Geographic* picture of dominant males, clad only in athletic supports, armed with spears for the hunt, with the little bare-breasted woman staying home and looking after babies, is simply not true. A huge amount of hunting by humans relies on artifacts—traps and the like—as well as the knowledge of how best to use them. Women can and do play full roles here. Again, when it comes to food processing and the like, males and females both have stakes in working efficiently.

Most importantly, however dominant males may seem, as with the chimpanzees, as those Victorian feminists kept insisting, men need female support: "women are not accorded a lower status due to their childbearing, childrearing, and lactating functions, but rather, are honoured by men for these contributions" (Jarvenpa & Brumbach 2014, p. 1253). Ongoing rape is simply not the best way of getting sexual favors and thus producing children, especially sons. Getting along and being welcome is a much better strategy.

A possible clue for the evolution of sex equality in the hominin lineage was the increase in the cost of human reproduction associated with larger brain sizes in early Homo. Higher offspring costs would require investment from both mothers and fathers, as seen among extant hunter-gatherers. The need for biparental investment predicts increased sex equality, which is reflected in the high frequency of monogamy and the reproductive schedules of male hunter-gatherers who typically stop reproducing early and exhibit long life spans after their last reproduction. (Dyble *et al.* 2015, p. 798).

Also, this is not to mention the power that women have over their children. Freud knew whereof he spoke when he talked about the importance of mothers for sons. Treating them as dirt is simply not human practice. In short, groups must have females, and natural selection is going to promote their value— as producers of more group members and as contributing to the whole (Hrdy 1999).

Female inequality apparently is not inborn. It should not exist. How then do we get the kinds of forces that led to Donald Trump? Simply, much inequality is a function of the move to agriculture about ten-thousand years ago. Among farmers, hunter-gatherer pressures are off and males can more readily manipulate themselves into power. The traditional "pattern contrasts with that of male farmers and pastoralists, whose reproductive spans extend well into late life. The recognition of affinal ties throughout our long life span has been argued to be an important step in human social evolution." If, thanks to agriculture, women go on having kids—many more kids—then obviously they are going to be tied down to the basic needs of infants and small children. Men do not breast feed. And so, gender differences will appear and be accentuated. Men will have a dimension of freedom that women did not have. "With more pregnancies, women had to spend more energy on nurturing zygotes, fetuses, and helpless babies—a costly enterprise indeed" (Adovasio, Soffer & Page 2007, pp. 269-270).

What this all suggests is that, if women are freed from culturally imposed tasks, there is absolutely no reason at all to think they will prove less intelligent or able to control and direct things. Plotting the expected path of an antelope demands the ability to think and then to put these thoughts to full use. Designing and making traps for smaller mammals seems to demand no less ability to think and then to put the thoughts into action. For what it is worth, today the top-flight mathematicians tend to be male; but, against that, very talented mathematical females tend to be better at verbal skills than talented

males. As the latter might say, six of one and half a dozen of the other. Certainly, anyone who has been in universities in the past half century can and will tell you that, when they are given the chance, young women are as good at if not better than young men.

Roughly half the [American] population is female, and by most measures they are faring well academically. Consider that by age 25, over one-third of women have completed college (versus 29% of males); women outperform men in nearly all high school and college courses, including mathematics; women now comprise 48% of all college math majors; and women enter graduate and professional schools in numbers equal to most, but not all fields (currently women comprise 50% of MDs, 75% of veterinary medicine doctorates, 48% of life science PhDs, and 68% of psychology PhDs). (Ceci & Williams 2009, p. 5).

How has this all happened? Two obvious reasons. First, at least in the West, machines have transformed women's lives. Formally, the week was dominated by washing by hand in the tub, hanging the clothes out to dry whenever there is a trace of sunshine, and then ironing—and more ironing—followed by folding and putting in the airing cupboard. No more! Thanks to the Bendix washing machine company—it first started making washers in 1938—lives filled with drudgery are but a memory. Hours spent over the soapsuds could be replaced by hours over philosophical tracts. Women show Darwin! Another discovery freeing women and making them much more equal and ready to compete with men was the coming of the birth control pill in the 1960s. The novelist David Lodge is always reliable on these sorts of things. *How Far Can You Go* (1980), about young Catholics at university in the late 1950s, and then the changes that came in the succeeding years, is a satirical but revealing account of how the status of young women changed from vulnerable creatures needing protection from savage predators—young men!—to equals socially and sexually. Humans, more than ready to take the forward, dominant role.

Above all, humans are intelligent, social beings. There is nothing in Darwinian theory that says, for the optimal functioning of a group, males must be dominant over females. Perhaps in a post agricultural society, as with war, there will be factors that bring this on. A much-increased number of children on whom women are by necessity obliged to focus. But as and when these factors change or are reduced or eliminated—machines and contraceptives—so the necessity of male dominance will change or be reduced or eliminated. Women can regain their earlier status.

## 6. Last words

One final point before leaving the discussion of the status and role of women. We have seen repeatedly that there are overt seeds in Darwin's own thinking to suggest that, for all he talked like a typical Victorian, he was aware of the revolutionary implications of his selection theory. Despite the incredibly sexist writings on women, the seeds are here too.

Adam and Eve are not major elements of Darwin's world picture. Modifying opinions based on the public Darwin—the male sexist—looking at Darwin's private correspondence leads to a somewhat different take on things. No one is going to claim that Darwin was a secret admirer of Gloria Steinem, but he was not the kind of uncritical and enthusiastic women-belittler too frequent today. Even ignoring the fact that the Southern Baptists came into being because (unlike their northern co-religionists) they endorsed slavery, Darwin would have been out of place given his full views on the status of women. In 1871, the year of the *Descent*, to one correspondent he wrote:

Madam

I have the honour to acknowledge, on the part of Mrs Darwin & myself, the request that we should agree to our names being added to the General Committee for securing medical education to women.

I shall be very glad to have my name put down, or that of Mrs Darwin but I should not like both our names to appear.

With sincere good wishes for the cause you are so generously aiding I beg leave to remain | Madam | your obedient servant | Charles Darwin

(Letter to Louisa Stevenson, April 18, 1871)

Darwin's name duly appeared. One suspects Emma Darwin may have had a hand in this matter.

Truly interesting is an exchange between Darwin and another correspondent, an American woman, late in his life. She had just heard a paper that claimed that women were fated always to be man's intellectual inferiors and the *Descent* was used in support of the argument. Was he being cited properly, and if so, did Darwin still believe this?

As a believer in continued scientific discoveries and revelations answering and modifying, ultimately, all material questions; and as an admirer of your cautious and candid methods of conveying great results of learning and investigations to the world, I take the liberty to inquire whether the Author of the paper rightly inferred her arguments from your work: or if so, whether you are of the same mind now, as to possibilities for women, judging from her organization &c (Letter from C. A. Kennard, December 26, 1881)

Darwin replied that he was cited correctly, but there is a bit more to the story:

The question to which you refer is a very difficult one. I have discussed it briefly in my "Descent of Man". I certainly think that women though generally superior to men to moral qualities are inferior intellectually; & there seems to me to be a great difficulty from the laws of inheritance, (if I understand these laws rightly) in their becoming the intellectual equals of man. On the other hand there is some reason to believe that aboriginally (& to the present day in the case of Savages) men & women were equal in this respect, & this wd. greatly favour their recovering this equality. But to do this, as I believe, women must become as regular "bread-winners" as are men; & we may suspect that the early education of our children, not to mention the happiness of our homes, would in this case greatly suffer. (Letter to Kennard, January 9, 1882)

At once Kennard replied, that she agreed with Darwin on the higher moral nature of women! "I believe you are supported in your ideas of the greater moral qualities of woman." She did take exception to the claim about "bread-winners" and the ill effects on children of such being the case for women.

And why be anxious for the "education of our children" and "the happiness of our homes", if women become bread winners? when in this country five sixths of the educators are women and acknowledged 'breadwinners', beside improving the condition of their homes and adding happiness thereto—

Which of the partners in a family is the breadwinner where the husband works a certain number of hours in the week and brings home a pittance of his earnings (the rest going for drinks & supply of pipe) to his wife; who, early & late, with no end of self sacrifice in scrimping for her loved ones, toils to make each penny tell for the best economy and besides, to these pennies she may add by labor outside or taken in? (Letter from Kennard, January 28, 1882)

I suspect that anyone who has, like me, been in the education business for half a century will be inclined to agree with Kennard. I taught at a university with a Veterinary College. When I started, in 1965, the incoming class was eighty men and a quota of four women. When I left in 2000, the incoming class was a hundred students, over 90% of whom were women.

## 7. Envoi

Charles Darwin was no rebel. He exhibited every prejudice of the Victorian era—foreigners, race, sexual orientation, women. Nevertheless, his theory of evolution through natural selection pointed the way forward, undermining every one of his prejudices. Moreover, before we leave Darwin with limited praise, almost *malgré lui*, Darwin himself was aware of the possibilities of his theory. This fact alone gives support to the propriety of speaking of a *Darwinian Revolution*, one that is still enlarging our understanding of and aiding the solution to difficult moral issues.

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