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Darwinism

Why we are, as we are
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As the 150th anniversary of the publication of "On The Origin of Species" approaches, the moment has come to ask how Darwin's insights can be used profitably by policymakers

Illustration by Noma Bar
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WEALTH, according to H.L. Mencken, an American satirist of the last century, "is any income that is at least $100 more a year than the income of one's wife's sister's husband." Adjusted for inflation since 1949, that is not a bad definition. But why do those who are already well-off feel the need to out-earn other people? And why, contrariwise, is it so hard to abolish poverty?

America, Mencken's homeland, executes around 40 people a year for murder. Yet it still has a high murder rate. Why do people murder each other when they are almost always caught and may, in America at least, be killed themselves as a result?

Why, after 80 years of votes for women, and 40 years of the feminist revolution, do men still earn larger incomes? And why do so many people hate others merely for having different coloured skin?

Traditionally, the answers to such questions, and many others about modern life, have been sought in philosophy, sociology, even religion. But the answers that have come back are generally unsatisfying. They describe, rather than explain. They do not get to the nitty-gritty of what it truly is to be human. Policy based on them does not work. This is because they ignore the forces that made people what they are: the forces of evolution.

The reasons for that ignorance are complex. Philosophers have preached that there exists between man and beast an unbridgeable distinction. Sociologists have been seduced by Marxist ideas about the perfectibility of mankind. Theologians have feared that the very thought of evolution threatens divine explanations of the world. Even fully paid-up members of the Enlightenment, people who would not for a moment deny humanity's simian ancestry, are often sceptical. They seem to believe, as Anne Campbell, a psychologist at Durham University, in England, elegantly puts it, that evolution stops at the neck: that human anatomy evolved, but human behaviour is culturally determined.

The corollary to this is the idea that with appropriate education, indoctrination, social conditioning or

what have you, people can be made to behave in almost any way imaginable. The evidence, however, is that they cannot. The room for shaping their behaviour is actually quite limited. Unless that is realised, and the underlying biology of the behaviour to be shaped is properly understood, attempts to manipulate it are likely to fail. Unfortunately, even as the 150th anniversary of Darwin's masterwork, "On The Origin of Species", approaches (it was published in 1859) that fact has not been properly accepted. Time, then, to see what a Darwinian analysis has to offer the hard-pressed policymaker, and whether it can make a practical difference to outcomes.

Mencken's observation neatly explains two aspects of modern life. One is the open-endedness of economic growth. The other is that no matter how rich your country becomes, the poor you will always have with you. But what explains Mencken's observation?

For a Darwinian, life is about two things: survival and reproduction. Of the two, the second is the more significant. To put it crudely, the only Darwinian point of survival is reproduction. As a consequence, much of daily existence is about showing off, subtly or starkly, in ways that attract members of the opposite sex and intimidate those of the same sex. In humans—unlike, say, peafowl, where only the cocks have the flashy tails, or deer, where only the stags have the chunky antlers—both sexes engage in this. Men do it more than women, but you need look no further than Ascot race course on Gold Cup day to see that women do it too. Status and hierarchy matter. And in modern society, status is mediated by money.

Girls have always liked a rich man, of course. Darwinians used to think this was due to his ability to provide materially for their children. No doubt that is part of it. But the thinking among evolutionary biologists these days is that what is mainly going on is a competition for genes, not goods. High-status individuals are more likely to have genes that promote health and intelligence, and members of the opposite sex have been honed by evolution to respond accordingly. A high-status man will get more opportunities to mate. A high-status woman can be more choosy about whom she mates with.

Life is about survival and reproduction

For men, at least, this is demonstrably true. Evolutionary biologists are fond of quoting extreme examples to make the point, the most famous being Moulay Ismail the Bloodthirsty, a Moroccan ruler who fathered over 1,000 children. But kings have powers of coercion. Some better examples are provided by Joe Studwell, in his book "Asian Godfathers", which dissects the lives of businessmen. Stanley Ho, a veteran operator in Hong Kong and Macau, has 17 children by several women. Oei Tiong Ham, a tycoon who died in 1924, had 18 concubines and 42 children. The relationship holds good further down the social ladder. Danile Nettle and Thomas Pollet, of Newcastle University, recently showed that in Britain the number of children a man has fathered is, on average, related to his income, the spread of modern contraception notwithstanding.

Status, though, is always relative: it is linked to money because it drives the desire to make more of the stuff in order to outdo the competition. This is the ultimate engine of economic growth. Since status is a moving target, there is no such thing as enough money.

The relative nature of status explains the paradox observed in 1974 by an economist called Richard Easterlin that, while rich people are happier than poor people within a country, average happiness does not increase as that country gets richer. This has been disputed recently. But if it withstands scrutiny it means the free-market argument—that because economic growth makes everybody better off, it does

not matter that some are more better off than others—does not stand up, at least if "better off" is measured in terms of happiness. What actually matters, Darwinism suggests, is that a free society allows people to rise through the hierarchy by their own efforts: the American dream, if you like.

Conversely, the Darwinian explanation of continued support for socialism—in the teeth of evidence that it results in low economic growth—is that even though making the rich poorer would not make the poor richer in financial terms, it would change the hierarchy in ways that people at the bottom would like. When researchers ask people whether they would rather be relatively richer than their peers even if that means they are absolutely worse off, the answer is yes. (Would you rather earn $100,000 when all your friends earn $50,000, or $150,000 when everybody else earns $300,000?) The reason socialism does not work in practice is that this is not a question that most people ask themselves. What they ask is how to earn $300,000 when all around them people are earning $50,000.

A Darwinian analysis does, however, support one argument frequently made by the left and pooh-poohed by the right. This is that poverty is relative. The starkest demonstration of this, discovered by Richard Wilkinson of Nottingham University, in England, is that once economic growth has lifted a country out of penury, its inhabitants are likely to live longer, healthier lives if there are not huge differences between their incomes. This means that poorer countries with low income-variation can outscore richer ones with high variation. It is also true, as was first demonstrated by Michael Marmot, of University College, London, that those at the bottom of social hierarchies have worse health than those at the top—even when all other variables are statistically eliminated, including the fact that those who are healthier are more likely to rise to the top in the first place.

In the 1970s, when Dr Marmot made this observation, expert opinion predicted the opposite. Executives were expected to suffer worse stress than groundlings, and this was expected to show up as heart attacks, strokes and so forth. In fact, the opposite is true. It is the Darwinian failure of being at the bottom of the heap that is truly stressful and bad for the health. That, writ large, probably explains the mortality patterns of entire countries.

In this case, therefore, the Darwinian conclusion is that there is no right answer—or at least no Utopian one. Of course, it does not take a Darwinist to work out that any competition has losers. The illuminating point is that losing has a real cost, not just the absence of gain. With the stakes this high—early death for the failures and genetic continuity for the successes—it is hardly surprising that those at the bottom of the heap sometimes seek status, or at least "respect", in other ways. This is a point that should be taken seriously by policymakers. For those "other ways" are also explicable by Darwinism.

That crime is selfish is hardly news. But the idea that criminal behaviour is an evolved response to circumstances sounds shocking. It calls into question the moral explanation that crime is done by "bad people". Yet that explanation is itself susceptible to Darwinian analysis: evolution probably explains why certain behaviours are deemed worthy of punishment.

The study of the evolutionary roots of crime began with the work of Martin Daly and Margo Wilson, a married couple who work at McMaster University in Canada. They looked at what is usually regarded as the most serious crime of all, murder.

That murderers are usually young men is well known, but Dr Daly and Dr Wilson dug a bit deeper. They discovered that although the murder rate varies from place to place, the pattern does not. Plot the rate against the age of the perpetrator and the peak is the same (see chart). Moreover, the pattern of the victims is similar. They, too, are mostly young men. In the original study, 86% of the victims of male

killers aged between 15 and 19 were also male. This is the clue as to what is going on. Most violence (and thus most murder, which is simply violence's most extreme expression) is a consequence of competition between young, unemployed, unmarried men. In the view of Darwinists, these men are either competing for women directly ("You looking at my girl, Jimmy?") or competing for status ("You dissing me, man?").

This is not to deny that crimes of violence are often crimes of poverty (for which read low status). But that is precisely what Darwinism would predict. There is no need to invoke the idea that people are "born criminal". All that is required is the evolution of enough behavioural flexibility to respond appropriately when violence is (or would have been, in the evolutionary past) an appropriate response.

Crime…

An evolutionary analysis explains many things about crime (and not just murder)—particularly why most criminals are males of low status. A woman will rarely have difficulty finding a mate, even if he does not measure up to all her lofty ideals. In the world of Moulay Ismail the Bloodthirsty, however, a low-status man may be cast on the reproductive scrap heap because there are no women available to him at all. Though the world in which humanity evolved was nowhere near as polygamous as Moulay Ismail's, neither did it resemble the modern one of monogamous marriage, which distributes women widely. In those circumstances, if the alternative was reproductive failure, risking the consequences of violence may have been are worth the gamble—and instincts will have evolved accordingly.

For similar reasons, it is no surprise to Darwinists that those who rape strangers are also men of low status. Oddly, considering it is an act that might result in a child, the idea that rape is an evolved behaviour is even more controversial than the Darwinian explanation of murder. Randy Thornhill of the University of New Mexico, who proposed it on the basis of criminal data and by comparing people with other species, was excoriated by feminists who felt he was somehow excusing the crime. On the other hand, it has become a mantra among some feminists that all men are rapists, which sounds a lot like the opposite point of view: biological determinism. Insert the word "potential", however, and this claim is probably true. To a Darwinist, the most common form of forced mating, so-called date rape, which occurs in an already charged sexual environment, looks a lot like an adaptive response. Men who engage in it are likely to have more offspring than those who do not. If a genetic disposition for men to force their attentions on women in this way does exist, it would inevitably spread.

Sexual success, by contrast, tends to dampen criminal behaviour down. Getting married and having children—in other words, achieving at least part of his Darwinian ambition—often terminates a criminal's career. Again, that is a commonplace observation. However, it tends to be explained as "the calming influence of marriage", which is not really an explanation at all. "Ambition fulfilled" is a better one.
Illustration by Noma Bar
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The murder of children, too, can be explained evolutionarily. On the face of things it makes no sense to kill the vessels carrying your genes into the next generation. And, indeed, that is not what usually happens. But sociologists failed to notice this. It was not until Dr Daly and Dr Wilson began researching the field that it was discovered that a child under five is many times more likely to die an unnatural death in a household with a stepfather present (whether or not that relationship has been formalised by law) than if only biological parents are there.

In this, humans follow a pattern that is widespread in mammals: male hostility to a female's offspring from previous matings. In some species, such as lions and langurs, this results in deliberate infanticide. In humans things not are always as brutal and explicit. But neglect and a low threshold of irritation at the demands of a dependent non-relative can have the same effect.

Intriguingly, though, if a genetic parent is the killer it is often the mother. Infanticidal mothers are usually young. A young mother has many years of potential reproduction ahead of her. If circumstances do not favour her at the time (perhaps the father has deserted her) the cost to her total reproductive output of bringing up a child may exceed the risk of killing it. Not surprisingly, maternal infanticide is mainly a crime of poor, single women.

Many people might sympathise with those driven to commit this particular form of homicide. But in general crimes such as murder and rape provoke a desire to punish the perpetrators, not to forgive them. That, too, is probably an evolved response—and it may well be a uniquely human one. No court sits in judgment over a drake who has raped a duck. A lioness may try to defend her cubs against infanticide, but if she fails she does not plan vengeance against the male who did it. Instead, she usually has sex with him. Yet ideas of revenge and punishment lie deep in the human psyche.

…and punishment

Economists were long puzzled, for example, by the routine outcome of a game in which one player divides a sum of money between himself and a competitor, who then decides whether the shares are fair. If the second player decides the shares are not fair, neither player gets anything.

What is curious about this game is that, in order to punish the first player for his selfishness, the second player has deliberately made himself worse off by not accepting the offer. Many evolutionary biologists feel that the sense of justice this illustrates, and the willingness of one player to punish the other, even at a cost to himself, are among the things that have allowed humans to become such a successful, collaborative species. In the small social world in which humans evolved, people dealt with the same neighbours over and over again. Punishing a cheat has desirable long-term consequences for the person doing the punishing, as well as for the wider group. In future, the cheat will either not deal with him or will do so more honestly. Evolution will favour the development of emotions that make such reactions automatic.

What goes for cheating goes for other bad behaviour, up to and including the murder of relatives and friends. Moreover, if publicly observed, punishment sends the same message to those who might be considering a similar course of action.

It is therefore one of the marvels of civilisation that punishment and revenge have, for the most part, been institutionalised. But to be successful, the institutionalised punishment has to be seen as a proper outcome by the individuals who were harmed. Otherwise, they might mete out their own revenge. That may worry those who believe that reforming the criminal should be the main goal of sentencing policy. If people no longer believe that the punishment fits the crime, a Darwinian would predict that they will stop supporting the criminal-justice system.

Even deterrence, however, does not always work. On the face of things, capital punishment ought to be the ultimate deterrent. But it does not seem to be. Satoshi Kanazawa, an evolutionary psychologist at the London School of Economics, suggests that this is further evidence of the reproduction-related nature of murder. Since failure to reproduce is a Darwinian dead-end anyway, risking death to avoid

that fate—or, rather, being impelled to do so in the heat of the moment by an evolved instinct—is not as stupid as it looks. Some sorts of murder might be discouraged by the threat of the noose or the needle. But not the most common sort: young man on young man over status and sex.

A woman's place

Crime, then, is one field in which women are unequal with men. That does not bother feminists, but perhaps it should. For it might reflect a wider truth which those who believe that the sexes should not merely have equal rights but enjoy equal outcomes will find uncomfortable.

When outcomes are unequal in socially acceptable areas of behaviour, such as employment, it is often interpreted as a sign of discrimination. But people who draw this conclusion rarely consider that the discrimination in question might actually be being exercised by the supposedly disadvantaged women themselves.

A classic example is income. Women earn less than men. Or do they? In fact, younger women do not, or not much. A recent report by the Institute of Economic Affairs (IEA), a British think-tank, found that British women aged between 22 and 29 who were in full-time employment earned only 1% less than their male counterparts. This age group corresponds for many women to the period when they are single. Once they have found the best available mate, the calculation changes: a woman no longer needs to show off.

In that context, it is less of a surprise that older women are out-earned by their male contemporaries. One reason is that they now care less about the size of their earnings. Of the top 25 ideal employers, as chosen by women, the IEA found that 12 were in the public or voluntary sectors—areas where salaries for equivalent work tend to be lower than in the private sector, though job security is higher and job satisfaction is often believed to be greater. For men, only four employers were in this category. The other reason, of course, is that women usually look after the children. Indeed, the study by Dr Nettle and Dr Pollet which found that reproductive success correlates with men's income, also points out that with women the correlation is inverted. But the IEA study also found that it is women themselves who are taking the decisions about child care. It reports that two-thirds of the women who had not already had a "career break", as it is euphemistically known, planned to take one at some point in the future. Less than an eighth of men had similar aspirations. That, too, would be predicted by a Darwinist.

Although there is a strong argument for making working conditions more sympathetic to the needs of parents of both sexes, the underlying point is that many women—and certainly many women with children—do not care as much about striving ahead in their careers as men do. Men, the report found, are more motivated by pay and less by job satisfaction than women are. If managers, they are more likely to work long hours. They also take more risks—or, at least, are more frequently injured at work.

The consequence, as Len Shackleton, the IEA report's main author, puts it, is that: "The widespread belief that the gender pay gap is a reflection of deep-rooted discrimination by employers is ill-informed and an unhelpful contribution to the debate. The pay gap is falling but is also a reflection of individuals' lifestyle preferences. Government can't regulate or legislate these away, and shouldn't try to." He failed to add, however, that these preferences are often the result of biological differences between the sexes.

What goes for pay probably goes for career choice as well. At one extreme, it is foolish, as Kingsley Browne of Wayne State University, in Michigan, suggests, to expect equal outcomes in organisations like the armed forces. Not only are men stronger and more aggressive but, Mr Browne suggests, the

psychology of both sexes has evolved to trust men (and not trust women) in combat, precisely because of this aggression and strength. At the other end of the scale, it is probably an opposite mixture of evolved aptitudes and attitudes that causes the domination by females of professions such as nursing.

This is not to say there can be no good female soldiers or male nurses. Patently, there can. But it is not clear evidence of discrimination that they are rarer than their counterparts of the opposite sex. A Darwinian analysis of the matter cannot say where the equilibrium would lie in a world free from discrimination. But it can say with reasonable confidence that this equilibrium will often not be 50/50.

Many may harrumph at such a Darwinian interpretation of feminism, and say that it is a circuitous route to a traditional destination. It isn't: not expecting an equal distribution of the sexes within every profession is not the same as saying that a woman's place is in the home. And having dared to question the assumptions of both feminists and their opponents, some evolutionary biologists are now hoping to turn conventional wisdom upside down in another area where civil rights meet long-standing prejudice. This is the vexed question of race.

Race to the finish

Racial difference is an area where modern Darwinists have feared, until recently, to tread. This is hardly surprising, given the topic's history. Many early evolutionary biologists (though not Darwin himself) thought that just as man was a risen ape, so white, European man was the zenith of humanity, and that people from other parts of the world were necessarily inferior.

The consequences of that have been terrible. It gave a veneer of intellectual respectability to the eugenic horrors which culminated in the Nazi death camps. Indeed, it is probably one of the roots of the "evolution stops at the neck" point of view. But evolutionary biology is now making amends. By overturning understanding of what race actually is, it may yet provide the tools that allow people of different backgrounds to live in reasonable harmony.

Revenge and punishment lie deep in the human psyche

Its first observation is a bleak one. This is that racism, or at least xenophobia, is a deeply ingrained human characteristic. But its second observation is that, so far as can be determined, the traditional definition of race—the tendency of people living in different parts of the world to have different skin colour, hair colour and physiognomy—has no wider ramifications in areas such as intelligence. Racial prejudice, then, is just that: prejudice.

What is being proposed instead, by another husband and wife team of Darwinists, Leda Cosmides and John Tooby of the University of California, Santa Barbara, is a theory of ethnicity that explains the mishmash of categories anthropologists have tried to shoehorn into the general class of "race". Are Jews and Sikhs, who are defined by religious exclusivity, races? Are Serbs and Croats, who share their religions with others, but not with each other, and whom no geneticist could tell apart? These examples, and similar ones, argue that race has no biological meaning. But it does. It is just not the traditional meaning.

Social psychologists have long observed that, on first meeting, people automatically classify each other in three ways: by sex, by age and by race. But Dr Cosmides and Dr Tooby pointed out that before long-distance transport existed, only two of those would have been relevant. People of different ages and

sexes would meet; people of different races would not.

The two researchers argue that modern racial discrimination is an overstimulated response to what might be called an "alliance" detector in the human brain. In a world where the largest social unit is the tribe, clan or what-you-will of a few hundred people, your neighbours and your other allies will normally look a lot like you, and act similarly. However, it is known from the study of modern hunter-gatherers, and inferred from archaeological evidence about ancient ones, that neighbouring tribes are often hostile.

Though an individual might reasonably be expected to know many members of his tribe personally, he would probably not know them all. There would thus be a biological advantage in tribal branding, as it were. Potential allies would quickly identify what marked them out from others, and what marked others out from them—and, because those differences would probably be small, the detector would need to be very sensitive.

In the past, such markers would often have been cultural, since local physical differences would have been minimal. A telling instance is recorded in the Bible:

Then said they unto him, Say now Shibboleth: and he said Sibboleth: for he could not frame to pronounce it right. Then they took him and slew him.

The questioners were the Gileadites. The slain, an Ephraimite. But no physical difference could distinguish the tribes, so the Gileadite ethnic-cleansers had to rely on linguistic tics.

In a world where a syllable can get you killed, having differently coloured skin is a pretty strong brand of identity. However, it is not a unique signal. Experiments that Dr Cosmides, Dr Tooby and their students have conducted in both America and Brazil (another racially mixed country) suggest it is surprisingly easy to rebrand even people of different skin colour by making other badges of allegiance more significant—as happens when sportsmen clothe themselves in coloured team shirts. Moreover, Andrew Penner of the University of California, Irvine, and Aliya Saperstein of the University of Oregon have shown that perception of a person's race can actually change in the real world. Many people shift from being "white" to "black", in both their own eyes and the eyes of others, in response to unemployment, impoverishment or imprisonment.

That is an uncomfortable reminder of the way group solidarity works in America. The hope this analysis brings, though, is that there is nothing particularly special about biologically based brands such as skin colour. If other brands of group membership can be strengthened, the traditional ones may diminish, even if they do not disappear completely. If this theory of race is correct (and more research is certainly needed), it indicates a strong prescription: policies that encourage groups to retain their identity within a society will cause trouble, but those that encourage cultural integration will smooth things over.

In practice, the history of that most racially mixed country of all, the United States, supports this idea. When integration has been encouraged, as with the descendants of the great flood of European immigrants in the late 19th and early 20th centuries, ethnic distinctions have vanished. When integration has been discouraged, as with the descendants of slaves liberated shortly before those European immigrants arrived, differences have been sharpened. Even in Britain, official policy seems to be shifting from "multiculturalism", which celebrated diversity and thus encouraged distinction, to a deliberate attempt to forge a cultural consensus.

What the brand theory of ethnicity does not require, however, is that minorities submit to the majority's definition of what the brands should be. All that is needed is for each generation to be encouraged to form its own identity from the widest range of materials possible.
Illustration by Noma Bar
Illustration by Noma Bar

A Darwinian analysis thus sheds light on a number of pressing questions. There are others. The rise of metabolic syndrome (obesity plus high blood-pressure equals diabetes plus heart disease) seems to Darwinists the consequence of people trying to sate appetites for sugar and fat that evolution put no brakes on because they were so rare in the natural world.

Pretending young adults are children so that they can be educated en masse in schools is another area ripe for investigation. And the refusal of people to adhere to the patterns of behaviour prescribed for them by classical economics has already spun off a field called behavioural economics that often has Darwinian thinking at its roots.

No one is suggesting Darwinism has all the answers to social questions. Indeed, with some, such as the role of hierarchies, it suggests there is no definitive answer at all—itself an important conclusion. What is extraordinary, though, is how rarely an evolutionary analysis is part of the process of policymaking. To draw an analogy, it is like trying to fix a car without properly understanding how it works: not impossible, but as likely as not to result in a breakdown or a crash. Perhaps, after a century and a half, it is time not just to recognise but also to understand that human beings are evolved creatures. To know thyself is, after all, the beginning of wisdom.