

Altruism, compassion, empathy, love, conscience, the sense of justice—all of these things, the things that hold society together, the things that allow our species to think so highly of itself, can now confidently be said to have a firm genetic basis. That's the good news. The bad news is that, although these things are in some ways blessings for humanity as a whole, they didn't evolve for the "good of the species" and aren't reliably employed to that end. Quite the contrary: it is now clearer than ever how (and precisely why) the moral sentiments are used with brutal flexibility, switched on and off in keeping with self-interest; and how naturally oblivious we often are to this switching. In the new view, human beings are a species splendid in their array of moral equipment, tragic in their propensity to misuse it, and pathetic in their constitutional ignorance of the misuse (12).

All the theory of natural selection says is the following. If within a species there is variation among individuals in their hereditary traits, and some traits are more conducive to survival and reproduction than others, then those traits will (obviously) become more widespread within the population. The result (obviously) is that the species' aggregate pool of hereditary traits changes (23).

... none of the "randomness" in natural selection should be allowed to obscure its central feature: that the overriding criterion of organic design is fitness (27).

... ongoing adjustment to circumstance can give organic life a certain jerry-build quality. (It's the reason people have back trouble; if you were designing a walking organism from scratch rather than incrementally adapting a former tree-dweller, you would never have built such bad backs.) (28).

Males not hereditarily equipped for combat with other males have been excluded from sex, and their traits have thus been discarded by natural selection (33).

... [women] coyness had made them precious ... by virtue of their biological role in reproduction, and the resulting slow rate of female reproduction (39).

... female resistance should be favored by natural selection as a way to avoid having a son who is an inept rapist (52).

The female hanging fly insists on having a dead insect to eat during sex. If she finishes it before the male is finished, she may head off in search of another meal, leaving him high and dry. If she isn't so quick, the male may repossess the leftovers for subsequent dates (60).

[In an experiment] when men imagined sexual infidelity, their heart rates took leaps of a magnitude typically induced by three successive cups of coffee. They sweated. Their brows wrinkled. When they imagined instead a budding emotional attachment, they calmed down, though not quite to their normal level. For women, things were reversed: envisioning *emotional* infidelity – redirected love, not supplementary sex – brought the deeper physiological distress (67).

The classic example of an adaptation that has outlived its logic is the sweet tooth. Our fondness for sweetness was designed for an environment in which fruit existed but candy didn't. Now that a sweet tooth can bring obesity, people try to control their cravings, and sometimes they succeed. But their methods are usually roundabout, and few people find them easy; the basic sense that sweetness feels good is almost unalterable (except by, say, repeatedly pairing a sweet taste with a painful shock). Similarly, the basic impulse toward jealousy is very hard to erase. Still, people can muster some control over the impulse, and, moreover, can muster much control over some forms of its expression, such as violence, given sufficiently powerful reason. Prison, for example. (67)

... women ... are, by nature, somewhat adventurous (71).

... the quantity of sperm depends heavily on the amount of time a man's mate has been out of his sight (71).

... males may be designed less for opportune desertion than for opportune polygyny (87).

... monogamy, by limiting each man to a single wife, makes wealthy men artificially precious commodities, and dowry is the price paid for them (96).

The only underprivileged citizens who should favor monogamy are men. It is what gives them access to a supply of women that would otherwise drift up the social scale (98).

... polygyny has tended to disappear in response to egalitarian values – not values of equality between sexes, but of equality among men. ... As political power became distributed more evenly, the hoarding of women by upper-class men simply became untenable (98).

It stands to reason that as political power became more widely disbursed, so did wives (99).

... given human nature, monogamy is a straightforward expression of political equality among men (99).

... inequality [polygyny] among males is more socially destructive – in ways that harm women and men – than inequality [monogamy] among women (100).

... human beings aren't general purpose "fitness maximizers." They are "adaptation executors." The adaptation may or may not bring good results in any given case, and success is especially spotty in environment other than a small hunter-gatherer society (107).

[Pertaining to choosing a mate] ... bride's ... doubt seems more often to be whether their choice of a lifelong mate is the right one. For men ... it is the *concept* of a lifelong mate that is at some level frightening. ... This isn't to say that the premarital panic fixes itself coarsely on images of would-be sex partners; the subconscious can be more subtle than that. Still, there is, somewhat reliably among men who are about to pledge themselves to one woman for life, a dread of impending entrapment, a sense that the days of adventure are over. "Eheu!!" Darwin wrote, with one final shudder in the face of lifelong commitment. "I never should know French, - or see the Continent – or go to America, or go up in a Balloon, or take solitary trip in Wales – poor slave – you will be worse than Negro." But then, fatefully, he mustered the necessary resolve. "never mind my boy – Cheer up – One cannot live this solitary life, with groggy old age, friendless & cold, & childless staring one in ones face, already

beginning to wrinkle. - Never mind, trust to chance keep a sharp look out – There is many happy slave – “ End of document (114).

It is ironic that hints of mortality can draw a man into marriage, for often it is these same hints, much later, that drive him out, to seek fresh proof of his virility (115).

... the male attraction to a moneyed or socially prominent woman may be less a matter of raw appeal and more a matter of conscious calculation (119).

[John Stuart Mill's] advice to the unhappy: sit still until the feeling passes. '[I]f they remain united, the feeling of disappointment after a time goes off, and they pass their lives together with fully as much happiness as they could find either singly or in any other union, without having undergone the wearing of repeated and unsuccessful experiments' (131).

'Few human creatures would consent to be changed into any of the lower animals, for a promise of the fullest allowance of a beast's pleasures. ... It is better to be human being dissatisfied than a pig satisfied; better to be Socrates dissatisfied than a fool satisfied. And if the fool, or the pig, is of a different opinion, it is because they only know their own side of the question. The other party to the comparison knows both sides' (132).

Studies show that the one thing harder on children than divorce is for parents to stay together even though locked in moral combat (134).

There is a difference of opinion over how much 'respect' women get in the modern moral climate. Men think they get lots. The portion of American men saying women are better respected than in the past went from 40 percent in 1970 to 62 percent in 1990. Women disagree. In a 1970 survey, they were most likely to call men 'basically kind, gentle, and thoughtful,' but in 1990 survey conducted by the same pollster found women most likely to describe men as valuing only their own opinions, trying to keep women down, preoccupied with getting women into bed, and not paying attention to household affairs (135).

... given men marriage tips is a little like offering Vikings a free booklet titled "How Not to Pillage" (139).

... a man won't buy the cow if he can get the milk for free. If the Madonna-whore dichotomy is indeed rooted firmly in the male mind, then early sex with a woman may tend to stifle any budding feelings of love for her. And, if there are such things as "mate-ejection modules" in the human mind, sustained sex without issue may bring – in the man or the woman – a cooling toward the other (139).

... to judge by the increasingly clear opinion of many women that men are basically pigs, a part of the new climate may come from women rationally pursuing self-interest in recognition of harsh truths about human nature (140).

The more Madonnaish the women, the more daddish and less caddish the men, and thus the more Madonnaish the women, and so on (141).

... [If] I seemed to suggest that women practice sexual restraint, the advice wasn't meant to carry any overtone of obligation. It was self-help not moral philosophy (147).

' r ' represents the degree of relatedness among organisms. ... So too with human beings – not groups of human beings, but the groups of cells that are human beings. At some point hundreds of millions of years ago, multicellular life arose. Societies of cells became so highly integrated as to qualify for the title "organism," and these organisms eventually begat us. But as the cellular slime mold attests, the line between society and organism is unclear. It is fair, technically speaking, to consider even so coherent an organism as a human being a tight-knit community of single-celled organisms. These cells exhibit a kind of cooperation and self-sacrifice that makes even the machine-like efficiency of an insect colony look ragged by comparison. Almost all of the cells in the human body are sterile. Only the sex cells – our "queen bees" – get to make copies of themselves for posterity. That the zillions of sterile cells act as if they were perfectly content with this arrangement is doubtless ground in the fact that the r between them and the sex cells is 1; genes in sterile cells are transmitted to future generations as assuredly via sperm or egg as they would be if their particular cellular vehicles were doing the transmitting. Again: when r is 1, altruism is ultimate (163).

Animals, including people, often execute evolutionary logic not via conscious calculations, but by following their feelings, which were designed as logic executors (190).

Game theory was developed during the 1920s and thirties as a way to study decision making. ... what people pursue in life can be tidily summarized in a single psychological currency – pleasure, or happiness, or "utility"; and they assume, further, that it is pursued with unwavering rationality. ... Humans aren't calculating machines; they're animals, guided somewhat by conscious reason but also by various other forces. ... humans are designed by a calculating machine, a highly rational and coolly detached process. And that machine does design them to maximize a single currency – total genetic proliferation, inclusive fitness. Of course the designs don't always work. Individual organisms often fail, for a various reasons, to transmit their genes. (Some are bound to fail. That is the reason evolution so assuredly happens.) In the case of human beings, moreover, the design work was done in a social environment quite different from the current environment. We live in cities and suburbs and watch TV and drink beer, all the while being pushed and pulled by feelings designed to propagate our genes in a small hunter-gatherer population. It's no wonder that people often seem not to be pursuing any particular goal – happiness, inclusive fitness, whatever – very successfully. Game theorists ... should follow a few simple rules when applying their tools to human evolution. First, the objective of the game should be to maximize genetic proliferation. Second, the context of the game should mirror reality in the ancestral environment, and environment roughly like a hunter-gatherer society. Third, once the optimal strategy has been found, the experiment isn't over. The final step – the payoff – is to figure out what feelings would lead human beings to pursue that strategy (191).

... hypocrisy; it seems to flow from two natural forces: the tendency toward grievance – to publicize the sins of others – and the tendency to obscure our own sins (208).

The idea here is that childhood lies are not just a phase of harmless delinquency we pass smoothly through, but the first in a series of test runs for self-serving dishonesty (217).

Children, it seems, will keep lying unless strongly discouraged (217).

If parents refrain from discouraging the kinds of lies that have proven useful to them [kids] – and if they tell such lies in the presence of their children – they are giving an advanced course in lying (217).

[The] fidelity of moral transmission ... Darwin extols his father – his generosity, his sympathy – he might just as well have been talking about himself (218).

'I would give a thousands pounds for your good name. Why? Because I could make ten thousand by it' (220).

No one is born to lead, and no one is born to follow (243).

... serotonin seems to relax people, make them more gregarious, more socially assertive, much as a glass of wine does. In fact, one of alcohol's effects is to release serotonin. ... serotonin raises self-esteem. Extremely low levels of serotonin can accompany not just low self-esteem, but severe depression, and may precede suicide. Antidepressants such as Prozac boost serotonin (243).

... people with lower serotonin levels are more likely to commit impulsive crimes. ... "cheating" is an adaptive response, triggered when people are shunted to the bottom of the heap and thus find it hard to get resources legitimately (244).

Females settle into a hierarchy with less conflict ... and are therefore less preoccupied with their status. ... Female social coalitions – friendships – often last a lifetime, whereas male coalitions shift with strategic utility (245).

Human males ... have a reputation for being ambitious, egotistical, and opportunistic (246).

Of course, females in our species do compete for mates – for mates with the most parental investment to offer. But there's no evidence that, during evolution, social status was a primary tool in that competition. Besides, the evolutionary pressure behind male competition for sex seems to have been stronger than the pressure behind female competition for investment. The reason, again, is that potential differences in fitness are so much greater among males than among females (246).

... from natural selection's point of view, status assistance is the main purpose of friendship (249).

Politicians do most of their baby kissing around election time (252).

... everyday human behavior is often a product of subterranean forces – rational forces, perhaps, but not consciously rational (254).

Men seem loath to concede the superiority of another human being, even in such trivial realms as municipal geography. ... women, like men, are reluctant to apologize or admit they're wrong. ... the average woman is less reluctant than the average man (255).

The fact that our species evolved amid both reciprocal altruism and social hierarchy may underlie not just personal grudges and reprisals, but race riots and world wars (257).

If people are basically selfish – and they are – then asking them to work hard yet earn no more than their unproductive neighbor is asking more than they'll readily give. But we already know that; communism has failed (257).

... there is no reason to derive our values from natural selection's "values," no reason to deem "good" what natural selection has "deemed" expedient (258).

Here's a useful exercise: when watching a politician speak on TV, turn down the volume. Notice the gestures. Note their similarity to the gestures politicians everywhere in the world use – exhortation, indignation, and so on (258).

'We must accept all the implications of our human inheritance, one of the most important of which is the small scope of biologically transmitted behaviour, and the enormous role of the cultural process of the transmission of tradition' (260).

The new paradigm does have room for Skinnerian conditioning, complete with positive and negative reinforcement. To be sure, some drives and emotions, - say, lust and jealousy – may never be wholly erasable. Still the great moral diversity among cultures – that is diversity in the tolerated behavioral expressions of, say lust and jealousy – suggests much leeway in the values department. Such is the power of social approval and disapproval (261).

Big strong men and beautiful women may always have a head start in status competition. Stupidity may never provoke widespread admiration. ... There are cultures and subcultures that try to put less emphasis on the material and more emphasis on the spiritual. And their success is sometimes impressive, if less than total (261).

Among the Yanomamo of South America, one route to status for a young man is to kill lots of men in neighboring villages. If in the process, he can participate in the abduction and gang rape of women from that village, so much the better. If his wife tries to leave him for another man, he can feel free to, say cut off her ears. ... This is evidence that the worst parts of human nature are always near the surface, ready to raise when cultural restraint weakens. ... We will do almost anything for respect, including not act like animals (262).

... we deceive ourselves in order to deceive others better (264).

... our accurate depiction of reality – to others, and sometimes, to ourselves, - is not high on natural selection's list of priorities (265).

... reciprocal altruism and social hierarchy may together be responsible for most of the dishonesty in our species (265).

... note how many psychopathologies, including paranoia, may simply be evolutionarily ingrained tendencies turned up a notch too high (266).

Many modern cultures share this [boasting] taste, and in them "excessive boasting" is merely a phase through which children pass (266).

... people not only tend to attribute success to skill and failure to circumstance; they tend to reverse the pattern when evaluating others. Luck is the thing that makes you fail and other people succeed; ability works the other way around (268).

... you may, in the presence of someone powerful, feel a deeper humility – about your intelligence, for example – than an objective observer would see as warranted (270).

'it is as if we expand ourselves ... when succeeding and shrink our presentation of self when failing, yet we are largely unconscious of this process' (270).

Truth and honesty are never favored by natural selection in and of themselves. Natural selection neither "prefers" honesty nor "prefers" dishonesty. It just doesn't care (273).

... not only is the feeling that we are "consciously" in control of our behavior an illusion (as is suggested by other neurological experiments as well); it is a purposeful illusion, designed by natural selection to lend conviction to our claims. ... one of the most hallowed of all philosophical positions [free will] is essentially an adaptation (275).

... people keep closer track of what they're owed than of what they owe is hardly a news flash from the frontiers of behavioral science (275).

Why would it be so important that the bias be unconscious? A clue may lie in a book called *The Strategy of Conflict* by natural economist and game theorist Thomas Schelling. In a chapter called "An Essay on Bargaining" – which isn't about evolution, but could apply to it – Schelling noted an irony: in a non-zero-sum game of "chicken." Two cars head toward each other. The first driver to swerve loses the game, along with some stature among his adolescent peers. On the other hand, if neither driver bails out, both lose in a bigger way. What to do? Schelling suggests tossing your steering wheel out the window in full view of the other driver. Once convinced that you're irrevocably committed to your course, he will, if rational, do the swerving himself.

The same logic holds in more common situations, like buying a car. There is a range of prices within which a deal makes sense for both buyer and seller. Within that range, though, interests diverge: the buyer prefers the low end, the seller the high end. The path to success, says Schelling, is essentially the same as in the game of chicken: be the first to convince the other party of your rigidity. If the dealer believes you're walking away for good, he'll cave in. But if the dealer stages a preemptive strike, and says "I absolutely cannot accept less than x," and appears to be someone whose pride wouldn't let him swallow those words, then he wins. The key, said Schelling is to make a "voluntary but irreversible sacrifice of freedom of choice" – and to be the first to do it (278).

The proposition ... is that the human brain is, in large part, a machine for winning arguments, a machine for convincing others that its owner is in the right – and thus a machine for convincing its owner of the same. The brain is like a good lawyer: given any set of interests to defend, it sets about convincing the world of their moral and logical worth, regardless of whether they in fact have any of either. Like a lawyer, the human brain wants victory, not truth; and, like a lawyer, it is sometimes more admirable for skill than for virtue (280).

Reciprocal altruism and status intersect in a second way. A common exception to our tendency to deflate the contributions of others comes when those others have high status. If we have a friend who is, say, mildly famous, we cherish even his meager gifts, forgive his minor offenses, and make extra sure not to let him down. In one sense this is a welcome corrective to egocentrism; our balance sheets are perhaps more honest for high-status people than for others. But the coin has two sides. These high-status people, meanwhile, are viewing us with even greater distortion than usual, as our side of the ledger is discounted steeply to reflect our lowness (282).

Among people, status support is less tangible. Except in barrooms, junior-high schoolyards, and other venues of high testosterone, the support consists of information, not muscle (283).

If your true friend has a true enemy, you're supposed to adopt that enemy as your own; that's how you support your friend's status. By the same token, that enemy – and that enemy's friends – is expected to dislike not just your friend, but you (283).

Feeling of enmity, of grievance, of righteous indignation – of collective enmity and grievance and righteous indignation – probably have their deepest roots in ancient conflicts within bands of humans and prehumans (285).

... social psychologists showed that we tend to like people we find we can influence (294).

'Although both were revolutionary personalities [Darwin and Freud], Darwin was unusually concerned about personal error and was modest to a fault. He also erected a new scientific theory that has successfully stood the test of time. Freud, in contrast, was tremendously ambitious and highly self-confident – a self-styled "conquistador" of science. Yet he developed an approach to human nature that was largely a collection of nineteenth-century psychobiological fantasies masquerading as real science' (297).

Parents may be programmed – whether they know it or not – to adjust their children's psyches, even if painfully, in ways that promise to raise social status. ... We are built to be effective animals, not happy ones. ... Still, the frequent absence of happiness is what keeps us pursuing it, and thus makes us productive (297).

... conscience can be viewed as the administrator of a savings account in which moral reputation is stored (308).

... Freudian thought finds sly unconscious aims in our most innocent acts. ... it sees an animal essence at the core of the unconscious (314).

... Freud misunderstood evolution in basic elementary ways. He put much emphasis, for example, on the Lamarckian idea that traits acquired through experience get passed on biologically (315).

... when boys reach adolescence, they may, especially in a polygynous society (such as our ancestral environment) find themselves competing with their fathers for the same women. ... incest often produces deficient offspring, and it's not in the son's genetic interest to have his mother assume the risks and burdens of pregnancy to create a reproductively worthless sibling (315).

... the son and father are fighting over the mother's valuable time and attention. If the struggle has sexual overtones at all, they are only that the father's genetic interest may call for impregnating the mother, while the son's would call for delaying the arrival of a sibling (316).

The young, plastic mind is shaped by cues that, in the environment of our evolution, suggests what behavioral strategies were most likely to get genes spread (316).

... some of psychic fine-tuning may be for the genetic benefit not of the tune (the child), but of the tuner (the parent) (317).

... pain is part of natural selection's design (317).

Sharp intellectual self-scrutiny ... might grow out of early social frustration (318).

It is common to casually trace insecurity to childhood: rejection on the grade-school playground; romantic failures in adolescence; an unstable home; death of a family member; moving around too often to make lasting friends, or whatever (318).

It is by the same process [psychologists starting to think precisely about what kinds of developmental theories make Darwinian sense and then designing research to test those theories] that we'll start understanding how various other tendencies get forged: sexual reserve or promiscuity, social tolerance and intolerance, high or low self-esteem, cruelty and gentleness, and so on (319).

If psychologists want to understand the processes that shape the human mind, they must understand the process that shaped the human species (319).

What is best in Freud is his sensing the paradox of being a highly social animal: being at our core libidinous, rapacious, and generally selfish, yet having to live civilly with other human beings – having to reach our animal goals via a tortuous path of cooperation, compromise, and restraint. From this insight flows Freud's most basic idea about the mind: it is a place of conflict between animal impulses and social reality.

One biological view of this sort of conflict has come from Paul D. MacLean. He calls the human brain a "triune" brain whose three basic parts recapitulate our evolution: a reptilian core (the seat of our basic drives), surrounded by a "paleomammalian" brain (which endowed our ancestors with, among other things, affection for offspring), surrounded in turn by a "neomammalian" brain. The voluminous neomammalian brain brought abstract reasoning, language, and, perhaps, (selective) affection for people outside the family. It is, MacLean writes, "the handmaiden for rationalizing, justifying and giving verbal expression to the protoreptilian and limbic [paleomammalian] parts of our brains." Like many neat models, this one may be misleadingly simple; but it nicely captures a (perhaps the) critical feature of our evolutionary trajectory: from solitary to social, with the pursuit of food and sex becoming increasingly subtle and elaborate endeavors.

Freud's 'id' – the beast in the basement – presumably grows out of the reptilian brain. ... The 'superego' – loosely speaking, the conscience – is a more recent invention. ... The 'ego' is the part in the middle. Its ultimate, if unconscious, goals are those of the id, yet it pursues them with long-term calculation, mindful of the superego's cautions and reprimands (321).

... repression is just one of the many 'ego defenses' (322).

... the mind [is] a place of turbulence, much of it subterranean. And in a general way, ... the source of the turbulence: an animal of ultimately complete ruthlessness is born into a complex and inescapable social web (323).

HOMO HOMINI LUPUS – MAN IS A WOLF TO MAN

... repression and the unconscious mind are the product of millions of years of evolution and were well developed long before civilization further complicated mental life (323).

The theories of kin selection, parent-offspring conflict, parental investment, reciprocal altruism, and status hierarchy tell us what kinds of self-deception are and aren't likely to be favored by evolution (324).

We tend to think of ourselves as making judgments and then behaving accordingly: 'we' decide who is nice and then befriend them; 'we' decide who is upstanding and applaud them; 'we' figure out who is wrong and oppose them; 'we' figure out what is true and abide by it. ... But if evolutionary psychology is on track, the whole picture needs to be turned inside out. We believe the things ... that lead to behaviors that get our genes into the next generation. ... It is the behavioral goals – status, sex, effective coalition, parental investment, and so on – that remain steadfast while our view of reality adjusts to accommodate this constancy. What is in our genes' interests is what seems 'right' – morally right, objectively right, whatever sort of rightness is in order. ... the new Darwinians stress the difficulty of seeing truth, period. Indeed, Darwinism comes close to calling into question the very meaning of the word truth (324).

... in human affairs, all is artifice, a self-serving manipulation of image. ... this belief helps nourish a central strand of the postmodern condition: a powerful inability to take things seriously (325).

Thus the difficult question of whether the human animal can be a moral animal – the question that modern cynicism tends to greet with despair – may seem increasingly quaint. The question may be whether, after the new Darwinism takes root, the work *moral* can be anything but a joke (326).

Sympathy, empathy, compassion, conscience, guilt, remorse, even the very sense of justice, the sense that doers of good deserve reward and doers of bad deserve punishment – all these can now be viewed as vestiges of organic history on a particular planet (328).

It isn't only moral *feelings* that now fall under suspicion, but all of moral discourse. ... moral code is a political compromise (328).

... various people had long had the feeling that gain through pain was nature's way (330).

The idea of utilitarianism is simple: the fundamental guidelines for moral discourse are pleasure and pain. Things can be called good to the extent that they raise the amount of happiness in the world and bad to the extent that they raise the amount of suffering. The purpose of a moral code is to maximize the world's total happiness (332).

One virtue of Mill's utilitarianism in a post-Darwinian world is its minimalism. If it is harder now to find a grounding for assertions about basic moral values, then, presumably, the fewer and the simpler the foundational assertions, the better. Utilitarianism's foundation consists largely of the simple assertion that happiness, all other things being equal, is better than unhappiness (332).

... everyone ... agrees that the question of how their [people's] acts affect the happiness of others is an important of moral evaluation (333).

... once freedom is denied even to a small group of people, no one will feel secure (333).

Why not let everyone worry about their own happiness – which seems, anyway, to be the one thing they can be more or less counted on to do (335)?

... widely practiced utilitarianism. Promises to make everyone better off; and so far as we can tell, that's what everyone wants (335).

You should, in short, go through life considering the welfare of everyone else exactly as important as your own welfare (336).

... everyone's happiness counts equally; you are not privileged, and you shouldn't act as if you are. ... [Mill] is asserting not only that happiness is good, but that no one person's happiness is special (336).

Self-absorption is the hallmark of life on this planet (336).

Your happiness is designed to interfere with the happiness of others; the very reason it exists is to inspire selfish preoccupation with it (337).

... the very idea of moral absolutes has suffered a certain amount of damage at Darwin's hands (338).

Even though the retributive impulse wasn't designed for the good of the group, ... it can, and often does, raise the sum of social welfare (339).

... love, like hate, exists only by virtue of its past contribution to genetic proliferation (340).

If the base origins of retribution are grounds for doubting it, why shouldn't love be doubted too?

The answer is that love should be doubted, but that it survives the doubt in pretty good shape. At least, it survives in good shape by the lights of a utilitarian, or indeed of anyone who considers happiness a moral good. Love, after all, makes us want to further the happiness of others; it makes us give up a little so that other (the loved ones) may have a lot. More than that: love actually makes this sacrifice feel good, thus magnifying total happiness all the more. Of course, sometimes love is hurtful. Witness the woman in Texas who plotted the murder of the mother of her daughter's rival for a cheerleading slot. Her maternal love, though undeniably intense, doesn't go down on the positive side of the moral ledger. And so too whenever love ends up doing more harm than good. But either way – whether the net result is good or bad – the moral evaluation of love is the same as the evaluation of retribution: we must first clear away the window dressing, the intuitive feeling of 'rightness,' and then soberly assess the effect on overall happiness (341).

And surely hatred, more often than love, does harm while feeling right. That is why I contend that the new paradigm will tend to lead the thinking person toward love and away from hate. It helps us judge each feeling on its merits; and on grounds of merit, love usually wins (341).

We are potentially moral animals – which is more than any other animal can say – but we aren't naturally moral animals (344).

Once you see the forces that govern behavior, it's harder to blame the behavior (348).

... everyone is a victim not of genes, but of genes and environment together: knobs and tuning (348).

... all behavior must therefore boil down to heredity and environment (349).

... all influences on human behavior, environmental as well as hereditary, are mediated biologically (349).

... our conscious mind isn't privy to all the motivating forces. 'The general delusion about free will obvious.- because man has power of action, & he can seldom analyze his motives (originally mostly INSTINCTIVE, & therefore now great effort of reason to discover them: this is important explanation) he thinks they have none' (350).

... some of our motives are hidden from us not incidentally but by design, so that we can credibly act as if they aren't what they are; that, more generally, the 'delusion about free will' may be an adaptation. ... free will is an illusion, brought to us by evolution. All the things we are commonly blamed or praised for ... are the result not of choices made by some immaterial 'I' but of physical necessity (350).

... determinism, by eroding blame, threatens society's moral fiber. ... 'This view will not do harm, because no one can be really fully convinced of its truth, except man who has thought very much, & he will know his happiness lays in doing good & being perfect, & therefore will not be tempted, from knowing every thing he does is independent of himself to do harm.' In other words: So long as this knowledge is confined to a few English gentlemen, and doesn't infect the masses, everything will be all right (350).

... we would start pinpointing specific connections between the organ and the thoughts (351).

Scientists link crime to low serotonin. ... A natural chemical called oxytocin is found to underlie love. And an unnatural chemical, the drug Ecstasy, induces a deep benign state of mind; now anyone can be Gandhi for a day. ... we are all machines, pushed and pulled by forces that we can't discern but that science can (351).

We will see not only that, for example, low serotonin encourages crime, but why: it seems to reflect a person's perception of foreclosed routes to material success; natural selection may 'want' that person to take alternate routes. Serotonin and Darwinism together could thus bring sharp testament to otherwise vague complaints about how criminals are 'victims of society.' A young inner-city thug is pursuing status by the path of least resistance, no less than you; and he is compelled by forces just as strong and subtle as the ones that have made you what you are. You may not reflect on this when he kicks your dog or snatches your purse, but afterwards, on reflection, you may. And you may then see that you would have been him had you been born in his circumstances (351).

Every time behavior is found to rest on chemistry, someone tries to remove it from the realm of volition.

That 'someone' is typically a defense lawyer. The most famous example is the 'Twinkie defense.' A lawyer convinced a California jury that a junk-food diet had left his client with a 'diminished capacity' to think clearly, and that full 'premeditation' of his crime – murder – was thus impossible. Other examples abound. In both British and American courts, women have used premenstrual syndrome to partly insulate themselves from criminal responsibility. As Martin Daly and Margo Wilson rhetorically asked in their book *Homicide*, can a 'high-testosterone' defense of male murderers be far behind (352)?

We should punish people only so long as that will raise overall happiness (354).

... punishment has several explicit functions. ... keeping the criminal off the streets, discouraging him from crime after his release, discouraging others who witness his fate, rehabilitating him (354).

... as the biological underpinnings of behavior come into view, we must get used to the idea of holding robots responsible for their malfunctions – so long, at least, as this accountability will do some good (355).

It's accurate, on the one hand, to say that any given divorce was inevitable, driven by a long chain of genetic and environmental forces, all mediated biochemically. Still, to stress this inevitability is to affect public discourse, and thus to affect future environmental forces and future neurochemistry, rendering inevitable future divorces that otherwise wouldn't have been. ... To tell people they're not to blame for past mistakes is to make future mistakes more likely (357).

... whether such pragmatism can outweigh real truth – whether a self-fulfilling 'belief' in free will can survive the ever-more-manifest dubiousness of free will as a metaphysical doctrine – is another question altogether (358).

Morality makes us mindful of the welfare of people other than family and friends, raising society's overall welfare (359).

... terms like morality and values should be taken seriously ... because of what a strong moral code is uniquely able to offer: the more elusive benefits on non-zero-sumness, without lots of police (359).

We shouldn't punish people for ceding their long-term welfare to the animal within, Mill wrote; still, they can only expect that, since they are hazardous models for emulation, we may choose not to associate with them, and indeed may warn our friends against doing so (360).

... [it is] an exaggeration to say that we are innately evil, ... the ingredients of morality, from empathy to guilt, have a deep basis in human nature. At the same time, these ingredients don't spontaneously coalesce into a mind that is truly benevolent; they were not designed for the greater good (361).

... a strong moral code may be needed if people are to respect the greater good (362).

... the new paradigm stresses the mental plasticity that liberals have long stressed, it also suggests – as does casual observation – that this plasticity is not infinite, and certainly not eternal; many mechanisms of mental development seem to have their essential effects during the first two or three decades of life (363).

... [Darwin] was troubled by the Old Testament's 'manifestly false history of the world' and its depiction of God as 'a revengeful tyrant' (364).

... [According to Samuel Smiles] a man, by exercising his 'powers of action and self-denial' could stay 'armed against the temptation of low indulgences' (365).

... while ideas must by definition have a kind of harmony with the brains they settle into, that doesn't mean they're good for those brains in the long run (366).

... even if an idea does spread by serving people's long-term interests, the interest may be those of its sellers, not its buyers (366).

... the dynamics by which habits are acquired: slowly but surely (367).

Donald Symons has observed, 'Jesus said, "Whosoever looketh on a woman to lust after her hath committed adultery with her already in his heart" because he understood that the function of the mind is to cause behavior' (367).

One habit that natural selection never 'meant' to encourage was drug addiction itself. This miracle of technology is an unanticipated biochemical intervention, a subversion of the reward system. We were meant to get our thrills the old-fashioned way, from a hard day's work: eating, copulating, undermining rivals, and so on (368).

... the ideal man ... [is] a man of discipline, who acts without worrying about the fruits of his action, a man who is unmoved by acclaim and by criticism (369).

If you accept the inherent misery of life, and follow the teachings of the Buddha, then you can, oddly enough, find happiness (369).

The idea that just one more dollar, one more dalliance, one more rung on the ladder will leave us feeling sated reflects a misunderstanding about human nature – a misunderstanding, moreover, that is built into human nature; we are designed to feel that the next great goal will bring bliss, and the bliss is designed to evaporate shortly after we get there. Natural selection has a malicious sense of humor; it leads us along with a series of promises and then keeps saying 'Just kidding' (369).

The advice of the sages – that we refuse to play this game [I want more, more] – is nothing less than an incitement to mutiny, to rebel against our creator (370).

When we urge respect for our interests, we talk as if we are asking for no more than we would give anyone else in our shoes (372).

Natural selection designed two things for narrow self-interest – cold reason and warm moral impulses – and somehow, when combined, they take on a life of their own (373).

The case has been made that even Jesus didn't really preach universal love, that his injunctions to love your 'enemies,' when appraised carefully, are seen to apply only to Jewish enemies (373).

... presumably many of the sheep benefited too, since mutual restraint and consideration bring non-zero-sum benefits. In other words, religious leaders, however self-interested, haven't been simply foisting their interest on the masses. They've been finding overlap between their interest and the masses' interest, and the overlap has gotten larger (374).

... the strength of the retributive impulse is testament to time when, if you didn't stand up for your interests, no one else would (374).

... the religions of the ancient urban civilizations – 'independently developed in China, India, Mesopotamia, Egypt, Mexico, and Peru' – that reliably produced the familiar elements of modern

religions: the curbing of 'many aspects of human nature,' including 'selfishness, pride, greed, ... covetousness, ... lust, wrath' (374).

... a saint is someone who understand that everything he does is egotistical (375).

Go above and beyond the call of a smoothly functioning conscience; help those who aren't likely to help you in return, and do so when nobody's watching. This is one way to be a truly moral animal (377).

Another antidote to despair over the ultimate baseness of human motivation is oddly enough, gratitude (377).

... if you ponder the utter ruthlessness of evolutionary logic long enough, you may start to find our morality, such as it is, nearly miraculous (378).

Why do people take vows of poverty and chastity – and even, occasionally, keep them (391)?