

Human violence and morality

A review of a public lecture by Steven Pinker, 'The past, present and future of violence', delivered on the 19th September in association with The World Health Organisation and Cambridge University.

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Humanity has always been fascinated and horrified by the darker side of human nature. Rebellion, retribution, jealousy and murder all happened within the first biblical family. It is thus not surprising that a social scientist writing for a general audience on themes of violence, murder, cannibalism, war and genocide will find eager readers. This is especially so if your message, a result of decades of painstaking research on the nature and frequency of violence, is presented with good humour and optimism.

Steven Pinker excels on all counts. If you are gloomy and sceptical about the claim that humanity has a rosy future, you will be less so after hearing this talk.

So perhaps we are being spoilsports in mentioning a few quibbles. We admit to being astonished that the author of the *The Blank Slate*, who championed the importance of biology in understanding human behaviour, then went on to write *The Better Angels of Our Nature*, which appears to be championing the role of environment – specifically the cultural environment of state level civilisations – in changing human behaviour for the better.

The implication is that in understanding human nature, environment does matter, at least as much as our evolved biology. We are considerably cheered by this. If human minds are not *tabula rasa*, neither are they to be understood as unresponsive to received experience.

One thing that concerned us however was that in his talk, as in his book, Pinker does not refer to the fact that human minds and behaviour are not just the products of cultural ideological content interacting with an evolved brain system. Recent reductions of criminal violence also probably involved physical environmental influences.

This muddies the water for Pinker's proposal that it was all due to the Leviathan state, gentle commerce, an expanding circle of empathy (Singer 2011), and increased literacy. For example, one must look beyond the radical youth movements of the 1960s to find the underlying sources of the peak of criminal violence and homicide that occurred at that time. For one thing, the main environmental agent implicated in a lot of this has already been identified – $\text{Pb}(\text{CH}_2\text{CH}_3)_4$, tetraethyl lead – invented by General Motors in the 1920s as an additive to stop engine noise (Nevin 2000, 2007; Reyes 2007; Mielke & Zahran 2012).

Young children appear to be vulnerable to exposure to lead, and those with higher exposure tend to commit more crimes and more violence as they reach adulthood. They also have some cognitive impairment, and this seems to be at least part of the reason why there was a drop in IQ in many industrialised countries during this same period (Wright et al 2008).

Similar patterns have been found in countries worldwide. Lead exposure is the most parsimonious explanation for the epidemic increases in rates of crime in the middle of the last century, not just in the USA, but globally.

This does not discount other factors, like economic hardship, drug abuse rates and demographic bulges of young adults, but none has the same predictive power. Before getting too attached to the theory that expanding circles of empathy will keep violent crime rates dropping, our inclination is to start by considering the effects – both positive and negative – of environmental factors, not just the thousands of industrial and pharmaceutical chemicals currently in use, but also changes in nutrition and child-rearing practices which also affect human behaviour and cognition.

What about the longer time frame? The data presented in Steven Pinker's talk deals with records going back eight hundred years. And it was strongly implied that the darker side of human nature characterised humanity's evolutionary past. This is explicit in his book. Pre-state societies are presented as far more violent than state societies, which Pinker has come under criticism for by anthropologists.

A version of human nature, innately violent and warlike, unless constrained by the legal framework of the state, is directly stated by Pinker who, in his talk, admits to having 'a jaundiced view of human nature'. Pinker also made it clear

that genetic changes cannot explain the recent decline of violence. He talked about the importance of ‘brain systems’ for both impulsive aggression and for rationality, for cruel as well as compassionate behaviour.

Pinker emphasised the role of the human prefrontal cortex in controlling impulses based on emotion, in long-range planning, promoting rationality and analytical thought. Daniel Kahneman wrote about ‘slow’ thinking in his recent book (2012), and this seems similar to what Pinker describes.

All of the archaeological and ethnographic evidence indicates that these human brain systems did not arise recently. If we have this prefrontal cortex today, we also had it for the last 200,000 years, and indeed it was already enlarged considerably during the transition from *Australopithecus sp.* to *Homo sp.* It continued to enlarge at a rate faster than the rest of the brain, until just over 100,000 years ago. In fact, the high sociability, and cooperative nature, of human cultural systems, entails selection pressure for a quality still poorly defined: emotional intelligence (Austin et al 2007). This is linked, not only to qualities for successful interaction with other people and qualities such as impulse control, but also to some of the ‘dark triad’ traits that have been identified in the research on human psychology: narcissistic, manipulative (subclinical psychopath), and Machiavellian tendencies. So the qualities that can forestall clashes between groups by means of diplomacy; qualities such as rationality, analytical thought, and impulse control, have been under positive selection in throughout at least the last two million years. In particular, the ability to not just consider eventual consequences to hasty actions based on immediate emotion, but also the capacity to put off immediate rewards for a possible longer term payoff, is generally associated with activity in the prefrontal cortex (Paulhaus & Williams 2002; Konrath et al 2014).

Steven Pinker made an extraordinary suggestion during this talk. Noting that most violence appears to be generated by moral outrage, he suggests that we possibly need to become less moral.

Is this true? Moral codes and the emotions invoked by trespass against such codes appear in most cases to be *internal* to cultural groups. They are part of the mechanism of social control in the formal application of justice and scales of punishment that are part and parcel of states, but also in the social controls and institutions that operate in tribal and band societies.

Morals do not, necessarily, have immediate emotional resonance in relations *between* groups, which appear more often to be calculated acts. Internal warfare, of the kind that has been documented in many tribal societies, sometimes evokes morality, in the case of feuds begun with an attack, such as theft of property or an act of murder, which calls for vengeance.

This is rarely the case in wars between states, although often an emotional trigger will occur, a real attack or a 'false flag' attack, which increases emotion, and leads to popular support for a war.

What is the main thing that humans feel moral outrage sufficient to band together over, and take action to redress? Is it jealousy over a possible rival for a partner's affections? Is it revenge for some act of betrayal? Is it the desire to punish those who hurt the innocent or the defenceless?

We think the last option wins. Jealousy might get romantic rivals into a fist fight, but hardly into a lynch mob. Nothing, however, stirs up angry retribution like the rape or murder of a child or some other defenceless person. In other words, most of our emotionally motivated violence is, as Pinker says, moral in motivation.

Morality, and the emotional brain system it activates, is far more likely to have been under positive selection pressure during human evolution because it led to social controls over worse behaviour – behaviour that betrayed the accepted moral standards. Meanness, selfishness, bullying, greed, stealing and physical violence of any kind, up to and including murder, trigger protective behaviour both in individuals and in groups, and lead to punishment, ranging from mockery that damages reputation all the way up to and including execution.

This is the way social controls work in human societies, from the most technologically simple to the most complex; from foraging economies to modern industrial economies. Details might vary, but the content of behaviour leading to outrage is consistent.

Morality, and emotional reactions of outrage against greed, cruelty, injustice, deceit, treachery, betrayal, brutality and murder: are these *really* things we can afford less of?

We think not, and we doubt that Steven Pinker feels any different. After all it is outrage that fuels the courage to rebel against tyranny, to demonstrate against death penalties, to work to abolish slavery and racist laws. So can we really take seriously any description of human nature which holds it balanced on a knife's edge between nasty violent tendencies and gormless romanticised pacifism?

We reject that. We think there is nothing inherently nasty about moral outrage, nor anything gutless about opting for negotiated peace between different groups. Indeed, both are literally the hallmarks of decency. The fact that they are carried off more successfully by self-controlled people than by irrational buffoons is one of the truisms we need not dwell on.

This brings us to the final point. How is our capacity for violence compatible with selection for rationality? Richard Wrangham and Dale Peterson (1996)

suggest that there had to be some role for coalitional male violence in human evolution. They developed a model of ‘demonic’ male gangs, which are pictured fighting rival gangs from other groups, with a view to taking over territory and access to females.

But what if it was not always like that? What if our morality and our willingness to punish transgressions evolved to enforce egalitarian norms and sharing within a community? What if it started evolving early in the history of our speciation because it was the means whereby small bipedal apes could scare off much larger predators that threatened the youngsters and pregnant females clustered near the fires of their base camp?

What if it is an emotional mechanism that brought together adults in defence of children, motivated men to track down and punish the selfish and the cruel, the treacherous and the murderous? Christopher Boehm (2012) might well be right in suggesting that morality was the mechanism that turned hierarchies based on aggression into cooperative ventures set in motion by the courage to fight on the side of the underdog, to defend the young and the weak, and to enforce a just and equitable distribution of food and shelter.

But there is one huge problem. How is this view of the human compatible with our capacity for organised war and genocide? How can we reconcile a creature burning with moral courage, a creature that values generosity and compassion, rationality and justice – how can we square this with our capacity for assassination, terrorism, wars, slavery, cannibalism and torture?

How can we explain these horrific visions of the dark side of human nature, for which there is mountains of evidence? There is a long tradition in philosophy to see this as the savage side of human nature, something that was tamed and gentled by civilisation. In this tradition, tribal and band societies outside of early states are presented as lesser beings, violent and brutish as wild predators.

Richard Wrangham (2004) writes:

Selection has favored a human tendency to identify enemies, draw moral divides, and exploit weaknesses pitilessly across boundaries. As a result, our species remains specially predisposed to certain types of violent emotion. That selection operated in the context of a hunter-gatherer world that has all but disappeared. But if its legacy is that we are biologically prepared by natural selection to be killers, an understanding of the neural basis of intergroup violence should be a research priority. (35)

We are in a position to judge the accuracy of this assertion regarding the hunter-gatherer context through our involvement with extant hunter-gatherers. In our view, it misconstrues the data we have about foragers living among other foragers. Both of us have had fieldwork experience of how hunter-gatherers

suppress – or fail to suppress – violence, and this does not fall along the lines suggested by Wrangham.

In the ethnographic data generally, what we find is that mobile foragers take advantage of social ties (marriage and friendship) extending beyond local demes, for both short and long term fitness benefits, even if the other demes do not have a forager economy. Foragers are usually multi-lingual, to facilitate communication and relationships formed across group boundaries, according with evidence of forager contact during the spread of farming and pastoral people in Eurasia, as well as throughout Africa.

Helga Vierich, co-author of this review, surveyed four different language groups of foragers in the Kalahari during her fieldwork from 1977–1980. Each local language group consisted of between 800 and 2,000 persons. These were scattered in a set of camping sites, with fluid composition.

Each community was associated with its own set of named locations over a range of about 10,000 square miles. She specifically asked about intergroup violence. It was considered foolish, and provoking, for members of different communities not to ask permission if they needed to make use of the resources of another group, and indeed they always did. The establishment of the ties of friendship, gift exchange and intermarriage made hostilities less likely as it set up conditions where conflict over unauthorised incursion was reduced.

During fieldwork in Cameroon during 2011–2012, Cathryn Townsend (co-author) found that outbreaks of intra-group violence among sedentarised Baka hunter-gatherers (now transitioning towards a mixed economy) are limited to occasions where alcohol is consumed in excess. Intergroup violence is strenuously avoided, despite ethnic tensions with non hunter-gatherers, because of the need for cooperative economic relationships with neighbouring groups.

Baka in-group violence is the result of precipitous exposure to money and cheap alcohol, brought about by increased involvement of the state in local affairs. Such alcohol-fuelled occasions see incidences of men brawling and violence against women, which are otherwise uncharacteristic of the community. It is thus crucial to factor in the impact of alcohol, and the history of colonial and structural violence in our reflections about the environmental causes of physical violence in so-called pre-state societies.

Conflict and hostilities are disruptive of the numerous economic, social and genetic short-term benefits of negotiated and nuanced interactions between neighbouring communities we see in the ethnographic present. Occasional long-term benefits of taking refuge with neighbouring groups may have contributed to the survival of human communities who favoured this approach.

What if, in the long run of hundreds of thousands of years, there was positive selection pressure for the kind of rationality that favoured mutually beneficial peace over endless squabbling?

Human evolutionary history is full of droughts, volcanic eruptions and (in Eurasia) ice ages. During a two million year history, human brains expanded, especially the frontal lobes and prefrontal cortex. The latter is associated with self-control and inhibition of impulses like aggression, panic and sexual behaviour. This extreme selection for 'executive' functions clearly did not evolve just to learn culture and symbolic language. It evolved to function in a way that put human emotions under the control of rationality.

In fitness terms, *the longer race did not favour the impulsive and aggressive; it favoured the shrewd and the generous.*

People who were multi-lingual and able to understand subtle differences in local custom were more likely to leave descendants than dimwits who made every encounter with an out-group a hostile one. We don't think Richard Wrangham's take on human propensity for violence always fits the facts.

Wrangham's model does however fit something else that is critical in understanding the origins of coalitional violence. There might well have been occasions, early in human evolution, when some groups did prey on weaker communities to steal females and take over territory.

In the earlier phases of human evolutionary history, there might have been considerable regional variation. Some local groups might have had aggressive hierarchy and intergroup violence, while others were more egalitarian. For the egalitarians to have survived this competitive exclusion, they perhaps would have had to be able to plan rationally a campaign of systematic extermination of such dangerous neighbours (at least, the adult males).

This, combined with cooperation to promote internal egalitarianism through consistent punishment of unfair behaviour – now seen as 'immoral' – could explain why mutations increasing both rational self-control, and a strong emotional rejection of injustice, would have evolved in tandem. At some point all of this came together, along with control of fire, and we begin to see emerging, here and there, in the fossil record, the genus *Homo*.

So evolution did not select for peacefulness and complete rationality; it selected for a species prone to extremes of both compassion and outrage, and capped it with a Machiavellian intelligence and an executive governor that could mete out cold execution as well as it could assess the value of reform. We see this evolutionary legacy every day. A crowd of strangers from hundreds of different local communities can peacefully file into a movie theatre, sit in relative quiet for several hours, and then file peacefully out again. Disinhibited

by alcohol, some of these same people might end the evening by brawling in the pub parking lot.

In every human society on the planet, people can become outraged to the point of coalitional action to punish those who bully, abuse, rape, or behave unjustly.

Morality, and all the emotions attached to it, is a precious legacy of our evolutionary history, older than religion, and older than our species. The fact that we can be rational is not at odds with our ability to be moral: they are yin and yang.

So in the end, we find ourselves applauding Steven Pinker's optimistic spirit, and hope he might accept our offer of dialogue on the question of morality in human nature. Finding our balance between yin and yang, the emotional brain and the seat of reason, in a world where just societies outnumber unequal ones, we humans may yet again find peace more to our advantage than war.

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