

# The Blank Slate

The long-accepted theory that parents can mold their children like clay has distorted choices faced by adults trying to balance their lives, multiplied the anguish of those whose children haven't turned out as hoped, and mangled the science of human behavior

---

By Steven Pinker

---

Photography by Holly Lindem



IF YOU READ THE PUNDITS IN NEWSPAPERS AND magazines, you may have come across some remarkable claims about the malleability of the human psyche. Here are a few from my collection of clippings:

- Little boys quarrel and fight because they are encouraged to do so.
- Children enjoy sweets because their parents use them as rewards for eating vegetables.
- Teenagers get the idea to compete in looks and fashion from spelling bees and academic prizes.
- Men think the goal of sex is an orgasm because of the way they were socialized.

If you find these assertions dubious, your skepticism is certainly justified. In all cultures, little boys quarrel, children like sweets, teens compete for status, and men pursue orgasms, without the slightest need of encouragement or socialization. In each case, the writers made their preposterous claims without a shred of evidence—without even a nod to the possibility that they were saying something common sense might call into question.

Intellectual life today is beset with a great divide. On one side is a militant denial of human nature, a conviction that the mind of a child is a blank slate that is subsequently inscribed by parents and society. For much of the past century, psychology has tried to explain all thought, feeling, and behavior with a few simple mechanisms of learning by association. Social scientists have tried to explain all customs and social arrangements as a product of the surrounding culture. A long list of concepts that would seem natural to the human way of thinking—emotions, kinship, the sexes—are said to have been “invented” or “socially constructed.”

At the same time, there is a growing realization that human nature won't go away. Anyone who has had more than one child, or been in a heterosexual relationship, or noticed that children learn language but house pets don't, has recognized that people are born with certain talents and temperaments. An acknowledgment that we humans are a species with a timeless and universal psychology pervades the writings of great political thinkers, and without it we cannot explain the recurring themes of literature, religion, and myth. Moreover, the modern sciences of mind, brain, genes, and evolution are showing that there is something to the commonsense idea of human nature. Although no scientist denies that learning and culture are crucial to every aspect of human life, these processes don't happen by magic. There must be complex innate mental faculties that enable human beings to create and learn culture.

Sometimes the contradictory attitudes toward human nature divide people into competing camps. The blank slate camp tends to have greater appeal among those in the social

sciences and humanities than it does among biological scientists. And until recently, it was more popular on the political left than it was on the right.

But sometimes both attitudes coexist uneasily inside the mind of a single person. Many academics, for example, publicly deny the existence of intelligence. But privately, academics are *obsessed* with intelligence, discussing it endlessly in admissions, in hiring, and especially in their gossip about one another. And despite their protestations that it is a reactionary concept, they quickly invoke it to oppose executing a murderer with an IQ of 64 or to support laws requiring the removal of lead paint because it may lower a child's IQ by five points. Similarly, those who argue that gender differences are a reversible social construction do not treat them that way in their advice to their daughters, in their dealings with the opposite sex, or in their unguarded gossip, humor, and reflections on their lives.

No good can come from this hypocrisy. The dogma that human nature does not exist, in the face of growing evidence from science and common sense that it does, has led to contempt among many scholars in the humanities for the concepts of evidence and truth. Worse, the doctrine of the blank slate often distorts science itself by making an extreme position—that culture alone determines behavior—seem moderate, and by making the moderate position—that behavior comes from an interaction of biology and culture—seem extreme.

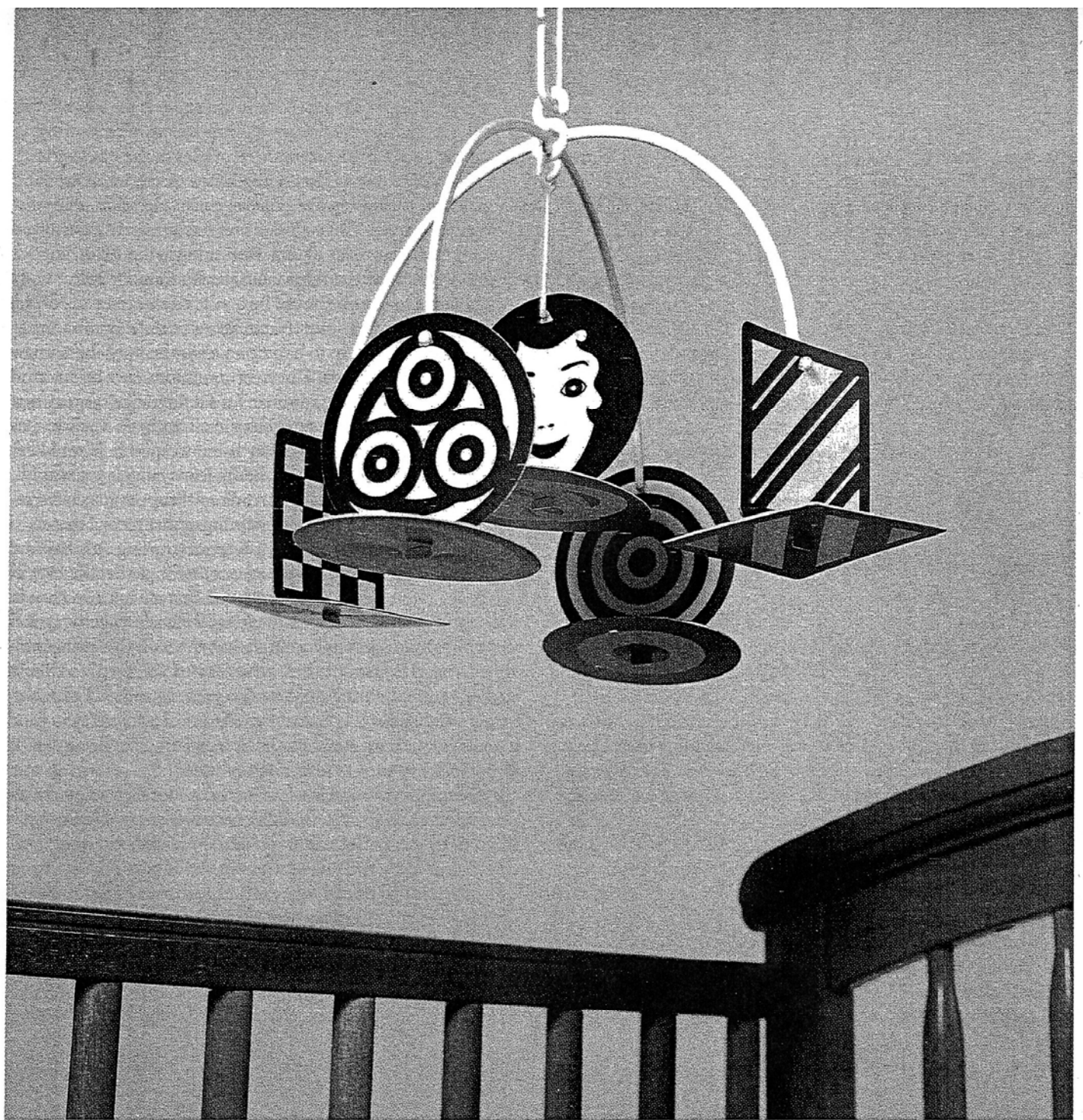
For example, many policies on parenting come from research that finds a correlation between the behavior of parents and of their children. Loving parents have confident children, authoritative parents (neither too permissive nor too punitive) have well-behaved children, parents who talk to their children have children with better language skills, and so on. Thus everyone concludes that parents should be loving, authoritative, and talkative, and if children don't turn out well, it must be the parents' fault.

Those conclusions depend on the belief that children are blank slates. It ignores the fact that parents provide their children with genes, not just an environment. The correlations may be telling us only that the same genes that make adults loving, authoritative, and talkative make their children self-confident, well-behaved, and articulate. Until the studies are redone with adopted children (who get only their environment from their parents), the data are compatible with the possibility that genes make all the difference, that parenting makes all the difference, or anything in between. Yet the extreme position—that parents are everything—is the only one researchers entertain.

The denial of human nature has not just corrupted the world of intellectuals but has harmed ordinary people. The theory that parents can mold their children like clay has inflicted child-rearing regimes on parents that are unnatural and sometimes cruel. It has distorted the choices faced by mothers as they try to balance their lives, and it has multiplied the anguish of parents whose children haven't turned out as hoped. The belief that human tastes are reversible cultural preferences has led social planners to write off people's enjoyment of ornament, natural light, and human scale and forced millions of people to live in drab cement boxes. And the conviction that humanity could be reshaped by massive social engineering projects has led to some of the greatest atrocities in history.

---

From the forthcoming book *The Blank Slate* by Steven Pinker. Copyright © Steven Pinker, 2002. Printed by arrangement with Viking Penguin, a member of Penguin Putnam Inc. To be published in September 2002.



THE PHRASE "BLANK SLATE" IS A LOOSE TRANSLATION OF THE MEDIEVAL Latin term *tabula rasa*—scraped tablet. It is often attributed to the 17th-century English philosopher John Locke, who wrote that the mind is "white paper void of all characters." But it became the official doctrine among thinking people only in the first half of the 20th century, as part of a reaction to the widespread belief in the intellectual or moral inferiority of women, Jews, nonwhite races, and non-Western cultures.

Part of the reaction was a moral repulsion from discrimination, lynchings, forced sterilizations, segregation, and the Holocaust. And part of it came from empirical observations. Waves of immigrants from southern and eastern Europe filled the cities of America and climbed the social ladder. African Americans took advantage of "Negro colleges" and migrated

**Although how parents treat their children can make a lot of difference in how happy they are, placing a stimulating mobile over a child's crib and playing Mozart CDs will not shape a child's intelligence.**

northward, beginning the Harlem Renaissance. The graduates of women's colleges launched the first wave of feminism. To say that women and minority groups were inferior contradicted what people could see with their own eyes.

Academics were swept along by the changing attitudes, but they also helped direct the tide. The prevailing theories of mind were refashioned to make racism and sexism as untenable as possible. The blank slate became sacred scripture. According to the doctrine, any differences we see among races, ethnic groups, sexes, and individuals come not from differences

in their innate constitution but from differences in their experiences. Change the experiences—by reforming parenting, education, the media, and social rewards—and you can change the person. Also, if there is no such thing as human nature, society will not be saddled with such nasty traits as aggression, selfishness, and prejudice. In a reformed environment, people can be prevented from learning these habits.

In psychology, behaviorists like John B. Watson and B. F. Skinner simply banned notions of talent and temperament, together with all the other contents of the mind, such as beliefs, desires, and feelings. This set the stage for Watson's famous boast: "Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in, and I'll guarantee to take any one at

## Hundreds of traits, from romantic love to humorous insults, can be found in every society ever documented

random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief, and yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors."

Watson also wrote an influential child-rearing manual recommending that parents give their children minimum attention and love. If you comfort a crying baby, he wrote, you will reward the baby for crying and thereby increase the frequency of crying behavior.

In anthropology, Franz Boas wrote that differences among human races and ethnic groups come not from their physical constitution but from their *culture*. Though Boas himself did not claim that people were blank slates—he only argued that all ethnic groups are endowed with the same mental abilities—his students, who came to dominate American social science, went further. They insisted not just that *differences* among ethnic groups must be explained in terms of culture (which is reasonable), but that *every aspect* of human existence must be explained in terms of culture (which is not). "Heredity cannot be allowed to have acted any part in history," wrote Alfred Kroeber. "With the exception of the instinctoid reactions in infants to sudden withdrawals of support and to sudden loud noises, the human being is entirely instinctless," wrote Ashley Montagu.

IN THE SECOND HALF OF THE 20TH CENTURY, THE IDEALS OF THE SOCIAL scientists of the first half enjoyed a well-deserved victory. Eugenics, social Darwinism, overt expressions of racism and sexism, and official discrimination against women and minorities were on the wane, or had been eliminated, from the political and intellectual mainstream in Western democracies.

At the same time, the doctrine of the blank slate, which had been blurred with ideals of equality and progress, began to show cracks. As new disciplines such as cognitive science, neuroscience, evolutionary psychology, and behavioral genetics flourished, it became clearer that thinking is a biological process, that the brain

is not exempt from the laws of evolution, that the sexes differ above the neck as well as below it, and that people are not psychological clones. Here are some examples of the discoveries.

Natural selection tends to homogenize a species into a standard design by concentrating the effective genes and winnowing out the ineffective ones. This suggests that the human mind evolved with a universal complex design. Beginning in the 1950s, linguist Noam Chomsky of the Massachusetts Institute of Technology argued that a language should be analyzed not in terms of the list of sentences people utter but in terms of the mental computations that enable them to handle an unlimited number of new sentences in the language. These computations have been found to conform to a universal grammar. And if this universal grammar is embodied in the circuitry that guides babies when they listen to speech, it could explain how children learn language so easily.

Similarly, some anthropologists have returned to an ethnographic record that used to trumpet differences among cultures and have found an astonishingly detailed set of aptitudes and tastes that all cultures have in common. This shared way of thinking, feeling, and living makes all of humanity look like a single tribe, which the anthropologist Donald Brown of the University of California at Santa Barbara has called the universal people. Hundreds of traits, from romantic love to humorous insults, from poetry to food taboos, from exchange of goods to mourning the dead, can be found in every society ever documented.

One example of a stubborn universal is the tangle of emotions surrounding the act of love. In all societies, sex is at least somewhat "dirty." It is conducted in private, pondered obsessively, regulated by custom and taboo, the subject of gossip and teasing, and a trigger for jealous rage. Yet sex is the most concentrated source of physical pleasure granted by the nervous system. Why is it so fraught with conflict? For a brief period in the 1960s and 1970s, people dreamed of an erotopia in which men and women could engage in sex without hang-ups and inhibitions. "If you can't be with the one you love, love the one you're with," sang Stephen Stills. "If you love somebody, set them free," sang Sting.

But Sting also sang, "Every move you make, I'll be watching you." Even in a time when, seemingly, anything goes, most people do not partake in sex as casually as they partake in food or conversation. The reasons are as deep as anything in biology. One of the hazards of sex is a baby, and a baby is not just any seven-pound object but, from an evolutionary point of view, our reason for being. Every time a woman has sex with a man, she is taking a chance at sentencing herself to years of motherhood, and she is forgoing the opportunity to use her finite reproductive output with some other man. The man, for his part, may be either implicitly committing his sweat and toil to the incipient child or deceiving his partner about such intentions.

On rational grounds, the volatility of sex is a puzzle, because in an era with reliable contraception, these archaic entanglements should have no claim on our feelings. We should be loving the one we're with, and sex should inspire no more gossip, music, fiction, raunchy humor, or strong emotions than eating or talking does. The fact that people are tormented by

the Darwinian economics of babies they are no longer having is testimony to the long reach of human nature.

ALTHOUGH THE MINDS OF NORMAL HUMAN BEINGS WORK IN PRETTY much the same way, they are not, of course, identical. Natural selection reduces genetic variability but never eliminates it. As a result, nearly every one of us is genetically unique. And these differences in genes make a difference in mind and behavior, at least quantitatively. The most dramatic demonstrations come from studies of the rare people who *are* genetically identical, identical twins.

Identical twins think and feel in such similar ways that they sometimes suspect they are linked by telepathy. They are similar in verbal and mathematical intelligence, in their degree of life satisfaction, and in personality traits such as introversion, agreeableness, neuroticism, conscientiousness, and openness to experience. They have similar attitudes toward controversial issues such as the death penalty, religion, and modern music. They resemble each other not just in paper-and-pencil tests but in consequential behavior such as gambling, divorcing, committing crimes, getting into accidents, and watching television. And they boast dozens of shared idiosyncrasies such as giggling incessantly, giving interminable answers to simple questions, dipping buttered toast in coffee, and, in the case of Abigail van Buren and the late Ann Landers, writing indistinguishable syndicated advice columns. The crags and valleys of their electroencephalograms (brain waves) are as alike as those of a single person recorded on two occasions, and the wrinkles of their brains and the distribution of gray matter across cortical areas are similar as well.

Identical twins (who share all their genes) are far more similar than fraternal twins (who share just half their genes). This is as true when the twins are separated at birth and raised apart as when they are raised in the same home by the same parents. Moreover, biological siblings, who also share half their genes, are far more similar than adoptive siblings, who share no more genes than strangers. Indeed, adoptive siblings are barely similar at all. These conclusions come from massive studies employing the best instruments known to psychology. Alternative explanations that try to push the effects of the genes to zero have by now been tested and rejected.

People sometimes fear that if the genes affect the mind at all they must determine it in every detail. That is wrong, for two reasons. The first is that most effects of genes are probabilistic. If one identical twin has a trait, there is often no more than an even chance that the other twin will have it, despite having a complete genome in common (and in the case of twins raised together, most of their environment in common as well).

The second reason is that the genes' effects can vary with the environment. Although Woody Allen's fame may depend on genes that enhance a sense of humor, he once pointed out that "we live in a society that puts a big value on jokes. If I had been an Apache Indian, those guys didn't need comedians, so I'd be out of work."

Studies of the brain also show that the mind is not a blank slate. The brain, of course, has a pervasive ability to change the strengths of its connections as the result of learning and experience—if it didn't, we would all be permanent amnesiacs. But that does not mean that the structure of the brain is mostly a

product of experience. The study of the brains of twins has shown that much of the variation in the amount of gray matter in the prefrontal lobes is genetically caused. And these variations are not just random differences in anatomy like fingerprints; they correlate significantly with differences in intelligence.

People born with variations in the typical brain plan can vary in the way their minds work. A study of Einstein's brain showed that he had large, unusually shaped inferior parietal lobules, which participate in spatial reasoning and intuitions about numbers. Gay men are likely to have a relatively small nucleus in the anterior hypothalamus, a nucleus known to have a role in sex differences. Convicted murderers and other violent, antisocial people are likely to have a relatively small and inactive prefrontal cortex, the part of the brain that governs decision making and inhibits impulses. These gross features of the brain are almost certainly not sculpted by information coming in from the senses. That, in turn, implies that differences in intelligence, scientific genius, sexual orientation, and impulsive violence are not entirely learned.

THE DOCTRINE OF THE BLANK SLATE HAD BEEN THOUGHT TO UNDERGIRD the ideals of equal rights and social improvement, so it is no surprise that the discoveries undermining it have often been met with fear and loathing. Scientists challenging the doctrine have been libeled, picketed, shouted down, and subjected to searing invective.

This is not the first time in history that people have tried to ground moral principles in dubious factual assumptions. People used to ground moral values in the doctrine that Earth lay at the center of the universe, and that God created mankind in his own image in a day. In both cases, informed people eventually reconciled their moral values with the facts, not just because they had to give a nod to reality, but also because the supposed connections between the facts and morals—such as the belief that the arrangement of rock and gas in space has something to do with right and wrong—were spurious to begin with.

We are now living, I think, through a similar transition. The blank slate has been widely embraced as a rationale for morality, but it is under assault from science. Yet just as the supposed foundations of morality shifted in the centuries following Galileo and Darwin, our own moral sensibilities will come to terms with the scientific findings, not just because facts are facts but because the moral credentials of the blank slate are just as spurious. Once you think through the issues, the two greatest fears of an innate human endowment can be defused.

One is the fear of inequality. Blank is blank, so if we are all blank slates, the reasoning goes, we must all be equal. But if the slate of a newborn is not blank, different babies could have different things inscribed on their slates. Individuals, sexes, classes, and races might differ innately in their talents and inclinations. The fear is that if people do turn out to be different, it would open the door to discrimination, oppression, or eugenics.

But none of this follows. For one thing, in many cases the empirical basis of the fear may be misplaced. A universal human nature does not imply that *differences* among groups are innate. Confucius could have been right when he wrote, "Men's natures are alike; it is their habits that carry them far apart."

More important, the case against bigotry is not a factual claim that people are biologically indistinguishable. It is a moral stance

that condemns judging an *individual* according to the average traits of certain *groups* to which the individual belongs. Enlightened societies strive to ignore race, sex, and ethnicity in hiring, admissions, and criminal justice because the alternative is morally repugnant. Discriminating against people on the basis of race, sex, or ethnicity would be unfair, penalizing them for traits over which they have no control. It would perpetuate the injustices of the past and could rend society into hostile factions. None of these reasons depends on whether groups of people are or are not genetically indistinguishable.

Far from being conducive to discrimination, a conception of human nature is the reason we oppose it. Regardless of IQ or physical strength or any other trait that might vary among people, all human beings can be assumed to have certain traits in common. No one likes being enslaved. No one likes being humiliated. No one likes being treated unfairly. The revulsion we feel toward discrimination and slavery comes from a conviction that however much people vary on some traits, they do not vary on these.

A second fear of human nature comes from a reluctance to

## Regardless of IQ or physical strength, all human beings can be assumed to have certain traits in common

give up the age-old dream of the perfectibility of man. If we are forever saddled with fatal flaws and deadly sins, according to this fear, social reform would be a waste of time. Why try to make the world a better place if people are rotten to the core and will just foul it up no matter what you do?

But this, too, does not follow. If the mind is a complex system with many faculties, an antisocial desire is just one component among others. Some faculties may endow us with greed or lust or malice, but others may endow us with sympathy, foresight, self-respect, a desire for respect from others, and an ability to learn from experience and history. Social progress can come from pitting some of these faculties against others.

For example, suppose we are endowed with a conscience that treats certain other beings as targets of sympathy and inhibits us from harming or exploiting them. The philosopher Peter Singer of Princeton University has shown that moral improvement has proceeded for millennia because people have expanded the mental dotted line that embraces the entities considered worthy of sympathy. The circle has been poked outward from the family and village to the clan, the tribe, the nation, the race, and most recently to all of humanity. This sweeping change in sensibilities did not require a blank slate. It could have arisen from a moral gadget with a single knob or slider that adjusts the size of the circle embracing the entities whose interests we treat as comparable to our own.

SOME PEOPLE WORRY THAT THESE ARGUMENTS ARE TOO FANCY FOR THE dangerous world we live in. Since data in the social sciences are never perfect, shouldn't we err on the side of caution and stick with the null hypothesis that people are blank slates?

Some people think that even if we were certain that people differed genetically, or harbored ignoble tendencies, we might still want to promulgate the fiction that they didn't.

This argument is based on the fallacy that the blank slate has nothing but good moral implications and a theory that admits a human nature has nothing but bad ones. In fact, the dangers go both ways. Take the most horrifying example of all, the abuse of biology by the Nazis, with its pseudoscientific nonsense about superior and inferior races. Historians agree that bitter memories of the Holocaust were the main reason that human nature became taboo in intellectual life after the Second World War.

But historians have also documented that Nazism was not the only ideologically inspired holocaust of the 20th century. Many atrocities were committed by Marxist regimes in the name of egalitarianism, targeting people whose success was taken as evidence of their avarice. The kulaks ("bourgeois peasants") were exterminated by Lenin and Stalin in the Soviet Union. Teachers, former landlords, and "rich peasants" were humiliated, tortured, and murdered during China's Cultural Revolution. City dwellers and literate professionals were worked to death or executed during the reign of the Khmer Rouge in Cambodia.

And here is a remarkable fact: Although both Nazi and Marxist ideologies led to industrial-scale killing, *their biological and psychological theories were opposites*. Marxists had no use for the concept of race, were averse to the notion

of genetic inheritance, and were hostile to the very idea of a human nature rooted in biology. Marx did not explicitly embrace the blank slate, but he was adamant that human nature has no enduring properties: "All history is nothing but a continuous transformation of human nature," he wrote. Many of his followers did embrace it. "It is on a blank page that the most beautiful poems are written," said Mao. "Only the newborn baby is spotless," ran a Khmer Rouge slogan. This philosophy led to persecution of the successful and of those who produced more crops on their private family plots than on communal farms. And it made these regimes not just dictatorships but totalitarian dictatorships, which tried to control every aspect of life, from art and education to child rearing and sex. After all, if the mind is structureless at birth and shaped by its experience, a society that wants the right kind of minds must control the experience.

None of this is meant to impugn the blank slate as an evil doctrine, any more than a belief in human nature is an evil doctrine. Both are separated by many steps from the evil acts committed under their banners, and they must be evaluated on factual grounds. But the fact that tyranny and genocide can come from an anti-innatist belief system as readily as from an innatist one does upend the common misconception that biological approaches to behavior are uniquely sinister. And the reminder that human nature is the source of our interests and needs as well as our flaws encourages us to examine claims about the mind objectively, without putting a moral thumb on either side of the scale. ☐

Parents often discover that their children are immune to their rewards, punishments, and nagging. Over the long run, a child's personality and intellect are largely determined by genes, peer groups, and chance.