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**Turns out, it's all in your neurons**

**Reviewed by Carl T. Hall, Chronicle Science Writer**

**The Blank Slate:**

**The Modern Denial of Human Nature**

**By Steven Pinker**

**VIKING; 509 PAGES; \$27.95**

Human nature, an odd and often not very funny business, is coming back into intellectual fashion. And, as always, the intellectuals are having some trouble with it.

Steven Pinker, an exceptionally brilliant psychology professor at MIT, essentially gives the chore back to the poets by the end of his willfully provocative exploration of genetics and cognitive neuroscience, "The Blank Slate: The Modern Denial of Human Nature."

It's a deeply fair-minded effort to follow the politically incorrect implications of the life sciences to their logical, seemingly dismal end-- which turns out to be, in Pinker's view, a fresh start for a clearer-thinking species.

This "fresh start" turns on a deceptively simple premise: There is such a thing as "human nature." It stems from the complex interaction between genes and the experiences that influence gene expression. Our minds and behavior, and ultimately our culture, are all shaped by this same interaction.

That seems bland enough. Pinker argues convincingly that it's not bland at all, suggesting that the notion of a universal complex human nature poses a fundamental challenge to "official theory." By that he means blind faith in the ancient concept of "tabula rasa," which, of course, translates loosely from the Latin into the "blank slate" of the title, defined as "the idea that the human mind has no inherent structure and can be inscribed at will by society or ourselves."

It's a popular idea. Pinker is out to do it in.

"The Blank Slate is not some ideal that we should all hope and pray is true. No, it is an anti-life, anti-human theoretical abstraction that denies our common humanity, our inherent interests, and our individual preferences," Pinker concludes.

The notion has proud roots in John Locke and the birth of modern political democracies. But Pinker maintains that the "modern denial of human nature" has become an intellectual straitjacket that defies the scientific evidence.

"The refusal to acknowledge human nature is like the Victorians' embarrassment about sex, only worse: it distorts our science and scholarship, our public discourse, and our day-to-day lives," Pinker writes.

Pinker pushes just about all the sociopolitical hot buttons he can find--abortion, animal rights, genetically modified food, ethnic and gender stereotypes, promiscuity, serial killing -- to see what cherished concepts blow up in the minds of those who would deny the gritty truth about the human animal.

Pinker's point is simple: to whack, and whack again, the notion of "environmental determinism," a concept that seems defenseless when it's stated outright -- genes don't matter? -- but nevertheless pervades the culture.

In fact, as Pinker notes, the idea of a "blank slate" -- some kind of pure but malleable human essence at our core, upon which is written life's experience -- has become "so common that a genre of satire has grown around it." (Woman on a witness stand, in a New Yorker cartoon: "True, my husband beat me because of his childhood; but I murdered him because of mine.")

In enlightened, liberal society, the tendency is to explain away rank behavior by dint of the horrid events that may have shaped someone's state of mind. Pinker makes it clear that this is a bankrupt exercise in wishful thinking. It's a confusion between "explaining" behavior and excusing it.

There are no excuse genes, either. There are only tendencies, probabilities, played out in a shifting cultural landscape itself shaped by the genes.

The essential elements of this story have been aired before, but it all seems surprisingly new when assembled here in one hefty but manageable text. Reading it will warm you and leave you cold, sometimes in the same sentence, as Pinker rubs our fuzzy noses in the uncomfortable facts of biology.

One might have spent a dozen years advising his or her children, for instance, that one should never judge another by appearance, only to discover, right around high school, that the kids are doing exactly that.

And they do so for good reason, Pinker explains. "With some important exceptions," he writes, "stereotypes are in fact not inaccurate when assessed against objective benchmarks such as census figures or the reports of the stereotyped people themselves. People who believe that African Americans are more likely to be on welfare than whites, that Jews have higher average incomes than WASPs, that business students are more conservative than students in the arts, that women are more likely than men to want to lose weight, and that men are more likely than women to swat a fly with their bare hands, are not being irrational or bigoted. Those beliefs are correct." These tendencies -- and they are only that -- arise from the inherited material that constitutes the human genome, which in turn begets the vast proteinaceous crops harvested in the form of an organism.

Soul? Essence? Consciousness? If it's there, it's in the brain. Even the most abstract qualities of the life of the mind are biological phenomena influenced by the very same dynamic interactions that give rise to hair color or sports aptitude. And so, whatever's there, you can be sure it's all just a bunch of neurons, a point that Francis Crick, DNA double-helix co-discoverer and brain researcher, tried to make clear in his 1994 book, "The Astonishing Hypothesis."

Even back then, as Pinker reminds us, the idea that it all somehow happens in the gooey mess of the head didn't seem all that astonishing, certainly not to those who actually looked closely at the neuron and the seeming miracles that a few hundred billion of them, and their trillions of connections, are capable of achieving every minute of the day.

It's indeed amazing that some firings of this and that in the neurochemical beef stew that is the inside of your dog's head can cause it to "remember," as it were, its master, or at least well enough to work up some other firings and wag its tail, to fool the master.

The question really is, how much more astonishing than that is the idea that a person's sense of self, or of right and wrong, or fear of strangers, arises in the same kind of stew, and can be passed along somehow in the genes?

Pretty astonishing, evidently. Pinker still feels compelled to argue the point: "One can say that the information-processing activity of the brain causes the mind, or one can say that it is the mind, but in either case the evidence is overwhelming that every aspect of our mental lives depends entirely on physiological events in the tissues of the brain," Pinker writes.

He's not just tearing down a straw man. The "blank slate," "ghost in the machine" and other shibboleths survive because they are comforting ideas, in that they reinforce some core concepts of human freedom and dignity.

But those ideas make a shaky footing for any modern, post genome conception of the mind. Pinker offers a way out: human nature, he suggests, is a matter of scientific inquiry. And although the outcome of the inquiry depends on the facts, and cannot be predicted, it's one we should be proud to undertake.

Our tender brain tissues may get torn up when they encounter the harder edges of reality. But rather than jumping for cover, Pinker argues, the answer is to think harder.

And so there's a lot more to do and plenty to think about. There is persistent mystery at the center of things. Pinker doesn't plunge too far into that void. Instead, wisely, he hands off to the poets and artists, folks he anoints as the most astute observers of culture and perception, visionaries who somehow anticipated modern brain science.

The neuroscientists may be the ones who can explain the details of vision, how reading a work of literature might track across the cortex and how dancers must exercise their basal ganglia. But no mere scientist can claim to be the "voice of the species," a phrase Pinker adapts from the literary scholar Robert Storey.

That's the role of the artist, novelist and poet. And so, in the end, we come full circle, from the silly beliefs of the scientifically unenlightened to the sometimes silly, but so profound, musings of Emily Dickinson, whose concept of a brain "wider than the Sky" goes a long way toward embracing exactly the world view Pinker is proposing.

It's just human nature, all right, but that's no excuse. Properly defined, it's a tablet richly inscribed and maddeningly dense. Only a few gifted ones among us, Pinker admits, ever come close to expressing "that infuriating, endearing, mysterious, predictable, and eternally fascinating thing we call human nature."

Poets of the world, rejoice: We are no closer than we ever were to figuring ourselves out.

E-mail Carl T. Hall at [chall@sfchronicle.com](mailto:chall@sfchronicle.com). -----

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