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Why do we do the things we do?

Within the next decade, *Behave* will be a book that most educated people have read (or will feel obligated to give the impression they have read), joining likes of *The Prince*, *A Brief History of Time*, *The Second Sex*, and *The Western Canon*. In *Behave*, Robert Sapolsky is considering Big Questions, all of which gesture towards the biggest one, which is what it means to be human and to live in this world. He does so, however, in such an engaging and disarming way that the reader is grateful rather than resentful for the book's 700-page length.

Sapolsky is a neuroscientist (or, more specifically, a neuroendocrinologist) and a primatologist who is a professor of biology, neurology, and neurosurgery at Stanford. A MacArthur Foundation "genius award" recipient, he is known as a pioneer in neuroscience and also as a popularizer (in the best sense) of that field. Reading *Behave* is like taking a college course with a favorite professor who is excited by his subject and by teaching it, whose generous and entertaining spirit makes worthwhile the hard work of learning something new (and it is hard work).

Of particular interest to judges and the legal profession generally is his

chapter "Biology, The Criminal Justice System, and (Oh, Why Not?) Free Will." In it, Sapolsky recounts that he proposed a symposium on whether the criminal justice system should "be abolished." The resulting interdisciplinary meeting was fun, stimulating, and, he writes, "frustrating to me, because I kind meant the title of the proposal I had written. The current criminal justice system needs to be abolished and replaced with something that, while having some broad features in common with the current system, would have utterly different underpinnings."

But before we dive into this treat, the reader has to get through those underpinnings. I understand his central aim in this exercise is to demolish the traditional bifurcation between thought and action, which he argues is unscientific, misleading, and useless if not dangerous. He divides this analysis into the neurological and endocrinological processes that occur "one second before" a thought or action, "seconds to minutes before" a thought or action, "days to months before," and eventually "centu-

ries to millennia before." He apologizes for all this groundwork with occasional charming asides, but he is right to make the reader go through the lengthy process of understanding the biology of fear, reward, disgust, cognitive inhibition, and other structures in the brain and larger endocrine system upon which humans necessarily rely to make our way through the world. Without this painstakingly presented background, Sapolsky's further conclusions on behavior would be interesting but not persuasive.

The length of the exposition is redeemed by a writing style that keeps moving, is frequently funny and often self-deprecating (as in his parenthetical, after referring to a colleague's studies in "haptics," that he "had to look that up"), and proffers dozens upon dozens of engaging and ingenious experiments. Among those that stand out for me were the "brain on metaphors" — subjects sitting on hard chairs evaluated interviewees as being "rigid" and "inflexible," subjects given hot tea or coffee evaluated interviewees as being "warm" — and the professionally depressing study show- ▶

BEHAVE: The Biology of Humans at Our Best and Worst

BY ROBERT M. SAPOLSKY PENGUIN PRESS 2017

REVIEW BY JAMES GRIFFITH

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ing that judges made harsher decisions the longer it had been since they had last eaten. The importance of this level of detail, for me at least, is that it makes Sapolsky's eventual conclusions persuasive and perhaps to some unavoidable, as opposed to merely providing another perspective, which is the way judges often consider complicated science.

As indicated, Sapolsky's wit and conversational tone make all this not only bearable but enjoyable. His warnings that "the next part is hard," his helpful recapitulations, his occasional jokes (worthy of a stand-up comic), and references to recent events and popular culture supplement but do not distract from his clarity and purpose. He avoids the off-putting mistake many popularizers of scientific material make of being too hip and breezy, which invariably comes across as affected ("hey, I'm a regular guy just like you") and ultimately unserious.

Importantly, Sapolsky doesn't shy away from acknowledging that his subject is complicated. Understanding human behavior requires a recognition that we are the products of (the clichéd) nature and nurture in ways remarkably more complex than we imagine. Along the way, he convincingly undermines behaviorism, genetic determinism, and several other isms that, while not simple, are too reductionist for modern neuroscience.

Returning to the criminal justice system, Sapolsky points out that the foundation of most criminal law is a simplistic

and scientifically uninformed notion of free will. He discusses the uneasy tension in the relationship between mental illness and punishment, and the unsatisfying jurisprudence concerning responsibility of juveniles, the cognitively impaired, and delusional people. His most striking analogy is to a medieval technique for identifying witches: Upon being told the story of the Crucifixion, a woman's failure to weep was conclusive evidence she was a witch (which of course had serious consequences). In 1563, a Dutch physician wrote a book noting that elderly women often had atrophy of their lachrymal glands which rendered them unable to cry, moving the physician to counsel not burning some older women because of bad tear ducts. Sapolsky suggests this is a bit like what we are doing now in criminal courts. He also points out over and over that despite his bleeding-heart liberalism, he is unashamed to endorse the goal of keeping dangerous people away from the rest of us. (For a condensed version of his thoughts on this, find Alan Alda's interview of Sapolsky on YouTube, in which he says, among other things, that we don't think of a car with bad breaks as evil or having made bad choices, we just want it off the road until it's fixed, if possible.)

I was drawn to Sapolsky's approach, which, as I understand it, would focus on identifying causes of antisocial behavior and treating them. Much of my caseload involves juvenile justice, and that is the strategy New York uses with juveniles (even if we only belatedly recognized 16- and 17-year-olds as such). We do not approach them as bad or evil and deserving of punishment, but as people whom we can help — while protecting the community — with different kinds of treatment to help them overcome their bad breaks of brain physiology, genetics, and early childhood development. My caseload also pushed me to learn the science of addiction, about which, despite its pervasiveness, I initially knew nothing — much to the detriment of the

parties before me. Sapolsky deals with the dopaminergic brain systems crucial to understanding addiction concisely and authoritatively.

No review is complete without some criticism. Sapolsky occasionally drops a line, such as a quip about the Supreme Court "giving" the 2000 election to George W. Bush, which sets teeth on edge and invites an "it's-actually-a-lot-more-complicated-than-that" response from a judge. However, even those false notes are useful, in that I can imagine Sapolsky's jaws tightening up upon hearing a judge say to an addict, "Just say 'no'." Each represents a lack of nuance and basic knowledge outside of one's area of expertise. I also am disappointed that Sapolsky did not give more attention to the legal implications of brain science beyond criminal justice. *Behave* only indirectly comments on the jurisprudence of neglect of children, commercial negotiation and dispute resolution, and civil commitment of the "insane," among other important issues. Perhaps he leaves those for us. Finally, on the broader issue of the interface between law and science, he provocatively mentions that "we neuroscientists and the legal people use 'possible,' 'probable,' and 'certainty' differently." He said nothing more on that, and I wish that he had.

I commend *Behave* to every judge, as both a professional education and a pleasure. Despite its ominous length, it is not a forced march; it's more of a strenuous hike on an undiscovered path with a fascinating companion. As with that kind of hike, you'll be a little sorry when it's over.



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