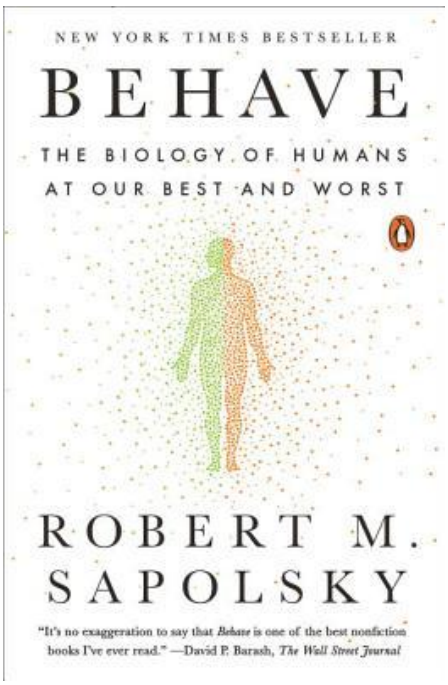

Behave: The Biology of Humans at Our Best and Worst

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The *New York Times* bestseller

"It's no exaggeration to say that *Behave* is one of the best nonfiction books I've ever read." --David P. Barash, *The Wall Street Journal*

"It has my vote for science book of the year." **--**Parul Sehgal, *The New York Times*

"Hands-down one of the best books I've read in years. I loved it." **--Dina Temple-Raston, *The Washington Post***

Named a Best Book of the Year by The Washington Post and *The Wall Street Journal*

From the celebrated neurobiologist and primatologist, a landmark, genre-defining examination of human behavior, both good and bad, and an answer to the question: ***Why do we do the things we do?***

Sapolsky's storytelling concept is delightful but it also has a powerful intrinsic logic: he starts by looking at the factors that bear on a person's reaction in the precise moment a behavior occurs, and then hops back in time from there, in stages, ultimately ending up at the deep history of our species and its evolutionary legacy.

And so the first category of explanation is the neurobiological one. A behavior occurs--whether an example of humans at our best, worst, or somewhere in between. What went on in a person's brain a second before the behavior happened? Then Sapolsky pulls out to a slightly larger field of vision, a little earlier in time: What sight, sound, or smell caused the nervous system to produce that behavior? And then, what hormones acted hours to days earlier to change how responsive that individual is to the stimuli that triggered the nervous system? By now he has increased our field of vision so that we are thinking about neurobiology and the sensory world of our environment and endocrinology in trying to explain what happened.

Sapolsky keeps going: How was that behavior influenced by structural changes in the nervous system over the preceding months, by that person's adolescence, childhood, fetal life, and then back to his or her genetic makeup? Finally, he expands the view to encompass factors larger than one individual. How did culture shape that individual's group, what ecological factors millennia old formed that culture? And on and on, back to evolutionary factors millions of years old.

The result is one of the most dazzling tours d'horizon of the science of human behavior ever attempted, a majestic synthesis that harvests cutting-edge research across a range of disciplines to provide a subtle and nuanced perspective on why we ultimately do the things we do...for good and for ill. Sapolsky builds on this understanding to wrestle with some of our deepest and thorniest questions relating to tribalism and xenophobia, hierarchy and competition, morality and free will, and war and peace. Wise, humane, often very funny, Behave is a towering achievement, powerfully humanizing, and downright heroic in its own right.

Behave: The Biology of Humans at Our Best and Worst Details

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From Reader Review Behave: The Biology of Humans at Our Best and Worst for online ebook

Bharath says

In the shortest possible summary, let me start by saying that Behave is a stupendous book, and among the best science books I have read. While it is a book of science, and very detailed in parts at that – it is still highly recommended reading for everybody. After all, who is not curious about why we behave the way we do. This book is certainly a tribute to the remarkable progress science has made in understanding our brain and our behaviours. However, be warned that it is a big book, which has a lot of detail and you might be in for a slower read than many other books.

Robert Sapolsky invokes interest and curiosity right from the start - talking about how we are very conflicted in our beliefs – especially we condemn many acts of violence, but do support others. I have to admit I have many conflicts I am unable to resolve myself – such as the fact that I find very impressive the progress that science has made as detailed in this book, and yet I am very pained that much of this has come with cruel experiments on animals.

The organisation of the book is very logical – it traces an action from when it happens, to moments before, months/years before and potentially several years earlier in cases. Experiments show that there are several markers in our brain which light up, before we take any action. So the big question (which the book Homo Deus by Yuval Noah Harari explores as well) – do we really have free will? Do we have the ability to stop when the natural instinct kicks in? As it turns out, much of how we act is a result of a multitude of factors – events which have happened at any time previously - sometimes well in the past, our genes, environment, and many others, some of it still to be determined. This has extremely important implications for law enforcement as well.

There are excellent examples: eg: when you compliment a child on good work, telling them they are clever vs telling them they are hardworking invokes very different responses. While we appreciate empathy – the ability to step into and feel the others experience, empathy stalls action. Compassion is more effective. The discussion around how the brain responds to meditation are alluded to – though I think it deserved far more coverage. There are also other interesting lessons around how judges and juries decide punishment based on a number of factors which logic says should have no bearing.

The issues of “Us” vs “Them” is discussed in detail, and deservedly so. Our brain instantly associates some faces as “Us” and some others as “Them”. We develop this categorisation over time and this association is very strong in adulthood and near impossible to get over. While this is true even in animals, our behaviours are more complex. The “Us” categorisation could be based on country, language, religion, colour, and others. The natural tendency is to think in terms of aggregate labels rather than as individuals, accounting for much of our biases.

This is a big book, and one for which I should have taken notes. But I did not. Since there is a wealth of important information, I expect I will have to revisit the book again – when I feel I am forgetting its contents.

The Appendix has information on Brain / Genes / Hormones which is worth taking a look at. This is an exceptional book, though certainly not light reading. Since it packs great amount of detail, it is a more difficult read than for instance “Sapiens” by Yuval Noah Harari. However, I very strongly recommend this – for reading at the earliest possible

Michael says

This is an outstanding and monumental synthesis on the causes of behavior by a talented researcher and teacher. He excels in making the science of the brain and behavior accessible to a wide audience without oversimplification. The goal is to provide a handle on how to account for the origins of the most admirable and most despicable of human actions, i.e. the roots of empathy and altruism on the one hand and violence, war, and genocide on the other.

Sapolsky's accomplishment yields an expansion of what we mean by the biological basis of behavior, enough knowledge of brain systems to make you dangerous, and a better appreciation of the interplay between cognitive and emotional contributions to our actions. You will come away with a better appreciation of human evolution, an informed perspective on whether our hunter-gatherer ancestors were more aligned with a Hobbesian dog-eat-dog character or of an Edenic Rousseau types. In the end, he mounts an assault on the need for a concept of free will, arguing that it is equivalent to putting a homunculus in the driver's seat above the material universe. His mantra is for a multifactorial and hierarchical array of causes behind behavior. In the end it will be easy to conclude that the extreme complexity of the brain limits the gains in explanatory power from any simplistic reductionist plan. I this vein, I liked the quote from Hilary Bok:

The claim that a person chose her action does not conflict with the claim that some neural processes or state caused it; it simply redescribes it.

Sapolsky's organizing principle of serving up mountains of research progress according to different timescales that precede particular behaviors is a very helpful approach. Looking at events a second before a behavior taps into automated and unconscious processes in the brain; seconds before brings in higher neural systems associated with conscious actions; hours to days before is the realm of hormonal influences; days to months before the impact of things like chronic stress and adaptations of neuroplasticity; years and decades before includes the shaping of culture and individual development; and centuries to millennia before the processes of evolution. You'll be busting at the seams by the time you get through this program. He is so skilled at introducing humor and commonsense translations to the concepts presented you will be amazed in your ability to follow his presentation and never fall asleep. If some of the presentation doesn't quite sink in, he excels in summary take-home messages at the end of each chapter and provision of frequent links among the chapters.

A big plus for me was his overall humility and restraint in claiming more than is reasonably warranted from the data. He is scathing for the excessive claims such as of genetic causes of bad behavior (e.g. calling a variant of a monoamine oxidase gene that provides limited predictability for violent behavior a "warrior gene"), use of premenstrual syndrome as a claim of diminished responsibility in a court defense, and the puffing up of the evidence about "mirror neurons", which are active both when a primate acts and observes the same act in another, as the foundation of empathy and altruism. The stupendous advances from being able to assess activity of significant brain structures in humans through functional magnetic resonance imaging are also subject to overinterpretation, which I think he mostly avoids. I liked his outrage that the problem of PTSD depended on brain scans showing shrinkage of the hippocampus to get Congress to recognize the problem as worthy of expanding treatment resources. For me, I was more impressed by the power of images of changed receptors in the meth addict's brain to justify more funding of substance abuse treatment as a "brain" disease. The principle is the same: these people need help in the social and

psychological realm, and using images as a reification of their state doesn't really change the situation. That said, I was disappointed with his simplistic summary that schizophrenia is a "biochemical disorder" and dyslexia a result of "microscopic cortical malformations".

The interdisciplinary nature of the topics here raises the issue of reliability of the presenter in interpreting the research. I appreciate how the author has a solid track record both in field studies of dominance and aggression in baboons and in laboratory studies on hormonal and brain system roles in social behaviors. Having been a researcher in the area of brain mechanisms of aggression and motivational systems for several years, I can testify to the veracity and wisdom of his analyses of brain studies. As my former scientific career ended up mostly in the area of brain development and plasticity, I can say he was inaccurate on the status of research on a couple of subjects (e.g. the claim of long distance sprouting of new connections to account for repurposing of the visual cortex in blind people; the conclusion that the extensive neuron cell death during development serves primarily an error-correction function).

Can the average reader handle and dig all the brain talk in this book? I think the author does a great job keeping the jargon down in the narrative and slipping a lot of the details into copious footnotes, providing a primer on basic neuroscience in an appendix, and justifying significant points with a huge collection of references stored in the back. A couple of areas of the prefrontal cortex, the amygdala, and the dopamine reinforcement system get the starring role in most of the studies discussed. As an example, here is a bit on the dorsolateral and ventromedial prefrontal cortex:

The dlPFC is the decider of deciders, the most rational, cognitive, utilitarian, unsentimental part of the PFC.
…In contrast to the dlPFC, there's the ventral part of the PFC, particularly the ventromedial PFC (vmPFC).
…This is ..an honorary member of the limbic system because of its interconnections with it. Logically, the vmPFC is all about the impact of emotion on decision making. And many of our best and worst behaviors involve interactions of the vmPFC with the limbic system and the dlPFC.
…Consider a classic moral quandary—is it okay to kill one innocent person to save five? When people ponder the question, greater dlPFC activation predicts a greater likelihood of answering yes.…

In this bit on dopamine, I give you a taste of his humor:
Though the dopamine system is similar across numerous species, humans do something utterly novel: we delay gratification for insanely long times. No warthog restricts calories to look good in a bathing suit next summer. No gerbil works hard at school to get good SAT scores to get into a good college to get into a good grad school to get a good job to get into a good nursing home.

Here is a sample on the amygdala, long linked to a major role in fear and anxiety:
Amygdalae are prepared to learn to associate something bad with Them.
So if whites see a black face shown at a subliminal speed, the amygdala activates. But if the face is shown long enough for conscious processing, and anterior cingulate cortex and the "cognitive" dlPFC then activate and inhibit the amygdala.
…This is so depressing—are we hardwired to fear the face of someone from another race, to process their face less as a face, to feel less empathy? No. For starters there's tremendous individual variation
…Moreover, subtle manipulations rapidly change the amygdaloid response to the face of an Other.

Here is a good example of his humility in the face of the brains complexity:
A "neurobiological" or "genetic" or "developmental" explanation for a behavior is just shorthand, an expository convenience for temporarily approaching the whole multifactorial arc from a particular perspective.
Pretty impressive, huh? Actually, maybe not. Maybe I'm just pretentiously saying, "You have to think

complexly about complex things." Wow, what a revelation. And maybe what I've been tacitly setting up is this full-of-ourselves straw man of "Oooh, we're going to think subtly. We won't get suckered into simplistic answers, not like those chickencrossing-the-road neurochemists and chicken evolutionary biologists and chicken psychoanalysts., all living in their own limited categorical buckets."

Sapolsky shines in his overview on the roles of testosterone on aggression, of oxytocin on empathy and prosocial behavior, and of stress on both realms of behavior. I liked his conclusion that no drug or hormone or gene can be said to cause a behavior. And all we know of a person's state of brain health, genetic background, and experience does not provide a reliable predictor of bad or good behavior. At a critical point Sapolsky illustrates the importance of a multifactorial outlook by considering whether a particular woman will suffer from depression. Having a certain variant of the serotonin transporter gene has at most a 10% predictive power. But adding development in poverty, experience of child abuse, levels of glucocorticoids in the bloodstream, living in a collectivist culture, and menstrual status might bring you up get you up to a 50% level of prediction. This illustrates both progress in understanding the causes of behavior and the limitations of such knowledge.

The author hits a popular vein in his chapter on adolescence. The late maturation of the prefrontal cortex and its function to in reigning in excessive emotionality or impulsive behaviors is held to represent a biological foundation for the folly of youth. I'm not sure what benefits we get in how to treat teenagers wisely with this knowledge over the standard psychological consideration of them as being immature. We are not far from McLean's model of the Triune Brain, with the neocortex in primates an evolutionary wonder that is seen as riding herd on the unruly mammalian limbic system and lizard-brain of the brainstem like Freud's Superego over the Id. And emphasizing to parents and teachers the risks of teens' late development of executive brain functions practically puts them in the category of the brain-damaged. Still, it was fun to experience how eloquent Sapolsky gets on the subject:

If by adolescence limbic, autonomic, and endocrine systems are going full blast, while the frontal cortex is still working out the assembly instructions, we've just explained why adolescents are so frustrating, great, asinine, impulsive, inspiring, destructive, self-destructive, selfless, selfish, impossible, and world-changing.

Where it comes to egregious acts of violence or crime, neuroscience provides little new ground for or against excusing someone's responsibility for their acts on the basis of biological causes not in the person's control. Still, an essential role of the criminal justice system is to "protect the endangered from the dangerous". And despite any solid way to predict dangerousness, juries need to consider diminished capacities for judgment among the accused. Knowledge about the delayed maturation of frontal cortical systems in adolescents helps to justify being more lenient on them in the justice system. The philosopher Stephen Pinker and neuroscientist Michael Gazzanaga both lean with Sapolsky toward the concept that free will is an illusion, but they still argue we must hold people responsible to varying degrees for violent criminal acts. The argument that a man can't help being a pedophile but is responsible for acts of child abuse is compelling. But Sapolsky holds his ground that the latter acts are biologically determined no less than the ingrained proclivity to fixate on children and to think otherwise reflects an unscientific dualism of an ethereal homunculus pulling the strings. He doesn't have a practical answer for reforming the criminal justice system, though he did launch an ongoing discussion between a group of jurists and social scientists and a set of neuroscientists starting with a workshop. One can expect further encroachment of neuroscience into the courtroom, which Sapolsky hopes will proceed with great caution:
Perhaps we'll have to settle for making sure our homuncular myths are benign and save the heavy lifting of truly thinking rationally for what matters—when we judge others harshly.

Hopefully, the new science of unconscious biases among juries and judges can also be applied to help

mitigate some of the excess manipulations of the prosecutors and defense lawyers. For example, research showing that sentences rendered by judges tend to be more severe when they are hungry (i.e. right before lunch). And all members of society (and jury members) must somehow be on guard for subterranean perceptions like the following:

From an early age, in both sexes and across cultures, attractive people are judged to be smarter, kinder, and more honest. We're more likely to vote for attractive people or hire them, less likely to convict them of crimes, more likely to dole out shorter sentences. Remarkably, the medial orbitofrontal cortex assesses both the beauty of a face and the goodness of a behavior, and its level on one of those tasks predicts the level during the other. The brain does similar things when contemplating beautiful minds, hearts, and cheekbones. And assumes that cheekbones tell something about minds and hearts.

This is a long book, but I wished the author would have spent more time on the nature of war from a biological perspective. I don't believe he ever broached the subject of territorial aggression, which represents one of the major classes of intraspecies violence found among many species and some primates and the form that most closely resembles human group conflicts that involve killing people over turf. Maybe the outrageous claims of a territorial instinct behind human war by the likes of Desmond Morris and Robert Ardrey nearly 40 years ago still make this a disreputable topic for current scientists to pursue. The discovery that groups of chimps sometimes coordinate together on patrols and raids into another chimp community and kill members they encounter was a shock to many who imbibed Jane Goodall's portrait of their communities, and obvious analogies to human war were made in the media. Usually territorial conflicts in animals are resolved through symbolic displays that provoke a withdrawal by the intruders of another groups' territory. The professor I worked with on a brain region that appeared to organize the freeze-flight-fight system in rats in the early 70's, David Adams, went on to lead efforts that emphasized that the technology and weapons humans use in group conflicts in the historical period makes war a different kettle of fish from animal territorial aggression because the distances over which the weapons operate preclude use of the usual behavioral signals that moderate lethal outcomes. As part of his work for UNESCO he helped facilitate the drafting of the Seville Statement on Violence in 1986, a proclamation signed by 20 prominent scientists that aimed "to dispel the widespread belief that human beings are inevitably disposed to war as a result of innate, biologically determined aggressive traits" (see http://www.culture-of-peace.info/).

A lot of the debate about biological foundations of lethal violence in humans centers around studies of contemporary hunter-gatherer societies and anthropological evidence from ancient human remains. Popular books by people like Jared Diamond and Stephen Pinker interpret such data to indicate that prehistoric humans were always perpetrators of war. Sapolsky spends significant time on the criticisms from various sources on the veracity of the data from hunter-gatherer societies and argues that the advent of agriculture and fixed settlements made warfare more deadly because conflict resolution by moving to a new territory became a less feasible option. The thesis in Pinker's recent book, "Better Angels of Our Nature", that the death rate from war has declined substantially over the historical period does not really figure into considerations of the prehistoric hunter-gatherer origins of our species. Nevertheless, Sapolsky criticizes his use of data on death estimates from some historical genocidal events without taking into account their long duration (e.g. centuries for the black slave trade and colonial annihilation of Native Americans). After taking duration as well as population density into account, wars and genocides of the 20th century account for half of the top 10 events of megadeath from violence in known history (surprisingly the Rwandan genocide makes the list under this framework due to its 700K deaths over only 100 days).

Much food for thought can be found in this important book. If you want to learn a bit more about Sapolsky the man and his fascinating field work on baboons, I highly recommend his A Primate's Memoir: A Neuroscientist's Unconventional Life Among the Baboons . This book was provided by the publisher for

review through the Netgalley program.

Darian Onaciu says

Drop whatever you have on your reading queue and
READ THIS BOOK NOW!

The author
Whenever I read a non-fiction book I always look up the author: who he is, what achievements he has and which are the tools he uses to understand and explain bits of reality. I think it is important to do this in order to have a better grasp on the accuracy of his claims.

"Robert Morris Sapolsky is an American neuroendocrinologist and author. He is currently a professor of biology, and professor of neurology and neurological sciences and, by courtesy, neurosurgery, at Stanford University."

The book
This is the **best book on behavior**, so on humans in general, and the overall best book I have *read so far.

Make no mistake - this is a *tough read* but by no means because of the author's fault or its length.

The endeavor he embarked on - explaining human behavior from every conceivable facet - is one of such magnitude that its sheer complexity demands you understand the underlying workings of neuroscience and endocrinology.
Fear not however, as he takes you step by step with detailed explanations through all of these and more, laying the building blocks towards a better understanding of yourself and others.

I am a long time admirer of science because it is the only tool that helps us better understand ourselves and the environment, facilitating a better comprehension of reality and the Universe we live in.

Sapolsky uses the latest research interwoven with great examples, so that you can better grasp the complexity, all told through his strikingly objective thinking sprinkled with great humor.

He tackles mind-numbingly complex subjects such as **social hierarchies, morality, killing, war, peace, religion and free will**, all while taking into account the environment, early stage fetal development, human evolution and so many other factors that your head might start to hurt, looking at behavior through each of these lenses.

It is difficult for me to express in this measly review just how amazing his effort is.
More amazing however is that he pulls it off, making this the most awesome endeavor about understanding humans that I am aware of.

Sapolsky is a <u>FUCKING LEGEND</u>!

Just as Morgan Blackledge, a GoodReads reviewer (sorry I can't seem to tag you here) says:
"You're not fully sentient until you have watched all 20+ hours of his lectures from the course (at least once) which are freely available on YouTube."

If you don't like to read - although I highly doubt you're here if that's the case - go watch his YouTube videos.

Better yet, read the damned book AND watch his videos - you can thank me later!

All these taken into consideration, I am convinced that
EVERYONE
should read this book.

Notes

*I listened to the book - so used an audiobook format - and I absolutely do not recommend you do this unless you are familiar with the intricacies of neuroscience or, as I will do, you will purchase a written copy to go again through the content.

**There are people who celebrate the lack of science behind their actions and you should be weary of them.

One such example I've recently seen is a man who claims he is a certified psychotherapist, which I don't necessarily doubt, but openly acknowledged, when I asked, that there is no science behind his therapy. I expected the workshop participants to raise and leave the room, however they only applauded onward as he charismatically spinned the story to his liking.

Please educate yourself, use **critical thinking** and always be skeptical in order not to be fooled and robbed by the likes of them - science is not perfect, however it is undoubtedly better than falling into the traps of cheap generalizations, confirmation biases and short term placebo effects.

Reality is very complex so we should acknowledge this and act accordingly.

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If you'd like recommendations on books I consider to be good in this area, feel free to ask or just take a look at my 'read' list.

****
I'm starting to seriously think there should be modern means to teach people how to think and the emergence of Mixed Reality might be a good medium for that. If you're interested in a chat about this or have a concrete proposition just drop me a message.

Thanks for surviving my ramblings.

Now go and read the book!

Trish says

Whatever your discipline of study, this book has some degree of relevance, considering as it does human biology. I wish to convey that this book is aspirational for *everyone,* even the author himself. He readily admits to gaps in his/our knowledge about human biology, but he tries, in this mighty interdisciplinary work synthesizing a lifetime of observation and thought, the current state of knowledge and points to areas for further study.

Don't be intimidated by its size or erudition. The author is amazing but he has always been approachable. Just flip through, stopping where something catches your eye. You will find yourself absorbed, amazed, provoked. Notice the chapter headings: the last several chapters are about humans doing the right thing…or not. The first several chapters reference those later chapters, showing how what he is telling us is related.

What we do and how we act is related to our biology..all of it…like neurobiology, endocrinology, genetics, the relevance of which he attempts to be very careful and specific about explaining. He goes back in time, bringing in examples from our ancient history to show how things have changed and how culturally conditioned our reactions and responses are to stimuli. Each chapter ends with a summary, and the book ends with insights he has developed over years of study.

Skim these to see if there is something more you wish to pursue. The studies he discusses in each section are referenced by authors focusing on different aspects of human knowledge and you may already be familiar with them. The concepts explored underpin much of what we understand about human behavior and morality. The work of Steven Pinker, cognitive scientist and currently professor of psychology at Harvard, is described by Sapolsky as "monumental" and is given its own critique late in this book.

Sapolsky is not arrogant. He writes this book not to show off his knowledge, but to share his knowledge, which is why he tries to make it as readable as possible without dumbing it down. It is a work to be grateful for. One of the more moving moments in the work comes near the end, after over 600 pages of science and Sapolsky is talking about doing the right thing. He introduces us to Anglican cleric John Newton, born in 1725.

Newton composed the hymn "Amazing Grace" but that is not what Sapolsky wants to tell us. Newton is remembered as an abolitionist, mentor to William Wilberforce who worked through parliament to outlaw slavery in the British Isles. But he didn't start out that way. Read the story for yourself--plan to read the whole back-end of the book because you won't be able to stop with Newton—about individuals, ordinary individuals making a difference and doing the right thing.

Sapolsky may be a great scientist, but he is great writer and a great teacher. He makes us think and challenge our own assumptions. He tries to answer questions as they arise and he does not intentionally obfuscate. He does not dodge and only occasionally dismisses, and only then when an argument falls of its own weight.

If you wish you had the background to soak up everything he says but do not, go for one of his earlier books which he wrote as a younger man, less burdened by all he has studied. They display his trademark intelligence and humor and are as much fun as a ~~barrel of monkeys~~ book on bonobos.

Amirography says

This is an important book, which I suspect, will be a classic.
the whole book was dedicated to explaining how our biology and environment interact to give rise to our

behavior and what does that implicate for our ethical and social views.
That being said, Behave could have as easily been a comprehensive textbook. Yet the author vitally made the decision to write in classical style, as the intended reader were lay people. however, even I, as a person studying this exact field, have had struggled with some challenging parts, as the book is essentially about one of the most complex systems that we know.
Fluency: 4/5
Style: 5/5
Content: 5/5

Atila Iamarino says

Um dos melhores livros que já li, tranquilamente. Sapolsky trabalha com bioquímica do comportamento e entende muito do tema. Seu primeiro livro que li, Memórias de um Primata, explicava como ele fez sua pesquisa com babuínos selvagens, acompanhando os animais e coletando o sangue deles para entender como o estresse e o comportamento deles no bando influenciava o balanço de hormônios no sangue. E desde então ele tem escrito sobre comportamento e estresse, como o Porque Zebras.

Agora, mais de 20 anos depois, ele aproveita toda a experiência na área para escrever uma obra excelente. Um livro gigante, daquelas obras que descreve compreensivamente a área e vem amarrando as pontas de décadas de estudos, integrando como nos comportamos de mamíferos a primatas, de sociedades aos neurotransmissores no cérebro. De forma leve, bem-humorada, auto-crítica e fácil de acompanhar. Comparo ele tranquilamente com Sapiens, Aço Armas e outros na linha. Uma delícia de ler.

Sua explicação sobre comportamento humano explica muita coisa. Como nos desenvolvemos, como pensamos a respeito dos outros, de nós mesmos, do que fazemos... Ele compara sociedades, como diferentes etnias lidam de forma diferente com alguns problemas e como temos vários elementos em comum. Mais uma das obras que dá uma base biológica para como pensamos. Tive vários momentos "ahhhh, então é assim que..." ou "ahh, então é por isso que".

Recomendadíssimo. Tenho certeza que alguma editora vai traduzir para o português, então mesmo para quem não lê em inglês, assim que sair, leia.

Peter Mcloughlin says

Sapolsky might become one of my new favorite authors. In this work, he surveys the literature on Brains, Genetics, Culture, and puts together a detailed picture of what makes us tick. He takes in a large chunk of the human condition and lays out much of the known science around it. Be it gender, race, politics, development, violence of all sorts, personality, deviance and conformity, Social Dominance and Authoritarianism, Hierarchy, Ethnicity, differences between liberals and conservatives, Sexuality. Sapolsky is encyclopedic in his study of humans and their behaviors and thoughts and down to earth in his presentation. Reminds of Pinker in the presentation. A good scientist and a good writer.

5/12/2018 On the second reading of Sapolsky's book I come away with a better idea of how his picture hangs together. The format, in general, is to look at proximal causes of our behavior starting with immediate causes like the firing of neurons and progressively going farther back in time to cover causes more distant from the

present. Sapolsky goes from stuff in our neurons and brains that happened a few seconds or minutes ago, to things like hormones and endocrine stuff that could have bubbled up in the last few hours or days, to frontal cortex development in adolescence and the environment, back to the early childhood and the womb, to the genes and zygote, to culture of the past few decades, centuries and millennia, to our deep evolutionary past. At each of these levels, a part of our ordinary and extraordinary behavior is sculpted. This complex and layered picture starts to do justice to our extraordinary species and its multifaceted behavior. Much more than most pop explanations which focus on one aspect only of this long time sequence. Sapolsky covers much material and ranges widely but ultimately comes back to practical issues, like human development, war and peace, violence, stress and solving problems very serious problems we as people face. recommended.

HBalikov says

Sapolsky is a gem of a researcher, professor and deep thinker. He has done very well since receiving his MacArthur Foundation “genius grant.” Here he covers neuroscience, cognitive science and philosophy.

The basic theme is that humanity (and we who comprise it) are capable of great good and great harm. There is a lot that underlies human thoughts, decision-making and actions that Sapolsky uncovers for us. Some of you may, like me, become a little uneasy reading this if your mind wanders into questions of friendship, race, religion, anger, love, passion, and the arc of civilization.

I felt, while reading this book, that I was less than successfully punching above my weight class. If I had a bit more book learning, I am sure it would have been easier. This isn’t because Sapolsky discusses the issues using fancy terms to impress his audience. In fact, he is very good a bringing in a metaphor or anecdote to illustrate his point. He even includes (toward the back of the book) a very helpful section on terms and functions. No, it’s because using the precise terms is very important and it takes time to become comfortable and conversant with them.

I asked for Behave for my birthday. I don’t regret it and I am sure I will be coming back to various sections as time goes by. This book has raised my level of awareness and I am going to find additional ways to explore many of the topics presented.

Dan Graser says

Wow. This is brilliant, mind-clearing work by Stanford Professor and MacArthur "genius" Fellow Robert Sapolsky. Not only does he present the latest data in fields of neuroscience and psychology, but his presentation of several issues of human behavior from the levels of neurobiology, sensory and stimulus perception, changes in hormone levels, developmental changes in physiology, evolutionary changes over the course of millions of years, as well as cultural and psychological changes from the environment as well as parental/societal upbringing makes for the most thorough, multidisciplinary work I've ever read.

All the while, over the course of around 700 pages that is, Sapolsky does so in very readable and at times quite bizarrely funny fashion:
"It floats above the limbic system, supporting philosophers since at least Descartes who have emphasized the dichotomy between thought and emotion. Of course, that's all wrong, as shown by the temperature of a cup - something processed in the hypothalamus - altering assessment of of the coldness of someone's personality."

"...after all, LTP (long-term potentiation) is what occurred in Schopenhauer's hippocampus when he read Hegel, not what the spinal cord does to make you more coordinated at twerking."
"Agriculture's invention is one of the all-time human blunders, up thee with, say, the New Coke debacle and the Edsel...and from there it's just a hop, skip, and a jump until we've got Mr. McGregor persecuting Peter Rabbit and people incessantly singing Oklahoma."
Quoting Steve Jones: "Evolution is to analogy as statues are to birdshit."

He ends each chapter with important bullet points and makes this very complicated work flow seamlessly. As he approaches the great moral topics of the day the writing becomes quite poignant as demonstrated in two powerful back-to-back chapters, "Metaphors We Kill By," and "Biology, the Criminal Justice System, and Free Will."

I can't recommend this enough, rarely is this much education so much fun to read!

Max says

Sapolsky explores the causes of human behavior at every level. Although he throws in some zingers and catchy vernacular, this is a serious work that can read like a textbook. He divides the book in two parts. The first deals with everything that affects behavior: The brain, neurons, neurotransmitters, hormones; environmental factors particularly in adolescence, childhood, and the womb; culture, genes and epigenetics. The second half shows how all these factors combine to affect us as individuals and as a society. We are presented with an intricate array of influences and as often is the case, the more you know, the less clarity you have about what it all means.

In a particularly dense beginning (with appendices for the underlying science) we get primers on the brain and neurons, their structure and how they work. We see how the interplay of their many component parts modulates behavior leading to impulsiveness or restraint. In addition we learn how we are influenced by the way we produce and process neurotransmitters (dopamine, serotonin) and of course hormones (testosterone, oxytocin). Sapolsky shows that the effects of these chemicals are not as straightforward as commonly presented. For example, oxytocin, the widely heralded pair-bonding hormone, causes us to draw closer to family but also to be more distant to strangers, in effect, amplifying the “Us Versus Them” syndrome.

Sapolsky discusses a variety of factors that affect brain, emotional and cognitive development. He points out that the child facing poverty or abuse, lack of maternal interest or care, or lack of stimulation in the environment will be severely compromised. He focuses on adolescence. This awkward age is characterized by a fully developed limbic system which fosters emotions and a far from developed frontal cortex which supports reason. We all have witnessed the result. And of course there are genes which greatly affect behavior, but in context. Environmental effects shaping genes begin in the womb and continue through childhood. Epigenetic factors turn genes on or off. When genes are expressed their impact varies based on the other genes in play and the specific circumstances. For example the extensively studied 7R variant of the DRD4 gene makes you more generous than average if you grew up in a secure environment and less generous than average if you grew up in an insecure one. Sapolsky highlights other genes that cut both ways depending on environment.

But much more than brain structure, neurons, neurotransmitters, hormones and genes determine behavior. Our decisions and actions, often unconsciously, are affected by unrelated events occurring at the same time. People holding a cold glass of water in one hand will view others as colder than they otherwise would. If a

reviewer reads your resume attached to a heavy clipboard, you are more likely to be judged more serious than others whose resumes are read on light clipboards. Subliminal images also impact our conscious perceptions. Sapolsky offers many examples of how our behavior is primed by sensorial input that does not enter our consciousness.

Cultural context is also important. What we expect to see affects what we will. This underlies much of the racism that is so divisive. Culture affects how we process what we see. Sapolsky points to the different ways people in collectivist cultures (East Asian) and individualist cultures (Western) focus their vision. Take a landscape photo with a person in the center. Someone from China will likely focus on the background as much or more than the person, an American just the reverse. Chinese immigrants to the US will take a generation to adopt the US priority in focusing on images.

How much of our behavior with respect to violence is due to human nature? Were prehistoric hunter gatherer societies more or less violent or warlike than we are today? Sapolsky reviews expert opinions on both sides of the argument. What a contrast between his excellent presentation of this issue and Harari's one-sided presentation in *Sapiens*. We learn that experts disagree. However Sapolsky still echoes Harari, calling the agricultural revolution "one of the all-time human blunders". I don't understand this. Without the agricultural revolution Sapolsky would be digging roots or chasing antelopes if he was lucky enough to have ever been born. Instead he is exploring the depths of the human mind, increasing our understanding of who we are. No matter how idyllic you paint primitive existence, I could not value it over one where we can develop our minds and build a better future for our children, as hard as that may be.

In the second half of the book Sapolsky explores how all the forces that impact human behavior come together to influence the way we see each other and the world. He starts with a quote attributed to Robert Benchley, "There are two kinds of people in the world: those who divide the world into two kinds of people and those who don't." Sapolsky's ensuing discussion of "Us Versus Them" is amazingly relevant to the current political dialogue in the U.S. Our political proclivity to be liberal or conservative is 50% heritable. Each position embodies a larger set of beliefs. Conservatives most highly value loyalty, authority and sanctity while liberals most highly value care, fairness and liberty. One study gave another reason why our political choices are less than rational. Groups of five-year-olds were asked to choose a captain for a boat ride to Candyland. Each group was asked to decide between pictures of two candidates. The pictures were from political contests across the US. The kids' pick was the winner of the political contest 71% of the time.

How are moral choices made? Of course Sapolsky cites myriad influences. Particularly interesting is empathy. We tend to conflate this with compassion, but empathy often is an end in itself and precludes a compassionate act. Sapolsky points out that empathy may have evolved to help us learn. It's one thing to learn first-hand that a hot iron burns, seeing what happens to someone else touching the iron is a better way to learn and the lessen is strongly reinforced if we actually feel the other person's pain. This is probably why that part of the brain (anterior cingulate cortex) that processes empathy developed. Interestingly most people who perform heroic selfless acts don't think or feel anything first, they act instantaneously.

Is there free will? Endlessly arguable, but if there is it certainly seems relegated to the back seat. Sapolsky explores what this implies for the American legal justice system. He believes we should abolish it in its present form. This doesn't mean he thinks criminals should run free, but justice as punishment for an evil act makes no more sense than punishing an unreliable car. For everyone's protection unsafe cars and dangerous criminals shouldn't be allowed on the streets. Deterrence and public safety are legitimate reasons to lock people up, but not retribution. Capital punishment is clearly wrong.

Are times more peaceful than in the past? Sapolsky references Steven Pinker's *Better Angels of Our Nature*,

which now I will have to read. Perhaps violence is down as a percentage of population. In that respect one could say modern wars kill fewer people than ancient ones. However modern wars kill people faster. WWII killed 55 million people and at a faster rate than past major wars. Modern 21st century weapons are poised to kill us all in a flash. Are we at a lesser chance of war? Harari in *Sapiens* thinks so given the lack of a world war since the 1940's. I'm reminded of Max Hastings in *Catastrophe 1914* quoting an 80 year old Brit just before WWI. He assured his interviewer that there wouldn't be a major war since in his experience these things always worked themselves out. Unfortunately his experience wasn't quite long enough. Religion has been responsible for countless wars and still underlies much of the conflict today. Sapolsky brings up a quote I loved regarding religious wars. "People are fighting over who has the better imaginary friend." attributed to Napoleon. Sadly, nationalistic populism is on the rise often citing religious values and demonizing "Them."

All in all this is a great book if somewhat depressing. How much do we really control our own actions? The influences on human behavior are so many, so intertwined, and so complex that making sense of it seems almost hopeless. Still there are important lessons we can learn just understanding that fact. We can forego the presumptiveness of intuitively knowing why people behave the way they do. We can see that just casting blame and calling others evil will get us nowhere. Sapolsky gives us a detailed and thoughtful mix of facts and his opinions, of which I have covered small slices. It is not a light read, but if you want to understand why we do the things we do, it is very worthwhile.

Tanja Berg says

This book delves into what makes us do what we do: hormones, genes, environment. Unsurprisingly the conclusion is that you can't point a single factor - be it gene or hormone, without taking into account what is happening in the environment. How you react to the influence of oxytocin or testosterone is entirely dependent on the setting. Likewise with genes. There isn't any one gene for aggression that strongly points to individuals being more aggressive - although being a man definitely means there is a higher likelihood for such behavior.

In some ways this book is reminiscent of "The Ten Types of Human: Who We Are and Who We Can Be" by Dexter Dias. However, he concentrates more on evolution and on telling stories, making his book more compelling. Although "Behave" is rife with examples and the author's humor, it simply isn't quite as engaging. On the other hand, it is far more interesting than "
Aroused: The History of Hormones and How They Control Just About Everything" and its spectacularly misleading title. What "Behave" has is a lot of detailed examples, both proof and reproof. I like that. It shows that it's not 100-0, like the author points out, it's usually 51 for and 49 against.

The author is funny and I did learn quite a few new things. One of my favorite paragraphs was this one:

"How's this for irrationality? Back to people deciding whether to save the person or the dog. The decision depended not only on who the person was (sibling, cousin, stranger) but also on who the dog was - a strange dog or your own. Remarkably, 46 percent of women would save their dog over a foreign tourist. What would any rational baboon, pika, or lion conclude? That those women believe that they are more related to a neotenized wolf than to another human. Why else act that way? 'I'll gladly lay down my life for eight cousins or my awesome labradoodle, Sadie.'"

Yes, I am one of those women. I'd definitely save my dog over a stranger. When it comes to "us" and "them",

my dogs are part of my "us".

Pouting Always says

Robert Sapolsky is a neuroendocrinologist and has studied primates for decades in Africa, and I love him. If anyone wants to watch it he did a TED talk on what makes human's unique from other animals: https://www.ted.com/talks/robert_sapo.... The book itself covers a wide range of topics, mostly centered around neurology and it's subsequent effect on behavior. The book is a little long and dense and I have finals so I shouldn't even be reading it, but I've been making time to get it done anyways.

The book goes through the biology of behavior and describes what happens when we do something and how the body's various hormones and major neurotransmitters work to shape it. The book then goes into the genetic and evolutionary basis of our behavior and the ways we're predisposed to think about others specifically in groups and out groups. This topic is then expanded to talk about culture and hierarchies and our unique behavior as humans of killing over ideas. The book end with a discussion of neurology's place in law and how much culpability people actually have for their actions. There's an appendix at the end of the book for those not as familiar with neuroscience or hormones and proteins of the body.

This was a really ambitious undertaking, and the book covers such a vast amount of information. I learned a lot but even with my own familiarity with a lot of the subjects it took me a while to get through this one so I'm not sure how enjoyable this will be for a more general audience. I had so many different thoughts while reading this because it brought up a lot of more pertinent issues but now I can't think of any of them for some reason. I think I'm just a little overtaken with how much I learned from the book. Sapolsky even talked about a lot of popular nonfiction books I havent gotten around to reading plus the criticisms of them and what the evidence against and for them are.

It's just a lot to wrap my head around and I mean his whole point is that behavior is extremely complex and context dependent and that we don't yet understand enough to be able to predict it accurately. There are certain ways of thinking that we are predisposed towards but nothing is a hundred percent certain yet. I love neurology and the brain and so this is my type of books so of course I enjoyed it immensely,I'm not sure how much anyone else would like it. He did a very thorough job going through the current literature and covering much of what is being talked about in the present which a lot of nonfiction books tend not to do. I learned a lot and I really think I need to read more of Sapolsky's books.

Tony says

I finished this yesterday, but I had to stop first and catch my breath before writing a review. This was a whirlwind, a high-speed ride, exercising my amygdala mightily. No book I’ve read, at least this year, has challenged me the way this one has. And not just the science, which I will largely forget in its details soon enough. More so, the intellectual challenge was in questioning almost everything I believe.

Why do we behave the way we do? You’ll get no biology primer from me. Let’s plunge right in:

In the fall of 1990 Iraq invaded Kuwait, and in the run-up to the Gulf War, Americans were sickened by a story that emerged. On October 10, 1990, a fifteen-year-old refugee from Kuwait appeared before a

congressional Human Rights Caucus.
The girl—she would only give her first name, Nayirah—had volunteered in a hospital in Kuwait City. She tearfully testified that Iraqi soldiers had stolen incubators to ship home as plunder, leaving over three-hundred premature infants to die.
Our collective breath was taken away. . . . The testimony was seen on the news by approximately 45 million Americans, was cited by seven senators when justifying their support of war (a resolution that passed by five *votes), and was cited more than ten times by George H. W. Bush in arguing for U.S. military involvement. And we went to war with a 92 percent approval rating of the president's decision. In the words of Representative John Porter (R-Illinois), who chaired the committee . . . , "we have never heard, in all this time, in all circumstances, a record of inhumanity, and brutality, and sadism, as the ones that [Nayirah had] given us today."*
Much later it emerged that the incubator story was a pseudospeciating lie. The refugee was no refugee. She was Nayirah al-Sabah, the fifteen-year-old daughter of the Kuwaiti ambassador to the United States. The incubator story was fabricated by the public relations firm Hill + Knowlton, hired by the Kuwaiti government with the help of Porter and cochair Representative Tom Lantos (D-California). Research by the firm indicated that people would be particularly responsive to stories about atrocities against babies (ya think?), so the incubator story was concocted, the witness coached. The story was disavowed by human rights groups . . . and the media, and the testimony was withdrawn from the Congressional Record—long after the war.
Be careful when our enemies are made to remind us of maggots and cancer and shit. But also beware when it is our empathic intuitions, rather than hateful ones, that are manipulated by those who use us for their own goals.

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In the 1990s crime rates plummeted nationwide. Liberals cited the thriving economy. Conservatives credited policing, expanded prisons, and three-strike sentencing laws. Neither, says, our author. Demographics showed that crime rates dropped in areas where abortions became legally, readily available. *This was highly controversial, but it makes perfect, depressing sense to me,* our author writes. *What majorly predicts a life of crime? Being born to a mother who, if she could, would have chosen that you not be.*

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Drone pilots, who sit somewhere far-removed from battle, but can blow up a group of men sitting around a campfire just by pushing a button, and watch the whole thing (you know, body parts) on their computer screen, have the same rate of Post-Traumatic Stress as soldiers in the field.

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. . . in a study of more than 1,100 judicial rulings, prisoners were granted parole at about a 60 percent rate when judges had recently eaten, and at essentially a 0 percent rate just before judges ate. . . . Justice may be blind, but she's sure sensitive to her stomach gurgling.

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Okay, enough examples from the book; I'll spare you the pages and pages of notes. I read this book because Sapolsky's book A Primate's Memoir is an all-time favorite. And this is his life work, here. He didn't lose me with the long biology lesson at the beginning of the book. Indeed, he sorta said just read through this, enough will stick to understand what follows. But then he resorted to, essentially, sociological surveys to

support his positions. Academic things. I've been on the answering end of such surveys and understand just how pre-ordained and un-scientific they can be. And, as smart as he is (very, and much smarter than me) he doesn't get that sometimes when he was talking about bias, he kind of exposed his own biases. He repeatedly confessed to being a Liberal, then stated as scientific fact that Liberals are more intelligent than Conservatives. Which brings up another point. Before plunging into a discussion of Politics, he notes that there are lot of hands raised in that terrain between Liberal and Conservative. My rough guess is that perhaps a majority of people join me in that middle ground. But Sapolsky says, never mind, let's just consider Liberals and Conservatives. Well, no you can't; and even if you could, it sure as hell wouldn't be science. And, oh, he's glib, with repeated *stay tuned* and *all that is cool, but. . .*; and he even reduces himself to making fun of someone's name.

So, yes, some things he wrote got my amygdala all agitated. But then my frontal cortex took over, which I now know it will do, and let me analyze what he is saying as objectively as I could.

We are learning more from science every day. Like, that that frontal cortex (the decider) isn't fully online until our twenties. So what responsibility does a 14-year-old murderer own? We once burned epileptics as witches, owned slaves, and thought those acts appropriate, justified, biblically-sanctioned. Now we wonder how we could have done that. What will we think of how we behave now in 100 years, 500 years?

Notwithstanding some annoyances, which I stated above, this really is a remarkable book and highly recommended by me. It takes a while and is not easy in spots. Maybe first check out some lectures by Sapolsky, readily available on YouTube. You will get a sense of his depth, humor and manic energy, all of which fuel this book. Here's one about the topic in question: https://www.youtube.com/watch?v=Y0Oa4... and here's one on how religion is a mental illness: https://www.youtube.com/watch?v=mJM5m... .

This book changed me, of that I'm sure. Imagine that. Now, excuse me, I have to do some chipmunk experiments.

Morgan Blackledge says

Sapolsky is my lord. He's an Olympian god on high. He's a titan. This book is retarded. It's almost impossible to read. It's like 10,000 pages long. But it's next to impossible not to adore.

It's basically a textbook for his ridiculously, cosmically good Stanford undergraduate course on the biology of behavior (HUMBIO 160 -Stanford)

You're not fully sentient until you have watched all 20+ hours of his lectures from the course (at least once) which are freely available on YouTube. Or listened to them in condensed form in his absolutely spellbinding audio programs available by Great Courses.

The message is more glorious than any gospel or sage vision. Its biology man. It's a real live magical miracle.

We are meat bags of salt water, lipids, proteins and chemicals, that emerged from endoplasmic sewage, and are now capable of having an experience.

Dude!

That alone is frickin amazing beyond words, but that's only the beginning.

Sapolsky is a puckish rascal genius.

Sapolsky is an intellectual nonpareil.

This is a horrible AF review of the important work of a fuckin' intellectual demigod.

FIVE STARS!!!!

Matt says

This book is a masterful distillation of academic research on social behavior. It's creatively organized, clearly written, and always fascinating. I listened on audiobook, but will probably buy a physical copy for reference.

But I'm only giving it three stars because it completely fails to grapple with the replication crisis sweeping through these fields. After Sapolsky mentioned a study that I know researchers have failed to replicate, I waited for him to discuss the subsequent controversy. He never did. At that point, I started keeping a tally of "red flags:" studies that have subsequently come under fire, but where Sapolsky fails to acknowledge any controversy about their findings.

The ones I noticed:
- People behave themselves when there is an eye watching them, even if it's just a painted eye. Researchers are having trouble replicating this finding: http://lebs.hbesj.org/index.php/lebs/...
- Implicit bias tests. Sapolsky uses this literature extensively without criticism. It's not clear it's as useful as people think: http://nymag.com/scienceofus/2017/01/...
- Willpower is like a muscle that gets tired from use. Something as simple as having a snack can help. Another one that it's not so clear this is true: http://slatestarcodex.com/2015/03/12/...
- People take hurricanes more seriously when they are named after men. Another study that has come in for a pile of criticism: http://www.sciencedirect.com/science/...
- Legalization of abortion led to a drop in crime two decades later. No. https://en.wikipedia.org/wiki/Legaliz... and also Steven Pinker's critique in Better Angels of Our Nature.
- Air rage is more likely if coach passengers have to pass through first class. Probably not. http://www.pnas.org/content/113/47/E7... and http://andrewgelman.com/?s=air+rage
- Judges are way harsher right before lunch. Non. http://nautil.us/blog/impossibly-hung...
- Priming studies (cited extensively). Not so easy to replicate. http://andrewgelman.com/2016/02/12/pr...

These issues have percolated through the mainstream. Just last week, the NYTimes had a great feature about the replication crisis, told through the story of Amy Cuddy (whose work is also cited uncritically in Behave): https://www.nytimes.com/2017/10/18/ma...

I'm not an expert on this stuff, but I still found all these red flags. There are surely many I've missed. At the same time, because I'm not an expert, I can be convinced that the replication crisis isn't that big a deal. But Sapolsky doesn't even try. Unfortunately, that makes me call into question Sapolsky's authority and credibility as a guide to this literature. It's a doubt that poisoned the whole book for me, including his tour of literatures far removed from the ones above.

For example, I don't know much about neuro-imaging studies. About them Sapolsky says "These studies are difficult to pull off, as neuroimaging is as much an art as a science." When I read that, and when I've spent half the book hearing him talk confidently about lots of problematic studies, part of me wonders "hmmm, so are neuro-imaging studies garbage? Should I just skim this chapter?" I don't know!

Or at other points, he talks about studies I am unfamiliar with but because he's sacrificed his credibility on studies I do know a bit about, I don't trust his interpretations. I think to myself, "hmmm, that sounds suspect."

I seriously considered quitting the book because of these issues. I'm glad I stuck with it, because IF THIS STUFF TURNS OUT TO HOLD UP, then it's a wonderfully nuanced portrait of the factors that drive our behavior (neurological, genetic, social). But what a disappointing caveat to have to attach to a book.
