Epilogue

We've covered lots of ground, and some themes have arisen repeatedly. It's worth reviewing them before considering two final points.

As the single most important of them, virtually every scientific fact presented in this book concerns the *average* of what's being measured. There is always variation, and it's often the most interesting thing about a fact. Not every person activates the amygdala when seeing the face of a Them; not every yeast adheres to another one bearing the same surface protein marker. Instead, *on the average*, both do. Reflecting this, I've just discovered that this book contains variations on "average," "typically," "usually," "often," "tend to," and "generally" more than five hundred times. And I probably should have inserted them even more as reminders. There are individual differences and interesting exceptions everywhere you look in science.

Now, in no particular order:

- It's great if your frontal cortex lets you avoid temptation, allowing you to do the harder, better thing. But it's usually more effective if doing that better thing has become so automatic that it isn't hard. And it's often easiest to avoid temptation with distraction and reappraisal rather than willpower.
- While it's cool that there's so much plasticity in the brain, it's no surprise—it has to work that way.
- Childhood adversity can scar everything from our DNA to our cultures, and effects can be lifelong, even multigenerational. However, more adverse consequences can be reversed than used to be thought. But the longer you wait to intervene, the harder it will be.
- Brains and cultures coevolve.

- Things that seem morally obvious and intuitive now weren't necessarily so in the past; many started with nonconforming reasoning.
- Repeatedly, biological factors (e.g., hormones) don't so much *cause* a behavior as modulate and sensitize, lowering thresholds for environmental stimuli to cause it.
- Cognition and affect always interact. What's interesting is when one dominates.
- Genes have different effects in different environments; a hormone can make you nicer or crummier, depending on your values; we haven't evolved to be "selfish" or "altruistic" or anything else—we've evolved to be particular ways in particular settings. Context, context, context.
- Biologically, intense love and intense hate aren't opposites. The opposite of each is indifference.
- Adolescence shows us that the most interesting part of the brain evolved to be shaped minimally by genes and maximally by experience; that's how we learn—context, context, context.
- Arbitrary boundaries on continua can be helpful. But never forget that they are arbitrary.
- Often we're more about the anticipation and pursuit of pleasure than about the experience of it.
- You can't understand aggression without understanding fear (and what the amygdala has to do with both).
- Genes aren't about inevitabilities; they're about potentials and vulnerabilities. And they don't determine anything on their own. Gene/environment interactions are everywhere. Evolution is most consequential when altering *regulation* of genes, rather than genes themselves.
- We implicitly divide the world into Us and Them, and prefer the former. We are easily manipulated, even subliminally and within seconds, as to who counts as each.
- We aren't chimps, and we aren't bonobos. We're not a classic pair-bonding species or a tournament species. We've evolved to be somewhere in between in these and other categories that are clear-cut in other animals. It makes us a much more malleable

and resilient species. It also makes our social lives much more confusing and messy, filled with imperfection and wrong turns.

- The homunculus has no clothes.
- While traditional nomadic hunter-gatherer life over hundreds of thousands of years might have been a little on the boring side, it certainly wasn't ceaselessly bloody. In the years since most humans abandoned a hunter-gatherer lifestyle, we've obviously invented many things. One of the most interesting and challenging is social systems where we can be surrounded by strangers and can act anonymously.
- Saying a biological system works "well" is a value-free assessment; it can take discipline, hard work, and willpower to accomplish either something wondrous or something appalling. "Doing the right thing" is always context dependent.
- Many of our best moments of morality and compassion have roots far deeper and older than being mere products of human civilization.
- Be dubious about someone who suggests that other types of people are like little crawly, infectious things.
- When humans invented socioeconomic status, they invented a way to subordinate like nothing that hierarchical primates had ever seen before.
- "Me" versus "us" (being prosocial within your group) is easier than "us" versus "them" (prosociality between groups).
- It's not great if someone believes it's okay for people to do some horrible, damaging act. But more of the world's misery arises from people who, of course, oppose that horrible act . . . but cite some particular circumstances that should make them exceptions. The road to hell is paved with rationalization.
- The certainty with which we act now might seem ghastly not only to future generations but to our future selves as well.
- Neither the capacity for fancy, rarefied moral reasoning nor for feeling great empathy necessarily translates into actually doing something difficult, brave, and compassionate.
- People kill and are willing to be killed for symbolic sacred values. Negotiations can make peace with Them; understanding

and respecting the intensity of their sacred values can make lasting peace.
- We are constantly being shaped by seemingly irrelevant stimuli, subliminal information, and internal forces we don't know a thing about.
- Our worst behaviors, ones we condemn and punish, are the products of our biology. But don't forget that the same applies to our best behaviors.
- Individuals no more exceptional than the rest of us provide stunning examples of our finest moments as humans.

Two Last Thoughts

- If you had to boil this book down to a single phrase, it would be "It's complicated." Nothing seems to cause anything; instead everything just modulates something else. Scientists keep saying, "We used to think X, but now we realize that . . ." Fixing one thing often messes up ten more, as the law of unintended consequences reigns. On any big, important issue it seems like 51 percent of the scientific studies conclude one thing, and 49 percent conclude the opposite. And so on. Eventually it can seem hopeless that you can actually fix something, can make things better. But we have no choice but to try. And if you are reading this, you are probably ideally suited to do so. You've amply proven you have intellectual tenacity. You probably also have running water, a home, adequate calories, and low odds of festering with a bad parasitic disease. You probably don't have to worry about Ebola virus, warlords, or being invisible in your world. And you've been educated. In other words, you're one of the lucky humans. So try.
- Finally, you don't have to choose between being scientific and being compassionate.