

Twelve

Hierarchy, Obedience, and Resistance

At first glance, this chapter simply complements the previous one. Us/Them-ing is about relations between groups and our automatic tendency to favor in-groups over out-groups. Similarly, hierarchies are about a type of relations within groups, our automatic tendency to favor people close in rank to us over those who are distant. Other themes repeat as well—the appearance of these tendencies early in life and in other species, and the intertwined cognitive and affective underpinnings.

Moreover, Us/Them categorization and hierarchical position interact. In one study subjects gave racial designations to pictures of racially ambiguous individuals; those dressed in low-status attire were more likely to be categorized as black, high-status attire, white.¹ Thus, among these American subjects, Us/Them dichotomizing by race and the hierarchy of socioeconomic status overlap.

But as we'll see, hierarchy heads in different directions from Us/Them-ing, and in uniquely human ways: Like other hierarchical species, we have alpha individuals, but unlike most others, we occasionally get to choose them. Moreover, they often are not merely highest ranking but also “lead,” attempting to maximize this thing called the common good. Furthermore, individuals vie for leadership with differing visions of how best to attain that common good—political ideologies. And finally, we express obedience both to an authority and to the idea of Authority.

THE NATURE AND VARIETIES OF HIERARCHIES

For starters, a hierarchy is a ranking system that formalizes unequal access to limited resources, ranging from meat to that nebulous thing called “prestige.” We begin by examining hierarchies in other species (with the proviso that not all social species have hierarchies).

The textbook 1960s picture of hierarchies in other species was straightforward. A group forms a stable, linear hierarchy where the alpha individual dominates everyone, the beta individual dominates everyone except the alpha, gamma everyone except alpha and beta, and so on.

Hierarchies establish a status quo by ritualizing inequalities. Two baboons encounter something good—say, a spot shaded from the sun. Without stable dominance relations, there’s a potentially injurious fight. Likewise over the figs in a fruiting tree an hour later, and for the chance to be groomed by someone after that, etc. Instead, fights rarely occur, and if a subordinate forgets his status, a “threat yawn”—a ritualistic display of canines—from the dominant male usually suffices.^{*,*2}

Why have ranking systems? The answer, circa 1960s, was Marlin Perkins group selection, where a species benefits from a stable social system in which everyone knows their place. This view was fostered by the primatological belief that in a hierarchy the alpha individual (i.e., the one who gets first dibs on anything good) was in some manner a “leader” who does something useful for the group. This was emphasized by the Harvard primatologist Irven DeVore, who reported that among savanna baboons, the alpha male led the troop in each day’s direction of foraging, led communal hunts, defended everyone against lions, disciplined the kids, changed the lightbulbs, etc. This turned out to be nonsense. Alpha males don’t know which direction to go (given that they transfer into troops as adolescents). No one follows them anyway; instead everyone follows the old females, who do know. Hunts are disorganized free-for-alls. And an alpha male might face down a lion to protect a kid—if the kid is probably his own. Otherwise, he’d grab the safest spot.



Male baboon giving a (hopefully) intimidating threat yawn.

When viewed without Perkins-colored glasses, the benefits of hierarchy are individualistic. Interactions that proclaim the status quo obviously help the upper crust. Meanwhile, for subordinates, better to not get a shady spot than to not get it after receiving a canine slash. This is logical in a static, hereditary ranking system. In systems where ranks change, this caution must be balanced with occasionally challenging things—because the alpha male may be past his prime and getting by on bluff.

This is a classic “pecking order” (a term derived from the hierarchical system of hens). Variations begin. A first concern is whether there’s actually a hierarchy, in the sense of gradations of rank. Instead, in some species (e.g., South American marmoset monkeys) there’s the alpha and there’s everyone else, with fairly equal relations.

In species with gradations, there’s the issue of what a “rank” actually means. If your rank is number six in a hierarchy, in your mind are numbers one through five interchangeable guys you’d better kowtow to, while seven through infinity are undifferentiated peons? If so, it would be irrelevant to you if numbers two and three, or numbers nine and ten, were having tensions; rank gradations would be in the eyes of the primatologist, not the primate.

In reality, such primates think about gradations of rank. For example, a baboon typically interacts differently with, say, the guy one step above him in rank than the one five steps above. Furthermore, primates note gradations that don't directly concern them. Recall from chapter 10 how researchers recorded vocalizations of individuals in a troop, splicing them to invent social scenarios. Play a recording of number ten giving a dominance call and number one responding with a subordination call, and everyone pays attention: whoa, Bill Gates just panhandled a homeless guy.

This can be abstracted further, as shown with ravens, which are outrageously smart birds. As with baboons, vocalizations implying dominance reversals command more attention than does the status quo. Remarkably, this even occurs for reversals between birds in a *neighboring* flock. Ravens discern dominance relations just by listening and are interested in hierarchical gossip about a different group.

Next is the issue of variation within and among species as to what life is *like* having a particular rank. Does being high ranking merely mean that everyone keeps tabs on your mood or, at the other extreme, that no one else is getting enough calories to ovulate, lactate, or survive? How often do subordinates challenge dominant individuals? How readily do dominant individuals vent their frustrations on subordinates? How much do such subordinates have coping outlets (e.g., someone to groom with)?

Then there is the issue of how high rank is attained. In many cases (e.g., female baboons, as noted) rank is inherited, a system with kin selection written all over it. In contrast, in other species/sexes (male baboons, for example) ranks shift over time, changing as a function of fights, showdowns, and Shakespearean melodrama, where rising in the hierarchy is about brawn, sharp canines, and winning the right fight.*

Hurrah for clawing your way to the top, for sweaty, zero-sum, muscular capitalism. But what about the more interesting issue of how high rank, once attained, is maintained? As we'll see, this has less to do with muscle than with social skills.

This ushers in a key point—social competence is challenging, and this is reflected in the brain. The British anthropologist Robin Dunbar has shown that across various taxa (e.g., “birds,” “ungulates” or “primates”), the bigger the average size of the social group in the species, (a) the larger the brain, relative to total body size, and (b) the larger the neocortex, relative to total brain size. Dunbar's influential “social brain hypothesis” posits that increases in social

complexity and the evolutionary expansion of the neocortex have been linked. This link also occurs within species. Among some primates, group size can vary tenfold (depending on the richness of the ecosystem). This was modeled in a fascinating neuroimaging study, in which captive macaque monkeys were housed in different-sized groups; the bigger the group, the more thickening of the prefrontal cortex and the superior temporal gyrus, a cortical region involved in Theory of Mind, and the tighter the activity coupling between the two.*³

Thus primate social complexity and big brains go together. This is shown further by examining fission-fusion species, where the size of the social group regularly changes dramatically. Baboons, for example, start and end the day in a large, coherent troop, whereas midday foraging occurs in small groups. As other examples, hyenas hunt in groups but scavenge individually, and wolves often do the opposite.

Sociality is more complex in fission-fusion species. You must remember if someone's rank differs when in a subgroup versus the entire group. Being away from someone all day makes it tempting to see if dominance relations have changed since breakfast.

One study compared fission-fusion primates (chimps, bonobos, orangutans, spider monkeys) and non-fission-fusion (gorillas, capuchins, long-tailed macaques).⁴ Among these captive animals, fission-fusion species were better at frontocortical tasks and had larger neocortices relative to total brain size. Studies of corvids (crows, ravens, magpies, jackdaws) showed the same thing.

Thus “rank” and “hierarchy” in other animals is anything but straightforward and varies considerably depending on the species, gender, and social group.

RANK AND HIERARCHY IN HUMANS

Human hierarchies resemble those of other species in many ways. For example, there's the distinction between stable and unstable hierarchies—centuries of czarist rule versus the first inning of the Russian Revolution. As we'll see below, those situations evoke different patterns of brain activation.

Group size also matters—primate species with bigger social groups have larger cortices relative to the rest of the brain (with humans topping off both measures).⁵ If you graph the size of the neocortex against the average size of the social group across primate species, you get “Dunbar's number,” the predicted average group size in traditional human cultures. It's 150 people, and there's much evidence supporting that prediction.

This also plays out in the Western world, where the larger the size of someone's social network (often calculated by the number of e-mail/texting relationships), the larger the vmPFC, orbital PFC, and amygdala, and the better the person's Theory of Mind-related skills.⁶

Do these brain regions expand when someone has a larger social network, or do larger sizes of these regions predispose people toward forming larger networks? Naturally, some of both.

As with other species, human quality of life also varies with the consequences of rank inequalities—there's a big difference between the powerful getting seated at a restaurant before you and the powerful getting to behead you if the fancy strikes them. Recall the study of thirty-seven countries showing that the more income inequality, the more preadolescent bullying in schools. In other words, countries with more brutal socioeconomic hierarchies produce children who enforce their own hierarchies more brutally.⁷

Amid these cross-species similarities, there are unique things about humans, including the following.

Membership in Multiple Hierarchies

We belong to multiple hierarchies and can have very different ranks in them.* Naturally, this invites rationalization and system justification—deciding

why hierarchies where we flounder are crap and the one where we reign really counts.

Implicit in being part of multiple hierarchies is their potential overlap. Consider socioeconomic status, which encompasses both local and global hierarchies. I'm doing great socioeconomically—my car's fancier than yours. I'm doing terribly—I'm not richer than Bill Gates.

The Specialization of Some Ranking Systems

A high-ranking chimp is generally good at related things. But humans can dwell in incredibly specialized hierarchies. Example: There's a guy named Joey Chestnut who's a god in one subculture—he's the most successful competitive hot dog eater in history. However, whether Chestnut's gift generalizes to other domains is unclear.

Internal Standards

This is the circumstance of having internal standards independent of the outside world. As an example, winning or losing at a team sport generally increases or decreases, respectively, testosterone levels in men. But things are subtler than that—testosterone more closely tracks winning through skill (rather than luck), and also more closely tracks individual (rather than team) performance.^{[8](#)}

Thus, as usual, we are just like other animals but totally different. We now consider the biology of individual ranks.

THE VIEW FROM THE TOP, THE VIEW FROM THE BOTTOM

Detecting Rank

Much as with our ability to detect *Thems*, we're intensely interested in and adept at spotting rank differences. For example, forty milliseconds is all we need to reliably distinguish between a dominant face (with direct gaze) and a subordinate one (with averted gaze and lowered eyebrows). Status is also signaled in the body, albeit to a less accurate extent—dominance with an exposed torso with arms wide open, subordination with arms sheltering a bent torso, intent on invisibility. Again, we recognize those cues at automatic speeds.⁹

Human infants also recognize status differences, as shown in a truly clever study. Show an infant a computer screen displaying a big square and little square; each has eyes and a mouth.¹⁰ The two squares are at opposite ends of the screen and repeatedly move to the other side, passing each other in the process. Then show a version where the two bump into each other—conflict. The squares bump repeatedly until one of them “gives in” by lying down, letting the other one pass. Toddlers look at the interaction longer when it's the big square that gives in, rather than the little one. The first scenario is more interesting because it violates expectations—“Hey, I thought big squares dominated little squares.” Just like monkeys and corvids.

But wait, this may just reflect folk physics, not attunement to hierarchy—big things knock over little things, not the other way around. This confound was eliminated. First, the adversarial squares were not touching when one gave in. Second, the subordinating one would fall in the opposite direction from that predicted by physics—rather than being knocked backward, it prostrates itself before the alpha square.

Along with this expertise comes intense interest in hierarchy—as emphasized in chapter 9, gossip is mostly about the status of status: Are there any fallen mighty? Have the meek inherited anything lately? Regardless of which square wins, infants look longer at the conflict situation than when the squares peacefully glide past each other.

This is logical self-interest. Knowing the hierarchical lay of the land helps you navigate it better. But there's more to that than just self-interest. Those monkeys and corvids not only pay attention when there are rank reversals in their group; they do the same when eavesdropping on the neighbors. Same with us.¹¹

What's happening in our brains when we contemplate rank?¹² Naturally, the prefrontal cortex weighs in. Frontal damage impairs skill at recognizing dominance relations (along with recognizing kinship, deception, or intimacy in faces). The vlPFC and dlPFC activate and become coupled when we figure out dominance relations or look at a dominant face, reflecting the combined affective and cognitive components to the process. These responses are most pronounced when considering someone of the opposite sex (which may reflect mating goals more than mere academic interest about hierarchy).

Seeing a dominant face also activates the superior temporal gyrus (STG, with its role in Theory of Mind) and increases its coupling to the PFC—we're more interested in what dominant individuals are thinking.¹³ Moreover, individual "social status" neurons occur in the monkeys. And as noted in chapter 2, contemplating an unstable hierarchy does all of the above, plus activates the amygdala, reflecting the unsettling effects of instability. Of course, though, none of this tells us *what* we are contemplating at these times.

Your Brain and Your Own Status

Your own rank does logical things to your brain. In macaque monkeys an increase in rank increases mesolimbic dopamine signaling. And back to that rhesus monkey study showing that being in a larger social group causes expansion and functional coupling of the STG and PFC. The study also showed that the higher the rank attained within each group, the greater the expansion and coupling. Consistent with that, a study of mice showed that higher-ranking animals had stronger excitatory inputs into the mouse equivalent of the (cognitive) dlPFC.¹⁴

I love these findings. As I said, in lots of social species, attaining high rank is about sharp teeth and good fighting skills. But *maintaining* the high rank is about social intelligence and impulse control: knowing which provocations to ignore and which coalitions to form, understanding other individuals' actions.

Does the monkey make history, or does history make the monkey? Once groups were formed, did individuals who became dominant respond with the biggest expansions of those brain regions? Or, prior to group formation, were the individuals destined to become dominant already endowed in those regions?

Unfortunately, animals weren't imaged before and after group formation in the study. However, subsequent work showed that the larger the size of the group, the larger the association between dominance and those brain changes, suggesting that attaining high rank drives the enlargement.* In contrast, the mouse study showed that when synaptic excitability was increased or decreased in the dlPFC, rank rose or declined, respectively, suggesting that enlargement drives attainment of high rank. The brain can shape behavior can shape the brain can shape . . .¹⁵

Your Body and Your Own Status

What about biological differences outside the brain as a function of rank? For example, do high- and low-ranking males differ in their testosterone profiles and, if there are differences, are they causes, consequences, or mere correlates of the rank differences?

Folk endocrinology has always held that high rank (in any species) and elevated testosterone levels go hand in hand, with the latter powering the former. But as covered at length in chapter 4, neither is the case in primates. As a reminder:

- In stable hierarchies high-ranking males typically don't have the highest testosterone concentrations. Instead it's usually low-ranking adolescent males, starting fights they can't finish. When there is an association between high rank and high testosterone, it generally reflects the higher rates of sexual behavior among dominant individuals driving secretion.
- An exception to the above is during unstable times. For example, among a number of primate species, high-ranking males have the highest testosterone levels for the first months but not years after group formation. During unstable times, the high-testosterone/high-rank relationship is more a consequence

of the high rates of fighting among the high-ranking cohort than of rank itself.¹⁶

- Reiterating the “challenge hypothesis,” the elevation in testosterone levels caused by fighting is not so much about aggression as about challenge. If status is maintained aggressively, testosterone fosters aggression; if status were maintained by writing beautiful, delicate haikus, testosterone would foster that.

Next we consider the relationship between rank and stress. Are different ranks associated with different levels of stress hormones, styles of coping, and incidences of stress-related disease? Is it more stressful to be dominant or subordinate?

An extensive literature shows that a sense of control and predictability reduces stress. Yet monkey research conducted by Joseph Brady in 1958 produced a different view. Half the animals could press a bar to delay shocks (“executive” monkeys); the passive other half received a shock whenever the executive did. And the executive monkeys, with their control and predictability, were more likely to ulcerate. This birthed the “executive stress syndrome”—those on top are burdened with the stressors of control, leadership, and responsibility.¹⁷

Executive stress syndrome became a meme. But a huge problem was that monkeys were not randomly assigned to be “executives” and “nonexecutives.” Instead, those that pressed the bar soonest in pilot studies were made executives.* Such monkeys were subsequently shown to be more emotionally reactive, so Brady had inadvertently stacked the executive side with the ulcer-prone neurotics.

So much for ulcerating executives; contemporary studies show that the worst stress-related health typically occurs in middle management, with its killer combo of high work demands but little autonomy—responsibility without control.

By the 1970s dogma held that subordinate organisms are the most stressed and unhealthy. This was first shown with lab rodents, where subordinate animals typically had elevated *resting* levels of glucocorticoids. In other words, even in the absence of stress, they showed signs of chronically activating the stress response. The same is observed in primates ranging from rhesus monkeys to lemurs. Same for hamsters, guinea pigs, wolves, rabbits, and pigs. Even fish.

Even sugar gliders, whatever they are. In a pair of unintentional studies of captive monkeys in which subordinate individuals were basically subordinated to death, such animals had extensive damage to the hippocampus, a brain region very sensitive to the damaging effects of glucocorticoid excess.¹⁸

My own work with baboons in Africa showed the same (being the first such studies of wild primates). In general, low-ranking male baboons had elevated basal glucocorticoid levels. When something stressful did occur, their glucocorticoid stress response was relatively sluggish. When the stressor was over, their levels returned to that elevated baseline more slowly. In other words, too much of the stuff in the bloodstream when you don't need it, and too little when you do. Remarkably, at the nuts-and-bolts level of brain, pituitary, and adrenals, the elevated basal glucocorticoid levels of a subordinate occurred for the same reasons as the elevated levels in humans with major depression. For a baboon, social subordination resembles the learned helplessness of depression.

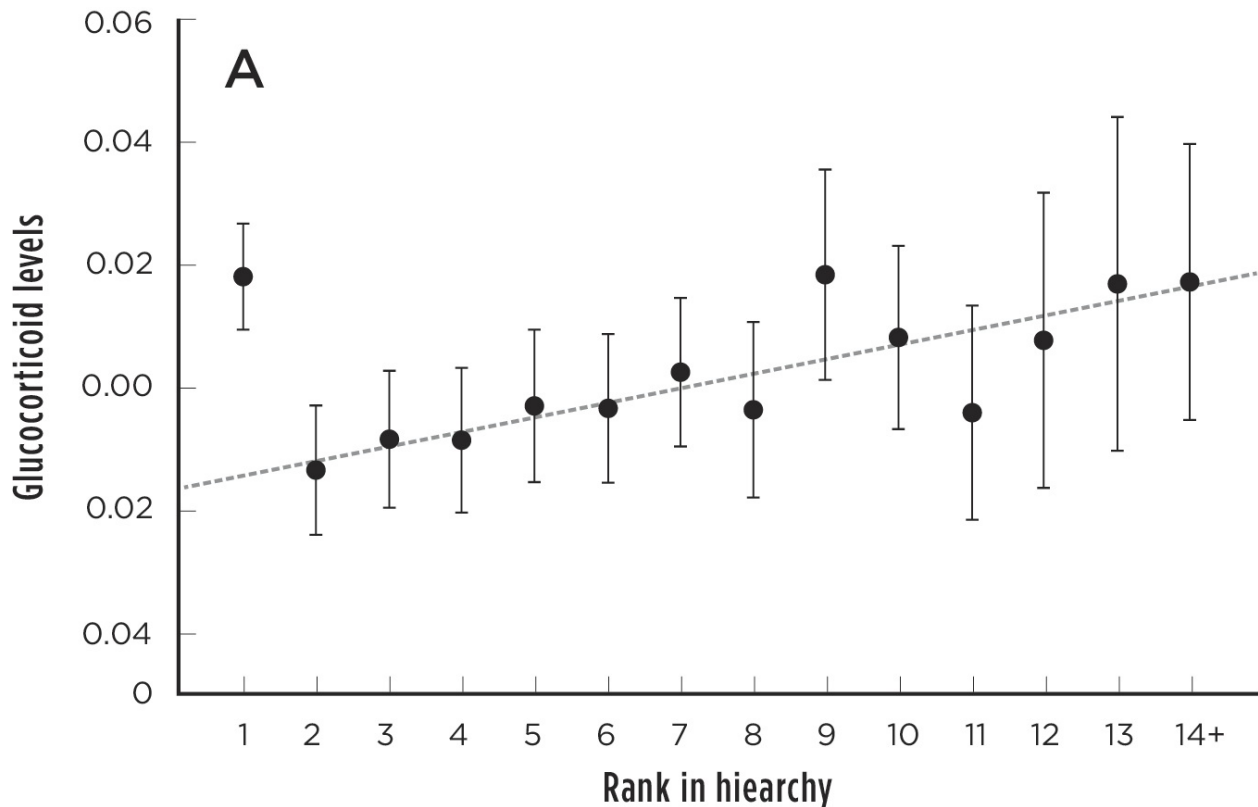
Excessive glucocorticoids get you into trouble in various ways, helping explain why chronic stress makes you sick. Subordinate baboons paid a price in other realms as well. They had (a) elevated blood pressure and a sluggish cardiovascular response to a stressor; (b) lower levels of "good" HDL cholesterol; (c) subtle immune impairments, a higher frequency of getting sick and slower wound healing; (d) a testicular system more easily disrupted by stress than that of dominant males; and (e) lower circulating levels of a key growth factor. Try not to be a subordinate baboon.

Chickens and eggs reappear—does a particular physiological attribute contribute to rank, or the reverse? This is impossible to determine in wild animals, but in captive primate populations the distinctive physiological features of a rank generally follow, rather than precede, the establishment of the rank.¹⁹

At that point I'd happily proclaim that these findings reflected the nature of Hierarchy, with a capital *H*, and of the stressfulness of social subordination. Which turned out to be totally wrong.

A first wrinkle was provided by Jeanne Altmann of Princeton and Susan Alberts of Duke, studying wild baboons with stable hierarchies. They found the familiar picture, namely of subordination associated with elevated basal glucocorticoid levels. However, unexpectedly, levels in alphas were elevated into the range seen in lowest-ranking males. Why is life more stressful for alpha than beta males? The two ranks had similar rates of being challenged by lower-ranking males (a source of stress) and being groomed by females (a source of coping). However, alpha males fight more often and spend more time in sexual

consortships with females (which is majorly stressful, as the male has to defend his consortship from harassing males). Ironically, a chief benefit of alphasdom—sexual consortships—can be a major stressor. Be careful what you wish for.²⁰



Modified from R. Sapolsky, "Sympathy for the CEO," *Sci* 333 (2011): 293.

Visit bit.ly/2ngWthp for a larger version of this graph.

Okay, so except for the curse of being alpha, social subordination is generally stressful. But this is also wrong. It's not just the rank that matters but what the rank *means*.

Consider the primate species in which a relationship has been found between rank and glucocorticoid levels. Across these species, basal glucocorticoid levels are relatively elevated in subordinate animals if: (a) dominant individuals in bad moods frequently displace aggression onto subordinates; (b) subordinates lack coping outlets (such as a grooming partner); and/or (c) the social structure is such that subordinate animals have no relatives present. And when the profile was the opposite, it was dominant animals with the highest glucocorticoid levels.²¹

The “meaning” of rank and its physiological correlates also vary between different groups of the same species. For example, while health of subordinate baboons fared particularly badly in a troop with high rates of dominant males displacing aggression, the health of dominant males fared badly in a troop during a period of instability centered around the top of the hierarchy.

And superimposed on all this, personality shapes the perception of the reality of rank. Using the word “personality” about other species used to cost you tenure, but it’s now a hot topic in primatology. Individuals in other species have stable differences in temperament—how likely someone is to displace aggression when frustrated, how socially affiliative they are, how rattled they get by novelty, and so on. Primates differ as to whether they see watering holes as half empty or full; in the context of hierarchy, some individuals who are number two care only that they’re not number one, and some individuals who are number nine gain comfort from at least not being number ten.

Not surprisingly, personality influences the rank/health relationship. For the same high rank, an individual is likely to be less healthy if he (a) is particularly reactive to novelty; (b) sees threats in benign circumstances (e.g., his rival showing up and merely taking a nap nearby); (c) doesn’t take advantage of social control (e.g., letting a rival determine the start of an obvious showdown); (d) doesn’t differentiate between good and bad news (e.g., distinguishing behaviorally between winning and losing a fight); and/or (e) doesn’t have social outlets when frustrated. You could make a living giving baboons “how to succeed in business” seminars built around these factors.²²

Meanwhile, on the flip side, for the same low rank, an individual tends to be healthier if (a) he has lots of grooming relationships; and/or (b) there’s someone even lower ranking than him to serve as a target for displaced aggression.

Thus, in other species, how does rank affect the body? It depends on what it’s like to have a certain rank in that species and particular social group, and the personality traits that filter the perception of those variables. What about humans?

And Us

A smidgen of neurobiology research has examined differences in how people feel about hierarchy. Back to a concept from the last chapter, social-dominance orientation (SDO), the measure of how much people value power and prestige.

In one study subjects viewed someone in emotional pain. As reviewed in chapter 2, this activates the anterior cingulate cortex and insular cortex—empathy, and disgust at the circumstance that evoked the pain. The higher someone's SDO score, the less activation of those two regions. Those with the most interest in prestige and power seem least likely to feel for those less fortunate.²³

What about the biological correlates of a human having a particular rank? In some ways we're more subtle than other primates; in others, far less so.

Two studies examined high-status individuals in government or the military (in the latter case, officers up to the level of colonel). As compared with low-status controls, these folks had lower basal glucocorticoid levels, less self-reported anxiety, and an enhanced sense of control (this telling us nothing, however, as to which came first—the rank or the unstressed profile).²⁴

Baboons redux. But something subtler was happening. The authors deconstructed high rank with three questions: (a) How many people ranked lower than the subject in his organization? (b) How much autonomy did he have (e.g., to hire and fire)? (c) How many people did he directly supervise? And high rank came with low glucocorticoids and anxiety only insofar as the position was about the first two variables—lots of subordinates, lots of authority. In contrast, having to directly supervise lots of subordinates did not predict those good outcomes.

This gives credence to executives' bellyaching about how they aren't supervising eleventy people; instead they have eleventy bosses. To accrue the full physiological benefits of high status, don't supervise people; instead, glide through the workplace like a master of the universe while minions whom you never interact with smile obsequiously. It's not just rank; it's what rank means and entails.

In what sense is the status/health relationship in humans less subtle than in other primates?²⁵ In that it reflects the most permeating form of status any primate has invented, namely socioeconomic status (SES). Numerous studies examine the "health/SES" gradient, the fact that life expectancy and the incidence and morbidity of numerous diseases are worse in poor people.

To summarize this sprawling topic that was reviewed in chapter 9:

- Which comes first—poverty or poor health? Overwhelmingly the former. Recall that developing in a low-SES womb makes poorer health as an adult more likely.

- It's not that the poor have poor health and everyone else is equally healthy. For every step down the SES ladder, health is worse.
- The problem isn't that poor people have less health-care access. The gradient occurs in countries with socialized medicine and universal health care and for diseases whose incidence is independent of health-care access.
- Only about a third of the variability is explained by the poor being exposed to more health risk factors (e.g., pollution) and fewer protective factors (e.g., health club memberships).
- The gradient seems to be about the psychological baggage of SES. (a) Subjective SES predicts health at least as accurately as objective SES, meaning that it's not about being poor. It's about *feeling* poor. (b) Independent of absolute levels of income, the more income inequality in a community—meaning the more frequently the poor have their noses rubbed in their low status—the steeper the health gradient. (c) Lots of inequality in a community makes for low social capital (trust and a sense of efficacy), and that's the most direct cause of the poor health. Collectively these studies show that the psychological stress of low SES is what decreases health. Consistent with that, it is diseases that are most sensitive to stress (cardiovascular, gastrointestinal, and psychiatric disorders) that show the steepest SES/health gradients.

The SES/health gradient is ubiquitous. Regardless of gender, age, or race. With or without universal health care. In societies that are ethnically homogeneous and those rife with ethnic tensions. In societies in which the central mythology is a capitalist credo of “Living well is the best revenge” and those in which it is a socialist anthem of “From each according to his ability, to each according to his need.” When humans invented material inequality, they came up with a way of subjugating the low ranking like nothing ever before seen in the primate world.

A Really Odd Thing That We Do Now and Then

Amid the unique features of human hierarchies, one of the most distinctive and recent is this business of having leaders and choosing who they are.

As discussed, outdated primatology confused high rank with “leadership” in silly ways. An alpha male baboon is not a leader; he just gets the best stuff. And while everyone follows a knowledgeable old female when she chooses her foraging route in the morning, there is every indication that she is “going” rather than “leading.”

But humans have leaders, anchored in the unique notion of the common good. What counts as the common good, and the leader’s role in fostering it, obviously varies, ranging from leading the horde in the siege of a castle to leading a bird-watching walk.

Even more newfangled is humans choosing their leaders, whether selecting a clan head by acclamation around the campfire, or a three-year-long presidential campaign season topped with the bizarreness of the Electoral College. How do we choose leaders?

A frequent conscious component of decision making is to vote for experience or competence rather than for stances on specific issues. This is so common that in one study faces judged to look more competent won elections 68 percent of the time.²⁶ People also make conscious voting choices based on single, potentially irrelevant issues (e.g., voting for assistant county dogcatcher based on the candidates’ stances on drone warfare in Pakistan). And then there’s the facet of American decision making that baffles citizens of other democracies, namely voting for “likability.” Just consider Bush v. Kerry in 2004, where Republican pundits suggested that people’s choice for the most powerful position on earth should reflect which guy you’d rather have a beer with.

At least as interesting are the automatic and unconscious elements of decision making. As probably the strongest factor, of candidates with identical political stances, people are more likely to vote for the better-looking one. Given the preponderance of male candidates and officeholders, this mostly translates into voting for masculine traits—tall, healthy-looking, symmetrical features, high forehead, prominent brow ridges, jutting jaw.²⁷

As first raised in chapter 3, this fits into the larger phenomenon of attractive people typically being rated as having better personalities and higher moral standards and as being kinder, more honest, more friendly, and more trustworthy. And they are treated better—for the same résumé, being more likely to be hired; for the same job, getting a higher salary; for the same crime, being less likely to be convicted. This is the beauty-is-good stereotype, summarized in an 1882

quote by Friedrich Schiller: “Physical beauty is the sign of an interior beauty, a spiritual and moral beauty.”²⁸ This is the flip side of the view that disfigurement, illness, and injury are karmic payback for one’s sins. And as we saw in chapter 3, we use the same circuitry in the orbitofrontal PFC when we evaluate the moral goodness of an act and the beauty of a face.

Other implicit factors come into play. One study examined the campaign speeches of candidates in every prime minister election in Australian history.²⁹ In 80 percent of elections the winner was the one to use more collective pronouns (i.e., “we” and “us”), suggesting an attraction to candidates who speak on everyone’s behalf.

There are also contingent automatic preferences. For example, in scenarios concerning war, both Western and East Asian subjects prefer candidates with older, more masculine faces; during peacetime, it’s younger, more feminine faces. Furthermore, in scenarios involving fostering cooperation between groups, intelligent-looking faces are preferred; at other times more intelligent faces are viewed as less masculine or desirable.³⁰

These automatic biases fall into place early in life. One study showed kids, ages five to thirteen, pairs of faces of candidates from obscure elections and asked them whom they’d prefer as captain on a hypothetical boat trip. And kids picked the winner *71 percent* of the time.³¹

Scientists doing these studies often speculate as to why such preferences have evolved; frankly, much of this feels like just-so stories. For example, in analyzing the preference for leaders with more masculine faces during war, the authors noted that high testosterone levels produce both more masculine facial features (generally true) and more aggressive behavior (not true, back to chapter 4), and that aggressiveness is what you want in a leader during times of war (personally, not so sure about that one). Thus, preferring candidates with more masculine faces increases the odds of landing the aggressive leader you need to triumph in war. And everyone then passes on more copies of their genes. Voilà.

Regardless of causes, the main point is the power of these forces—five-year-olds with 71 percent accuracy demonstrate that these are some very generalized, deeply entrenched biases. And then our conscious cognitions play catch-up to make our decision seems careful and wise.

OH, WHY NOT TAKE THIS ONE ON? POLITICS AND POLITICAL ORIENTATIONS

So humans keep getting weirder—multiple hierarchies *and* having leaders *and* occasionally choosing them *and* doing so with some silly, implicit criteria. Now let's plunge into politics.

Frans de Waal introduced the term “politics” into primatology with his classic book *Chimpanzee Politics*, using it in the sense of “Machiavellian intelligence”—nonhuman primates struggling in socially complex manners to control access to resources. The book documents chimpanzee genius for such maneuvering.

This is “politics” in the traditional human sense as well. But I will use a more restricted, starry-eyed sense, which is politics being the struggle among the powerful with differing visions of the common good. Forget liberals accusing conservatives of waging war on the poor. Ditto conservatives accusing those depraved liberals of destroying family values. Cutting through this posturing, we'll assume that everyone equally desires that people do as well as possible, but differs as to how best to accomplish this. In this section we'll focus on three issues:

- a. Do political orientations tend to be internally consistent (e.g., do people's opinions about their town's littering policy and about military actions in Somewhere-istan come as an ideological package)? Quick answer: usually.
- b. Do such consistent orientations arise from deep, implicit factors with remarkably little to do with specific political issues? Yup.
- c. Can one begin to detect the bits of biology underlying these factors? Of course.

The Internal Consistency of Political Orientation

The previous chapter examined the remarkable consistency in Us/Them orientations—people who dislike a particular out-group on economic grounds are likelier than chance to dislike another group on historical grounds, another on cultural, and so on.³² Much the same is true here—social, economic, environmental, and international political orientations tend to come in a package. This consistency explains the humor behind a *New Yorker* cartoon (pointed out by the political psychologist John Jost) showing a woman modeling a dress for her husband and asking, “Does this dress make me look Republican?” Another example concerns the bioethicist Leon Kass, who not only has had influential conservative stances on human cloning, finding the possibility “repugnant,” but also finds it repugnant when people display the “catlike activity” of licking ice cream cones in public. More to come on his issues, including with licking ice cream cones. What this internal consistency suggests is that political ideology is merely one manifestation of broader, underlying ideology—as we’ll see, this helps explain conservatives being more likely than liberals to have cleaning supplies in their bedrooms.

Naturally, strict consistency in political ideology isn’t always the rule. Libertarians are a mixture of social liberalism and economic conservatism; conversely, black Baptist churches are traditionally economically liberal but socially conservative (for example, rejecting both gay rights and the idea that gay rights are a form of civil rights). Moreover, neither extreme of political ideology is monolithic (and ignoring that, I’ll be simplifying throughout by using “liberal” and “left-wing” interchangeably, as well as “conservative” and “right-wing”).

Nonetheless, the building blocks of political orientation tend to be stable and internally consistent. It’s usually possible to dress like a Republican or lick ice cream like a Democrat.

Implicit Factors Underlying Political Orientation

If political ideology is but one manifestation of larger internal forces pertinent to everything from cleaning supplies in the bedroom to ice cream consumption, are there psychological, affective, cognitive, and visceral ways in which leftists and rightists tend to differ? This question has produced deeply fascinating findings; I’ll try to corral them into some categories.

INTELLIGENCE

Oh, what the hell? Let's begin with something inflammatory. Starting with Theodor Adorno in the 1950s, people have suggested that lower intelligence predicts adherence to conservative ideology.³³ Some but not all studies since then have supported this conclusion. More consistent has been a link between lower intelligence and a subtype of conservatism, namely right-wing authoritarianism (RWA, a fondness for hierarchy). One particularly thorough demonstration of this involved more than fifteen thousand subjects in the UK and United States; importantly, the links among low IQ, RWA, and intergroup prejudice were there after controlling for education and socioeconomic status. The standard, convincing explanation for the link is that RWA provides simple answers, ideal for people with poor abstract reasoning skills.

INTELLECTUAL STYLE

This literature has two broad themes. One is that rightists are relatively uncomfortable intellectually with ambiguity; this is covered below. The other is that leftists, well, think *harder*, have a greater capacity for what the political scientist Philip Tetlock of the University of Pennsylvania calls “integrative complexity.”

In one study conservatives and liberals, when asked about the causes of poverty, both tended toward personal attributions (“They’re poor because they’re lazy”). But only if they had to make snap judgments. Give people more time, and liberals shifted toward situational explanations (“Wait, things are stacked against the poor”). In other words, conservatives start gut and stay gut; liberals go from gut to head.³⁴

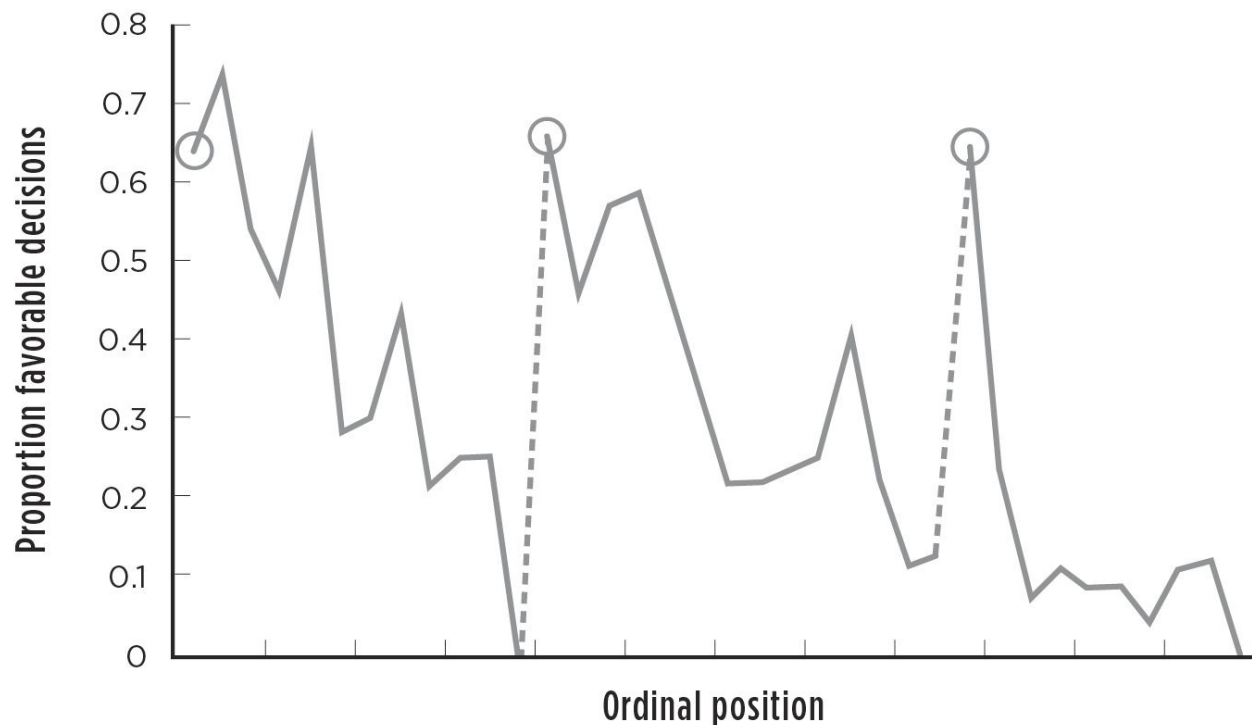
This differing attributional style extends way beyond politics. Tell liberals or conservatives about a guy who trips over someone’s feet while learning a dance, ask for a snap assessment, and everyone does personal attribution—the guy’s clumsy. It’s only with time that the liberals go situational—maybe the dance is really difficult.

Obviously this dichotomy isn’t perfect. Rightists did personal attribution for Lewinsky-gate (Bill Clinton’s rotten) while leftists did situational (it’s a vast right-wing conspiracy), and things ran the opposite with Nixon and Watergate. However, they are pretty reliable.

Why the difference? Liberals and conservatives are equally capable of thinking past gut personal attributions to subtler situational ones—when asked to do so, both are equally adept at dispassionately presenting the viewpoints of the

opposite camp. It's that liberals are more motivated to push toward situational explanations.

Why? Some have suggested it's a greater respect for thinking, which readily becomes an unhelpful tautology. Linda Skitka of the University of Illinois emphasizes how the personal attributions of snap judgments readily feel dissonant to liberals, at odds with their principles; thus they are motivated to think their way to a more consonant view. In contrast, even with more time, conservatives don't become more situational, because there's no dissonance.



Proportion of rulings in favor of the prisoners by ordinal position. Circled points indicate the first decision in each of the three decision sessions; tick marks on x axis denote every third case; dotted line denotes food break. Because unequal session lengths resulted in a low number of cases for some of the later ordinal positions, the graph is based on the first 95% of the data from each session.

While logical, this just turfs us to asking where the liberal ideology causing the dissonance comes from in the first place. As we'll see, it comes from factors having little to do with cognitive style.

These findings suggest that it's easier to make a liberal think like a conservative than the other way around.³⁵ Or, stated in a familiar way, increasing cognitive load* should make people more conservative. This is precisely the case. The time pressure of snap judgments is a version of increased cognitive

load. Likewise, people become more conservative when tired, in pain or distracted with a cognitive task, or when blood alcohol levels rise.

Recall from chapter 3 that willpower takes metabolic power, thanks to the glucose demands of the frontal cortex. This was the finding that when people are hungry, they become less generous in economic games. A real-world example of this is startling (see graph on previous page)—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 (note also the overall decline over the course of a tiring day). Justice may be blind, but she's sure sensitive to her stomach gurgling.³⁶

MORAL COGNITION

Another minefield. Surprise, people at both ends of the political spectrum accuse the other side of impoverished moral thought.³⁷ One direction of this is seemingly bolstered by chapter 7's Kohlberg stages of moral development. Liberals, steeped in civil disobedience, tend to be at a "higher" Kohlberg stage than are conservatives, with their fondness for law and order. Are rightists less intellectually *capable* of reasoning at a more advanced Kohlberg stage, or are they less *motivated* to do so? Seemingly the latter—rightists and leftists are equally capable of presenting the other's perspective.

Jonathan Haidt of NYU provides a very different view.³⁸ He identifies six foundations of morality—care versus harm; fairness versus cheating; liberty versus oppression; loyalty versus betrayal; authority versus subversion; sanctity versus degradation. Both experimental and real-world data show that liberals preferentially value the first three goals, namely care, fairness, and liberty (and, showing an overlap with Kohlbergian formulations, undervaluing loyalty, authority, and sanctity is in many ways synonymous with postconventional thinking). In contrast, conservatives heavily value loyalty, authority, and sanctity. Obviously, this is a big difference. Is it okay to criticize your group to outsiders? Rightists: no, that's disloyal. Leftists: yes, if justified. Should you ever disobey a law? Rightists: no, that undermines authority. Leftists: of course, if it's a bad law. Is it okay to burn the flag? Rightists: never, it's sacred. Leftists: come on, it's a piece of cloth.

These differing emphases explain a lot—for example, the classical liberal view is that everyone has equal rights to happiness; rightists instead discount fairness in favor of expedient authority, generating the classical conservative

view that some socioeconomic inequality is a tolerable price for things running smoothly.

What does it mean that, in Haidt's view, conservatives count up six (moral foundations) on their toes and liberals only three? Here is where internecine sniping starts. Conservatives embrace Haidt's characterization of liberals as being morally impoverished, with half their moral foundations atrophied.* The opposite interpretation, espoused by Jost, and Joshua Greene of Harvard, is that liberals have more refined moral foundations, having jettisoned the less important, more historically damaging ones that conservatives persevere on—in effect, liberals count from one to three, while conservatives really only count four to six.

Why are conservatives more concerned with “binding foundations” like loyalty, authority, and sanctity, often stepping-stones to right-wing authoritarianism and social-dominance orientation? This segues to the next section.

AFFECTIVE PSYCHOLOGICAL DIFFERENCES

Research consistently shows that leftists and rightists differ in overlapping categories of emotional makeup. To summarize: on the average, rightists are made more anxious by ambiguity and have a stronger need for closure, dislike novelty, are more comforted by structure and hierarchy, more readily perceive circumstances as threatening, and are more parochial in their empathy.

The conservative dislike of ambiguity has been demonstrated in numerous apolitical contexts (e.g., responses to visual illusions, taste in entertainment) and is closely related to the differing feelings about novelty, which by definition evokes ambiguity and uncertainty.³⁹ The differing views of novelty certainly explain the liberal view that with correct reforms, our best days are ahead of us in a novel future, whereas conservatives view our best days as behind us, in familiar circumstances that should be returned to, to make things great again. Once again, these differences in psychological makeup play out in apolitical realms as well—liberals are more likely to own travel books than are conservatives.

The conservative need for predictability and structure obviously fuels the emphases on loyalty, obedience, and law and order.⁴⁰ It also gives insights into a puzzling feature of the political landscape: how is it that over the last fifty years, Republicans have persuaded impoverished white Americans to so often vote against their own economic self-interest? Do they actually believe that they're

going to win the lottery and then get to enjoy the privileged side of American inequality? Nah. The psychological issues of needing structured familiarity show that for poor whites, voting Republican constitutes an implicit act of system justification and risk aversion. Better to resist change and deal with the devil that you know. Harking back to the last chapter, gay conservatives show more implicit *antigay* biases than do gay liberals. Better to hate who you are, if that bolsters a system whose stability and predictability are sources of comfort.

Intertwined with these variables is the Left/Right difference in tendency to see things as threatening, particularly when conservatism is anchored in authoritarianism. Life is filled with ambiguity, most of all with the novel future, and if those make you anxious, lots of things will seem threatening. Now, a “threat” can be abstract, such as to your self-esteem; there are few political differences in the perception of such threats. The differences concern concrete threats to your keister.

This helps explain political stances—“I have a list here of two hundred communist spies working in the State Department” is a pretty good demonstration of imagined threat.* The difference in threat perception can be apolitical. In one study subjects had to rapidly do a task when a word flashed up on a screen. Authoritarian conservatives, but not liberals, responded more rapidly to threatening words like “cancer,” “snake,” or “mugger” than to nonthreatening words (e.g., “telescope,” “tree,” “canteen”). Moreover, as compared with liberals, such conservatives are more likely to associate “arms” with “weapons” (rather than with “legs”), more likely to interpret ambiguous faces as threatening, and more easily conditioned to associate negative (but not positive) stimuli with neutral stimuli. Republicans report three times as many nightmares as do Democrats, particularly ones involving loss of personal power. As the saying goes, a conservative is a liberal who has been mugged.

Related to this is “terror-management theory,” which suggests that conservatism is psychologically rooted in a pronounced fear of death; supporting this is the finding that priming people to think about their mortality makes them more conservative.⁴¹

These differences in threat perception help explain the differing views as to role of government—providing for people (the leftist view; social services, education, etc.) or protecting people (the rightist view; law and order, the military, etc.).*

Fear, anxiety, the terror of mortality—it must be a drag being right-wing. But despite that, in a multinational study, rightists were happier than leftists.⁴² Why?

Perhaps it's having simpler answers, unburdened by motivated correction. Or, as favored by the authors, because system justification allows conservatives to rationalize and be less discomfited by inequality. And as economic inequality rises, the happiness gap between the Right and the Left increases.

As emphasized, political ideology is just one manifestation of intellectual and emotional style. As a great example, a *four*-year-old's openness to a new toy predicts how open she'll be as an adult to, say, the United States forging new relations with Iran or Cuba.⁴³

And of Course, Some Underlying Biology

We've now seen that political orientation is usually stable and internally consistent across a range of disparate issues, and that it is typically merely one manifestation of a package of cognitive and affective style. Stepping deeper, what are the biological correlates of differing political orientations?

Back to the insular cortex and its role in mediating gustatory and olfactory disgust in mammals and in mediating moral disgust in humans. Recall from the last chapter how you can reliably stoke hatred of Them by making them seem viscerally disgusting. When people's insulae activate at the thought of Them, you can check one thing off your genocide to-do list.

This recalls a remarkable finding—stick subjects in a room with a smelly garbage can, and they become more socially conservative.⁴⁴ If your insula is gagging from the smell of dead fish, you're more likely to decide that a social practice of an Other that is merely different is, instead, just plain wrong.

This leads to a thoroughly fascinating finding—social conservatives tend toward lower thresholds for disgust than liberals. In one study subjects were exposed to either positively or negatively charged emotional images,^{*} and galvanic skin resistance (GSR, an indirect measure of sympathetic nervous system arousal) was measured. The biggest autonomic responses to negative (but not positive) emotional images were in conservatives opposed to gay marriage or premarital sex (while GSR response was unrelated to nonsocial issues like free trade or gun control). Concerns about hygiene and purity sure predict valuing of sanctity.⁴⁵

Related to that, when confronted with something viscerally disturbing, conservatives are less likely to use reappraisal strategies (e.g., when seeing something gory, thinking, "This isn't real; it's staged"). Moreover, when

conservatives, but not liberals, are instructed to use reappraisal techniques (e.g., “Try to view the images in a detached, unemotional way”), they express less conservative political sentiments. In contrast, a suppression strategy (“Don’t let your feelings show when you’re looking at this image”) doesn’t work. As we saw, make a liberal tired, hungry, rushed, distracted, or disgusted, and they become more conservative. Make a conservative more detached about something viscerally disturbing, and they become more liberal.⁴⁶

Thus political orientation about social issues reflects sensitivity to visceral disgust and strategies for coping with such disgust. In addition, conservatives are more likely to think that disgust is a good metric for deciding whether something is moral. Which recalls Leon Kass, the bioethicist with the ice cream-licking issues. He headed George W. Bush’s bioethics panel, one that, thanks to Kass’s antiabortion ideology, greatly restricted embryonic stem cell research. Kass has argued for what he calls “the wisdom of repugnance,” where disgust at something like human cloning can be “the emotional expression of deep wisdom, beyond wisdom’s power completely to articulate it.” The visceral level, with or without post-hoc rationalization, is all you need in order to know what’s right. If it makes you puke, then you must rebuke.⁴⁷

The monumental flaw is obvious. Different things disgust different people; whose gag reflex wins? Moreover, things once viewed as disgusting are viewed differently now (e.g., the idea of slaves having the same rights as whites would probably have struck most white Americans circa 1800 as not just economically unworkable but disgusting as well). It’s disgusting, the things people weren’t disgusted by in the past. Disgust is a moving target.

Thus issues anchored in the insula help explain differences in political orientation; this point will be returned to in chapter 17.⁴⁸ Additional neurobiological differences have been demonstrated. Liberalism has been associated with larger amounts of gray matter in the cingulate cortex (with its involvement in empathy), whereas conservatism has been associated with an enlarged amygdala (with, of course, its starring role in threat perception). Moreover, there’s more amygdala activation in conservatives than in liberals when viewing a disgusting image or doing a risky task.

But not all the findings fit easily. For example, when looking at disgusting images, conservatives also show relatively greater activation of a hodgepodge of other brain regions—the basal ganglia, thalamus, periaqueductal gray, (cognitive) dlPFC, middle/superior temporal gyrus, presupplementary motor, fusiform, and inferior frontal gyrus. How all those fit together isn’t clear.

Naturally, one must ask: have behavior geneticists reported genetic influences on political orientation? Twin studies report heritability of about 50 percent for political orientation. Genomewide survey approaches have identified genes whose polymorphic variants were associated with political orientation. Most of the genes had no known functions, or were previously thought to be unrelated to the brain; those whose brain-related functions were known (for example, one coded for a receptor for the neurotransmitter glutamate) don't teach much about political orientation. As an interesting gene/environment interaction, the "risk-taking" version of the D4 dopamine receptor gene is associated with liberals—but only in people with lots of friends. Moreover, some studies show a genetic association with people's likelihood of voting, independent of political orientation.⁴⁹

Interesting. However, the approach comes with all of chapter 8's caveats—most findings haven't been replicated, reported effects are small, and these are published in political science journals rather than genetics journals. Finally, to the extent that genes are related to political orientation, links are likely to be via intervening factors, such as the tendency toward anxiety.

OBEDIENCE AND CONFORMITY, DISOBEDIENCE AND NONCONFORMITY

So humans have multiple simultaneous hierarchies and hierarchies built around abstractions, and occasionally choose leaders who labor for the common good.⁵⁰ Add to that obedience to leaders. This is utterly different from a schlub of a baboon obediently surrendering his spot in the shade to the looming alpha male. Instead humans show obedience to authority that transcends any given occupant of a throne (the king is dead; long live the king), to the very notion of authority. Its elements range from loyalty, admiration, and emulation to brownnosing, sycophancy, and instrumental self-interest, and can range from mere compliance (i.e., the public conformity of going along, without actually agreeing) to drinking the Kool-Aid (i.e., identifying with the authority and internalizing and extending its beliefs).

Obedience is closely intertwined with conformity, a concept central to the previous chapter but considered here. Both consist of going along; the former with the group, the latter with authority. And for us the commonalities are what matter. Moreover, the opposites—disobedience and nonconformity—are also intertwined and range from the independence of marching to a different drummer to the intentionality and mirrored determinism of anticonformity.

Importantly, these are value-free terms. Conformity can be great—it's helpful if everyone in a culture agrees on whether shaking your head up and down means yes or no. Conforming is necessary for the benefits of the wisdom of the crowd. And it can be truly comforting. But obviously conformity can be horrendous—joining in on bullying, oppressing, shunning, expelling, killing, just because everyone else is on board.

Obedience can be swell too, ranging from everyone stopping at stop signs to (to the embarrassment of my pseudoanarchist adolescence) my kids listening when my wife and I say it's bedtime. And malign obedience obviously underlies “just following orders”—from goose-stepping to Jonestown's wretched obeying the command to kill their children.

Roots

Conformity and obedience have deep roots, as evidenced by their presence in other species and in very young humans.

Animal conformity is a type of social learning—a subordinate primate does not have to be thrashed by some bruiser in order to express subordination to him; everyone else's doing so can be sufficient.^{[*51](#)} The conformity has a familiar human tinge to it. For example, a chimp is more likely to copy an action if he sees three other individuals do it once each than if one other individual does it three times.^{[*](#)} Moreover, learning can include “cultural transmission”—in chimps, for example, this includes learning types of tool construction. Conformity relates to social and emotional contagion where, say, a primate aggressively targets an individual just because someone else is already doing so. Such contagion even works between groups. For example, among marmosets aggression in a group becomes more likely if aggressive vocalizations are heard from the neighboring group. Other primates are even subject to the social contagion of yawning.^{[*52](#)}

My favorite example of nonhuman conformity is so familiar that it could come right out of high school. A male grouse courts a female who, alas, doesn't feel magic in the air and rebuffs him. The researchers then make him seem like the hottest stud on the prairie—by surrounding him with some rapt, stuffed female grouse. Soon the reluctant maiden is all over him, pushing her statuesque rivals aside.^{[53](#)}

An even clearer demonstration of animal conformity was shown in a beautiful study of chimpanzees by Frans de Waal. In each of two groups the alpha female was separated from the rest and shown how to open a puzzle box containing food. Crucially, the two were shown different, equally difficult ways of doing it. Once the females had mastered their approaches, the chimps in each group got to watch their alpha female strut her stuff repeatedly with the puzzle box. Finally everyone got access to the puzzle box and promptly copied their alpha's technique.^{[54](#)}

Thus this is a cool demonstration of the spread of cultural information. But something even more interesting happened. A chimp in the group would occasionally stumble onto the alternative method—and would then abandon it, going back to doing it the “normal” way. Just because everyone else was doing so.^{[*](#)} The same phenomenon was subsequently shown in capuchin monkeys and wild birds.

Thus animals will perform one version of a behavior not because it is better but simply because everyone else does. Even more striking, animal conformity can be detrimental. In a 2013 study Andrew Whiten of the University of St Andrews presented wild vervet monkeys with two bins of maize, dyed either pink or blue.⁵⁵ One color tasted fine; the other had a bitter additive. The monkeys learned to avoid the latter and months later still ate only the “safe”-colored maize—even after the additive was omitted.

As infants were born or adults who had grown up elsewhere migrated into the group, they conformed to this food choice, learning to eat only the same color food as everyone else. In other words, forgoing half the potential food just because of the need to fit in—monkeys joining the herd, acting like sheep, going over the cliff like lemmings. One example starkly displays the same in humans: in life-threatening emergencies (e.g., a restaurant fire), people frequently attempt to escape by following the crowd in what they know to be the wrong direction.

The deeply ingrained nature of human conformity and obedience in humans is shown by the ages when they are apparent. As detailed in chapter 7, zillions of pages have been written about conformity and peer pressure in kids. One study nicely demonstrates the continuity of conformity between us and other species. This was the report that a chimp was more likely to conform to the behaviors of three individuals doing a behavior once each than to one individual doing the behavior three times. The study showed the same in two-year-old humans.

The depths of human conformity and obedience are shown by the speed with which they occur—it takes less than 200 milliseconds for your brain to register that the group has picked a different answer from yours, and less than 380 milliseconds for a profile of activation that predicts changing your opinion. Our brains are biased to get along by going along in less than a second.⁵⁶

Neural Bases

This last study raises the question of what occurs in the brain under these circumstances. Our usual cast of brain regions pops up in informative ways.

The influential “social identity theory” posits that our concept of who we are is heavily shaped by social context—by the groups we do or don’t identify with.⁵⁷ In that view, conformity and obedience, while certainly about avoiding punishment, are at least as much about the positives of fitting in. When we imitate someone’s actions, our mesolimbic dopamine system activates.* When

we choose incorrectly in a task, the dopaminergic decline is less if we made the decision as part of a group than if we did so as an individual. Belonging is safety.

In numerous studies a subject in a group answers some question, finds out after that—oh no!—everyone else disagrees, and can then change their answer.⁵⁸ No surprise, the discovery that you are out of step activates the amygdala and insular cortex; the more activation, the greater your likelihood of changing your mind, and the more persistent the change (as opposed to the transient change of compliant public conformity). This is a profoundly social phenomenon—people are more likely to change their answer if you show them a picture of the person(s) who disagrees with them.

When you get the news that everyone else disagrees with you, there is also activation of the (emotional) vmPFC, the anterior cingulate cortex, and the nucleus accumbens. This is a network mobilized during reinforcement learning, where you learn to modify your behavior when there is a mismatch between what you expected to happen and what actually did. Find out that everyone disagrees with you and this network activates. What is it basically telling you? Not just that you're *different* from everyone else. That you're *wrong*. Being different = being wrong. The greater the activation of this circuit, the greater the likelihood of changing answers to conform.⁵⁹

Like most of the neuroimaging literature, these studies are merely correlative. Thus, particularly important is a 2011 study that used transcranial magnetic stimulation techniques to temporarily inactivate the vmPFC; subjects became less likely to change their answer to conform.⁶⁰

Back to the contrast between conforming taking the form of “You know what, if everyone says they saw B, I guess I did too; whatever” and its taking the form of “Now that I think about it, I didn’t actually see A; I think I saw B; in fact I’m certain of it.” The latter is associated with activation of the hippocampus, the brain region central to learning and memory—the revisionism involves you literally revising your memory. Remarkably, in another study this process of conforming was also associated with activation of the occipital cortex, the brain region that does the primary processing of vision—you can almost hear the frontal and limbic parts of the brain trying to convince the occipital cortex that it saw something different from what it actually saw. As has been said, winners (in this case, in the court of public opinion) get to write the history books, and everyone else better revise theirs accordingly. War is peace. Freedom is slavery. That dot you saw was actually blue, not red.⁶¹

Thus the neurobiology of conforming consists of a first wave of anxiety where we equate differentness with wrongness, followed by the cognitive work needed to change our opinion. These findings obviously come from an artificial world of psych experiments. Thus they're only a faint whisper of what occurs when it's you against the rest of the jury, when it's you being urged to join the lynch mob, when it's you choosing between conforming and being deeply lonely.

What is the neurobiology of obedience to authority, when you're being ordered to do something wrong? A similar mixture as with conformity, with the vmPFC and the dlPFC mud-wrestling, with indices of anxiety and glucocorticoid stress hormones showing up to bias you toward subordination. Which leads us to consider classic studies of "just following orders."

Asch, Milgram, and Zimbardo

The neurobiology of conformity and obedience won't soon be revealing much about the core question in this field: if the circumstances are right, is every human capable of doing something appalling simply because they've been ordered to, because everyone else is doing it?

It is virtually required by law to discuss three of the most influential, daring, disturbing, and controversial studies in the history of psychology, namely the conformity experiments of Solomon Asch, the shock/obedience studies of Stanley Milgram, and the Stanford Prison Experiment of Philip Zimbardo.

The grandparent of the trio was Asch, working in the early 1950s at Swarthmore College.⁶² The format of his studies was simple. A volunteer, thinking that this was a study of perception, would be given a pair of cards. One card would have a line on it, the other a trio of different-length lines, one of which matched the length of the singleton line. Which line of the trio is the same length as the singleton? Easy; volunteers sitting alone in a room had about a 1 percent error rate over a series of cases.

Meanwhile, the volunteers in the experimental group take the test in a room with seven others, each saying his choice out loud. Unbeknownst to the volunteer, the other seven worked on the project. The volunteer would "just happen" to go last, and the first seven would unanimously pick a glaringly wrong answer. Stunningly, volunteers would now agree with that incorrect answer about a third of the time, something replicated frequently in the cottage

industry of research spawned by Asch. Whether due to the person's actually changing their mind or their merely deciding to go along, this was a startling demonstration of conformity.

On to the Milgram obedience experiment, whose first incarnations appeared in the early 1960s at Yale.⁶³ A pair of volunteers would show up for a psychology “study of memory”; one would arbitrarily be designated the “teacher,” the other the “learner.” Learner and teacher would be in separate rooms, hearing but not seeing each other. In the room with the teacher would be the lab-coated scientist supervising the study.

The teacher would recite pairs of words (from a list given by the scientist); the learner was supposed to remember their pairing. After a series of these, the teacher would test the learner's memory of the pairings. Each time the learner made a mistake, the teacher was supposed to shock them; with each mistake, shock intensity increased, up to a life-threatening 450 volts, ending the session.

Teachers thought the shocks were real—at the start they'd been given a real shock, supposedly of the intensity of the first punitive one. It hurt. In reality no punitive shocks were given—the “learner” worked on the project. As the intensity of the supposed shocks increased, the teacher would hear the learner responding in pain, crying out, begging for the teacher to stop.* (In one variant the “volunteer” who became the learner mentioned in passing that he had a heart condition. As shock intensity increased, this learner would scream about chest pains and then go silent, seemingly having passed out.)

Amid the screams of pain, teachers would typically become hesitant, at which point they'd be urged on by the scientist with commands of increasing intensity: “Please continue.” “The experiment requires that you continue.” “It is absolutely essential that you continue.” “You have no other choice. You must go on.” And, the scientist assured them, they weren't responsible; the learner had been informed of the risks.

And the famed result was that most volunteers complied, shocking the learner repeatedly. Teachers would typically try to stop, argue with the scientist, would even weep in distress—but would obey. In the original study, horrifically, 65 percent of them administered the maximum shock of 450 volts.

And then there's the Stanford Prison Experiment (SPE), carried out by Zimbardo in 1971.⁶⁴ Twenty-four young male volunteers, mostly college students, were randomly split into a group of twelve "prisoners" and twelve "guards." The prisoners were to spend seven to fourteen days jailed in a pseudoprison in the basement of Stanford's psychology department. The guards were to keep order.

Tremendous effort went into making the SPE realistic. The future prisoners thought they were scheduled to show up at the building at a particular time to start the study. Instead, Palo Alto police helped Zimbardo by showing up earlier at each prisoner's home, arresting him, and taking him to the police station for booking—fingerprinting, mug shots, the works. Prisoners were then deposited in the "prison," strip-searched, given prison garb, along with stocking hats to simulate their heads being shaved, and dumped as trios in cells.

The guards, in surplus military khakis, batons, and reflective sunglasses, ruled. They had been informed that while there was no violence allowed, they could make the prisoners feel bored, afraid, helpless, humiliated, and without a sense of privacy or individuality.

And the result was just as famously horrific as that of the Milgram experiment. The guards put prisoners through pointless, humiliating rituals of obedience, forced painful exercise, deprived them of sleep and food, forced them to relieve themselves in unemptied buckets in the cells (rather than escorting them to the bathroom), put people in solitary, set prisoners against each other, addressed them by number, rather than by name. The prisoners, meanwhile, had a range of responses. One cell revolted on the second day, refusing to obey the guards and barricading the entrance to their cell; guards subdued them with fire extinguishers. Other prisoners resisted more individualistically; most eventually sank into passivity and despair.

The experiment ended famously. Six days into it, as the brutality and degradation worsened, Zimbardo was persuaded to halt the study by a graduate student, Christina Maslach. They later married.

Situational Forces and What Lurks in All of Us

These studies are famed, have inspired movies and novels, have entered the common culture (with predictably horrendous misrepresentations).⁶⁵ They brought renown and notoriety to Asch, Milgram, and Zimbardo.^{*} And they were vastly influential in scientific circles—according to Google Scholar, Asch's work

is cited more than 4,000 times in the literature, Milgram's more than 27,000 times, the SPE more than 58,000.*⁶⁶ The number of times your average science paper is cited can be counted on one hand, with most of the citations by the scientist's mother. The trio is a cornerstone of social psychology. In the words of Harvard psychologist Mahzarin Banaji, "The primary simple lesson the SPE [and, by extension, Asch and Milgram] teaches is that *situations matter*" (her emphasis).

What did they show? Thanks to Asch, that average people will go along with absurdly incorrect assertions in the name of conformity. And thanks to the other two studies, that average people will do stunningly bad things in the name of obedience and conformity.

The larger implications of this are enormous. Asch and Milgram (the former a Jewish Eastern European immigrant, the latter the son of Jewish Eastern European immigrants) worked in the era of the intellectual challenge of making sense of Germans "just following orders." Milgram's study was prompted by the start, a few months earlier, of the war-crimes trial of Adolf Eichmann, the man who famously epitomized the "banality of evil" because of his seeming normalcy. Zimbardo's work burst forth during the Vietnam War era with the likes of the My Lai Massacre, and the SPE became biting relevant thirty years later with the abuse and torture of Iraqis at Abu Ghraib Prison by perfectly normal American soldiers.*⁶⁷

Zimbardo took a particularly extreme stance as to what these findings mean, namely his "bad barrel" theory—the issue isn't how a few bad apples can ruin the whole barrel; it's how a bad barrel can turn any apple bad. In another apt metaphor, rather than concentrating on one evil person at a time, what Zimbardo calls a "medical" approach, one must understand how some environments cause epidemics of evil, a "public health" approach. As he states: "Any deed, for good or evil, that any human being has ever done, you and I could also do—given the same situational forces." Anyone could potentially be an abusive Milgram teacher, Zimbardo guard, or goose-stepping Nazi. In a similar vein, Milgram stated, "If a system of death camps were set up in the US of the sorts we had seen in Nazi Germany one would be able to find sufficient personnel for those camps in any medium-sized American town." And as stated by Aleksandr Solzhenitsyn in *The Gulag Archipelago*, in a quote perpetually cited in this literature, "The line dividing good and evil cuts through the heart of every human being. And who is willing to destroy a piece of his own heart?"⁶⁸

Some Different Takes

Big surprise—the studies and their conclusions, especially those of Milgram and Zimbardo, have been controversial. Those two attracted firestorms of controversy because of the unethical nature of the work; some teachers and guards were psychological wrecks afterward, seeing what they had proven capable of;⁶⁹ it changed the course of a number of their lives.⁷⁰ No human-subjects committee would approve the Milgram study these days; in contemporary versions subjects are ordered to, for example, say increasingly insulting things to the learner or administer virtual shocks, evoking virtual pain, in avatars (stay tuned).⁶⁹

The controversies about the science itself in the Milgram and Zimbardo studies are more pertinent. The Milgram edifice has been questioned in three ways, most piercingly by the psychologist Gina Perry:

- Milgram seems to have fudged some of his work. Perry has analyzed Milgram's unpublished papers and recordings of sessions, finding that teachers refused to shock much more frequently than reported. However, despite the seemingly inflated results, the finding of roughly 60 percent compliance rates has been replicated.⁷⁰
- Few of the replicating studies were traditional academic ones published in peer-reviewed journals. Instead most have been re-creations for films and television programs.
- Perhaps most important, as analyzed by Perry, far more teachers than Milgram indicated realized that the learner was an actor and that there were no actual shocks. This problem probably extends to the replications as well.

The SPE has arguably attracted the most controversy.

- The biggest lightning rod was the role of Zimbardo himself. Rather than being a detached observer, he served as the prison's "superintendent." He set the ground rules (e.g., telling guards that they could make the prisoners feel afraid and helpless) and met regularly with the guards throughout. He was clearly

excited as hell to see what was happening in the study.

Zimbardo is a larger-than-life force of nature, someone whom you'd very much wish to please. Thus guards were subject to pressure not only to conform with their cohort but also to obey and please Zimbardo; his role, consciously or otherwise, almost certainly prompted the guards to more extreme behavior.

Zimbardo, a humane, decent man who is a friend and colleague, has written at length about this distortive impact that he had on the study.

- At the beginning of the study, volunteers were randomly assigned to be guards or prisoners, and the resulting two groups did not differ on various personality measures. While that's great, what was not appreciated was the possibility that the volunteers as a whole were distinctive. This was tested in a 2007 study in which volunteers were recruited through one of two newspaper ads. The first described "a psychological study of prison life"—the words used in the advertisement for the SPE—while in the other the word "prison" was omitted. The two groups of volunteers then underwent personality testing. Importantly, volunteers for the "prison" study scored higher than the others on measures of aggressiveness, authoritarianism, and social dominance and lower for empathy and altruism. Insofar as both guards and prisoners in the SPE might have had this makeup, it's not clear why that would have biased toward the famously brutal outcome.⁷¹
- Finally, there's science's gold standard, independent replication. If you redid the SPE, down to matching the brand of the guards' socks, would you get the same result? Any study this big, idiosyncratic, and expensive would be difficult to match perfectly in the replication attempt. Moreover, Zimbardo actually published remarkably little of the data about the SPE in professional journals; instead he mostly wrote for the lay public (hard to resist, given the attention the study garnered). Thus there's only really been one attempted replication.

The 2001 "BBC Prison Study" was run by two respected British psychologists, Stephen Reicher of the University of St Andrews and Alex

Haslam of the University of Exeter.⁷² As the name implies, it was carried out (i.e., among other things, paid for) by the BBC, which filmed it for a documentary. Its design replicated the broad features of the SPE.

As is so often the case, there was a completely different outcome. To summarize a book's worth of complex events:

- Prisoners organized to resist any abuse by the guards.
- Prisoner morale soared while guards became demoralized and divided.
- This led to a collapse of the guard/prisoner power differential and ushered in a cooperative, power-sharing commune.
- Which lasted only briefly before three ex-prisoners and one ex-guard overthrew the utopians and instituted a draconian regime; fascinatingly, those four had scored highest on scales of authoritarianism before the study began. As the new regime settled into repressive power, the study was terminated.

Thus, rather than a replication of the SPE, this wound up being more like a replication of the FRE and the RRE (i.e., the French Revolution and the Russian Revolution): a hierarchical regime is overthrown by wet-nosed idealists who know all the songs from *Les Mis*, who are then devoured by Bolsheviks or Reign of Terror-ists. Importantly, the ruling junta at the end having entered the study with the strongest predispositions toward authoritarianism certainly suggests bad apples rather than bad barrels.

Even bigger surprise—stop the presses—Zimbardo criticized the study, arguing that its structure invalidated it as a chance to replicate the SPE; that guard/prisoner assignments could not have really been random; and that filming made this a TV spectacle rather than science; and asking, how can this be a model for anything when the prisoners take over the prison?⁷³

Naturally, Reicher and Haslam disagreed with his disagreement, pointing out that prisoners have de facto taken over some prisons, such as the Maze in Northern Ireland, which the Brits filled with IRA political prisoners, and the Robben Island prison, in which Nelson Mandela spent his endless years.

Zimbardo called Reicher and Haslam “scientifically irresponsible” and “fraudulent.” They pulled out all the stops by quoting Foucault: “Where there is [coercive] power there is resistance.”

Let's calm down. Amid the controversies over Milgram and the SPE, two deeply vital things are indisputable:

- When pressured to conform and obey, a far higher percentage of perfectly normal people than most would predict succumb and do awful things. Contemporary work using a variant on the Milgram paradigm shows “just following orders” in action, where the pattern of neurobiological activation differs when the same act is carried out volitionally versus obediently.⁷⁴
- Nonetheless, there are always those who resist.

This second finding is no surprise, given Hutus who died shielding Tutsi neighbors from Hutu death squads, Germans with every opportunity to look the other way who risked everything to save people from the Nazis, the informant who exposed Abu Ghraib. Some apples, even in the worst of barrels, do not go bad.*

Thus what becomes vital is to understand the circumstances that push us toward actions we thought we were far better than or that reveal strength we never suspected we had.

Modulators of the Pressures to Conform and Obey

The end of the previous chapter examined factors that lessen Us/Them dichotomizing. These included becoming aware of implicit, automatic biases; becoming aware of our sensitivity to disgust, resentment, and envy; recognizing the multiplicity of Us/Them dichotomies that we harbor and emphasizing ones in which a Them becomes an Us; contact with a Them under the right circumstances; resisting essentialism; perspective taking; and, most of all, individuating Thems.

Similar factors decrease the likelihood of people doing appalling things in the name of conformity or obedience. These include:

THE NATURE OF THE AUTHORITY OR GROUP PRESSING FOR CONFORMITY

Does the authority(s) evoke veneration, identification, pants-wetting terror? Is the authority in close proximity? Milgram follow-ups showed that when the authority (i.e., the scientist) was in a different room, compliance decreased. Does

the authority come cloaked in prestige? When the experiment was conducted in some nondescript warehouse in New Haven, instead of on the Yale campus, compliance declined. And, as emphasized by Tajfel in his writing, is the authority perceived as legitimate and stable? I'd more likely comply with, say, lifestyle advice issued by the Dalai Lama than by the head of Boko Haram.

Similar issues of prestige, proximity, legitimacy, and stability influence whether people conform to a group. Obviously, groups of Us-es evoke more conformity than do groups of Them-s. Consider the invoking of Us in Konrad Lorenz's attempt to justify becoming a Nazi: "Practically all my friends and teachers did so, including my own father who certainly was a kindly and humane man."⁷⁵

With groups, issues of numbers come into play—how many other voices are urging you to join the cool kids? Recall how among chimps or two-year-old humans, one individual doing something three times does not evoke the conformity of three individuals doing the same act once each. Echoing this, follow-up studies by Asch showed that conformity first kicks in when there are at least three people unanimously contradicting what the subject thinks, with maximum conformity first evoked by around half a dozen contradictors. But this is the artificial world of lab subjects judging the length of a line—in the real world the conforming power of a lynch mob of six doesn't approach that of a mob of a thousand.⁷⁶

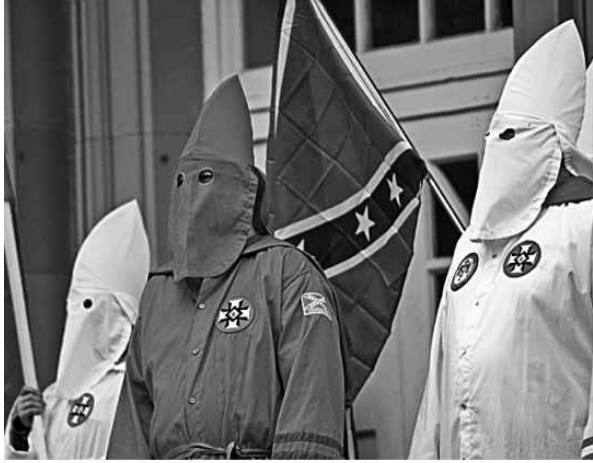
WHAT IS BEING REQUIRED AND IN WHAT CONTEXT

Two issues stand out. The first is the persuasive power of the incremental. "You were okay shocking the guy with 225 volts, but not with 226? That's illogical." "Come on, we're all boycotting their businesses. Let's shut them down; it's not like anyone patronizes them. Come on, we've shut down their businesses, let's loot them; it's not like the stores are doing them any good." We rarely have a rational explanation for an intuitive sense that a line has been crossed on a continuum. What incrementalism does is put the potential resister on the defensive, making the savagery seem like an issue of rationality rather than of morality. This represents an ironic inversion of our tendency to think in categories, to irrationally inflate the importance of an arbitrary boundary. The descent into savagery can be so incremental as to come with nothing but arbitrary boundaries, and our descent becomes like the proverbial frog cooked alive without noticing. When your conscience finally rebels and draws a line in the sand, we know that it is likely to be an arbitrary one, fueled by implicit

subterranean forces—despite your best attempts at pseudospeciation, this victim’s face reminds you of a loved one’s; a smell just wafted by that took you back to childhood and reminds you of how life once felt innocent; your anterior cingulate neurons just had breakfast. At such times, a line having finally been drawn must be more important than its arbitrariness.

The second issue concerns responsibility. When debriefed afterward, compliant teachers typically cited how persuasive they found the information that the learner had been informed of the risks and had given consent. “Don’t worry, you won’t be held responsible.” The Milgram phenomenon also showed the coercive power of misdirecting responsibility, when researchers would seek compliance by emphasizing that the teacher’s responsibility was to the project, not the learner—“I thought you said you were here to help.” “You’re a team member.” “You’re ruining things.” “You signed a form.” It’s hard enough to respond with “This isn’t the job I signed up for.” It’s that much harder when the fine print reveals that this *is* what you signed up for.

Compliance increases when guilt is diffused—even if I hadn’t done it, it still would have happened.⁷⁷ Statistical guilt. This is why, historically, people were not executed with five shots fired from one gun. Instead there were five guns fired simultaneously—a firing squad. Firing squads traditionally took the diffusion of responsibility a step further, where one member was randomly given a blank instead of a real bullet. That way, a shooter could shift from the comforting irrationality that “I only one fifth killed him” to the even better “I may not even have shot him.” This tradition was translated into modern execution technology. Lethal injection machines used in prison executions come with a dual control system—two syringes, each filled with a lethal dose, two separate delivery systems, two buttons pressed simultaneously by two different people—at which point a random binary generator would secretly determine which syringe was emptied into a bucket and which into a human. And then the record would be erased, allowing each person to think, “Hey, I may not even have given him any drug.”



Finally, responsibility is diffused by anonymity.⁷⁸ This comes de facto if the group is large enough, and large groups also facilitate individual efforts at anonymity—during the Chicago riots of 1968, many police notoriously covered their name tags before setting on the unarmed antiwar demonstrators. Groups also facilitate conformity by institutionalizing anonymity; examples range from the KKK to *Star Wars*' Imperial Storm Troopers to the finding that in traditional human societies, warriors who transform and standardize their appearance before battle are more likely to torture and mutilate their enemies than warriors from cultures that don't transform themselves. All use means to deindividuate, where the goal may not be to ensure that a victimized Them won't be able to recognize you afterward as much as to facilitate moral disengagement so that *you* won't be able to recognize you afterward.

THE NATURE OF THE VICTIM

No surprise, compliance becomes easier when the victim is an abstraction—say, the future generations who will inherit this planet. In Milgram follow-ups, compliance declined if the learner was in the same room as the teacher and would plummet if the two had shaken hands. Ditto if psychological distance was shortened by perspective taking—what would it feel like if you were in their shoes?

Predictably, compliance is also decreased when the victim is individuated.⁷⁹ However, don't let the authority individuate victims for you. In one classic Milgram-esque study, the scientists would “accidentally” allow a teacher to overhear their opinion of the learner. “Seems like a nice guy” versus “This guy seems like an animal.” Guess who'd get more shocks?

Authorities rarely ask us to administer shocks to those whom they label as nice guys. It's always to the animals. Implicit in the latter categorization's evoking more compliance is our having ceded power to the authorities or to the group to create the narrative. One of the greatest wellsprings of resistance is to seize back the narrative. From “children of exceptionalities” to the Paralympics, from gay-pride marches to “never again,” from Hispanic Heritage Month to James Brown singing, “Say It Out Loud, I'm Black and I'm Proud,” a major step toward victims' resistance is to gain the power to define themselves.

THINGS BROUGHT TO THE TABLE BY THE PERSON BEING PRESSURED

Some personality traits predict resistance to the pressure to comply: not valuing being conscientious or agreeable; being low in neuroticism; scoring low on right-wing authoritarianism (any particular authority is more likely to be questioned if you already question the very concept of authority); social intelligence, which may be mediated by an enhanced ability to understand things like scapegoating or ulterior motives. And where these individual differences come from is, of course, the end product of most of the preceding chapters.⁸⁰

What about gender? Milgram-like studies have shown that women average higher rates than men of voicing resistance to the demands to obey . . . but higher rates, nonetheless, of ultimately complying. Other studies show that women have higher rates than men of public conformity and lower rates of private conformity. Overall, though, gender is not much of a predictor. Interestingly, rates of conformity in Asch-like studies increase in mixed-sex groups. When in the presence of the opposite sex, perhaps there's less desire to seem like a rugged individualist than fear of seeming foolish.⁸¹

Finally, of course, we are the products of our culture. In broad cross-cultural surveys, Milgram and others showed more compliance in subjects from collectivist than from individualist cultures.⁸²

STRESS

Exactly as with Us/Them-ing, people are more likely to conform and obey at times of stress, ranging from time pressure to a real or imagined outside threat to a novel context. In stressful settings rules gain power.

ALTERNATIVES

Finally, there is the key issue of whether you perceive alternatives to the actions demanded of you. It can be a solitary task to reframe and reappraise a situation, to make the implicit explicit, to engage in perspective taking, to question. To imagine that resistance is *not* futile.

A huge help in doing that is evidence that you are not alone. From Asch and Milgram on, it's clear that the presence of anyone else pushing back against the pressure can be galvanizing. Ten against two in a jury room is a world of difference from eleven against one. One lone voice crying out in the wilderness is a crank. Two voices joined together form a nidus of resistance, offer the start of an oppositional social identity.

It certainly helps to know that you are not alone, that there are others who are willing to resist, that there are those who have done so in the past. But often something still holds us back. Eichmann's seeming normalcy supplied us, thanks to Hannah Arendt, with the notion of the banality of evil. Zimbardo, in his recent writing, emphasizes the "banality of heroism." As discussed in various chapters, people who heroically refuse to look the other way, who do the right thing even when it carries the ultimate cost—tend to be surprisingly normal. The stars didn't align at their births; doves of peace did not envelop them where they strode. They put their pants on one leg at a time. This should be a huge source of strength for us.

SUMMARY AND CONCLUSIONS

- We're just like numerous other social species in terms of having marked status differences among individuals and hierarchies that emerge from those differences. Like many of these other species, we're fantastically attuned to status differences, are sufficiently fascinated by them that we monitor status relations in individuals who are irrelevant to us, and can perceive status differences in a blink of an eye. And we find it deeply unsettling, with the amygdala leading front and center, when status relations are ambiguous and shifting.
- As in so many other species, our brains, particularly the neocortex and most particularly the frontal cortex, have coevolved with the social complexity of status differences. It takes a lot of brainpower to make sense of the subtleties of dominance relations. This is no surprise, given that "knowing your place" can be so contextual. Navigating status differences is most challenging when it comes to attaining and maintaining high rank; this requires cognitive mastery of Theory of Mind and perspective taking; of manipulation, intimidation, and deceit; and of impulse control and emotion regulation. As with so many other primates, the biographies of our most hierarchically successful members are built around what provocations are ignored during occasions where the frontal cortex kept a level head.
- Our bodies and brains, like those of other social species, bear the imprint of social status, and having the "wrong" rank can be corrosively pathogenic. Moreover, the physiology is not so much about rank per se as about its social meaning in your species and particular group, the behavioral advantages and disadvantages, and the psychological baggage of a particular rank.
- And then we're unlike any other species on earth in that we belong to multiple hierarchies, are psychologically adept at

overvaluing those in which we excel, and maintain internal standards that can trump objective rank in their impact.

- Humans committed themselves to a unique trajectory when we invented socioeconomic status. In terms of its caustic, scarring impact on minds and bodies, nothing in the history of animals being crappy to one another about status differences comes within light-years of our invention of poverty.
- We're really out there as a species in that sometimes our high-status individuals don't merely plunder and instead actually lead, actually attempt to facilitate the common good. We've even developed bottom-up mechanisms for collectively choosing such leaders on occasion. A magnificent achievement. Which we then soil by having our choosing of leaders be shaped by implicit, automatic factors more suitable to five-year-olds deciding who should captain their boat on a voyage with the Teletubbies to Candyland.
- Stripped to their idealistic core, our political differences concern differing visions of how best to bring about the common good. We tend to come as internally consistent packages of political stances ranging from the small and local to the mammoth and global. And with remarkable regularity our stances reflect our implicit, affective makeup, with cognition playing post-hoc catch up. If you really want to understand someone's politics, understand their cognitive load, how prone they are to snap judgments, their approaches to reappraisal and resolving cognitive dissonance. Even more important, understand how they *feel* about novelty, ambiguity, empathy, hygiene, disease and dis-ease, and whether things used to be better and the future is a scary place.
- Like so many other animals, we have an often-frantic need to conform, belong, and obey. Such conformity can be markedly maladaptive, as we forgo better solutions in the name of the foolishness of the crowd. When we discover we are out of step with everyone else, our amygdalae spasm with anxiety, our memories are revised, and our sensory-processing regions are even pressured to experience what is not true. All to fit in.

- Finally, the pull of conformity and obedience can lead us to some of our darkest, most appalling places, and far more of us can be led there than we'd like to think. But despite that, even the worst of barrels doesn't turn all apples bad, and "Resistance" and "Heroism" are often more accessible and less rarefied and capitalized than assumed. We're rarely alone in thinking this is wrong, wrong, wrong. And we are usually no less special or unique than those before us who have fought back.