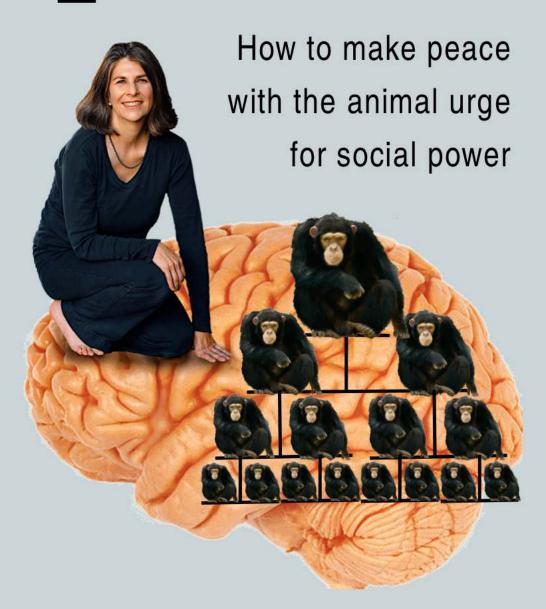
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Chapter 1

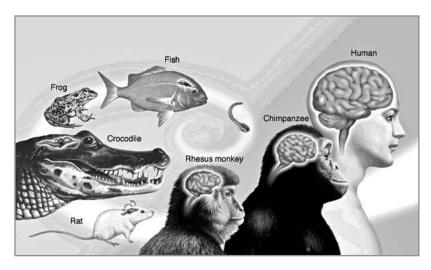
The Neurochemical Facts of Life

... Whatever your yardstick of success, you care about it with the intensity of the neurochemicals that drive animals to reproduce ...

The term "mammal brain" is used here to denote the brain structures common to all mammals. That includes:

- the limbic system, which is unique to mammals;
- the brain stem (medulla) and the cerebellum, which all mammals inherited from reptiles; and
- a small cortex size varies, but every mammals has at least a small one.

Only humans have a pre-frontal cortex, so it not included in the mammal brain. Our cortex can manipulate abstractions in a way that smaller brains cannot. Humans have a unique ability to create information instead of relying only on what our senses report. This ability is not located in one spot that can be pinpointed. But it's clear that our large cortex is qualitatively different from the smaller models.

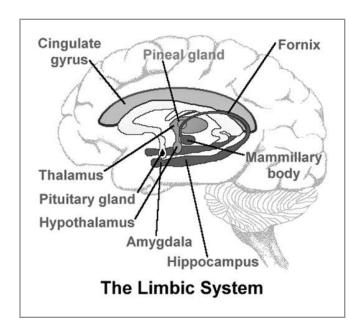


Language is abstract and it takes a large cortex to process. The limbic system does not use language, which is why your limbic system does not tell your cortex what it's up to in words. It reacts to the world non-verbally, by releasing neurochemicals. Your cortex tries to interpret these reactions but it doesn't have the inside scoop.

Your cortex learns about your neurochemistry the way it learns about other things – by observing patterns. If you focus attention on your neurochemical reactions to the world, you can find patterns and interpret them. But it's never easy for a cortex to understand the limbic system it's attached to. Studying animals can help because animals respond to their neurochemicals with less inhibition. Animal behavior patterns have a lot to tell us about what our limbic system is up to.

The first mammals inherited their brains from reptiles and added new features. Reptiles are solitary creatures, without brain structures for making social judgements. Early mammals thrived by living in groups because there's safety in numbers. This strategy was not planned. Survival rates were simply higher among

individuals good at tolerating others. Brains good at living with others were more likely to reproduce, and natural selection eventually led to brain structures skilled at managing social interactions. This includes the hypothalamus, the hippocampus, the amygdala, and other structures known collectively as the "limbic system." These structures release the neurochemicals that shape social behavior. Every mammal has a limbic system just above their reptile brain, and no creature but a mammal has one.



The limbic system enables a mammal to react positively toward another mammal. A reptile never has a warm and fuzzy feeling toward another reptile. A reptile's central nervous system is always alert for potential predators, but it's not alert for allies. It takes a limbic system to have a good feeling about other members of one's species.

Mammals don't feel equally good about each member of their species. They make social judgements. The limbic system and reptile brain work together, guiding a mammal toward those who stimulate positive chemicals and away from those who trigger threat chemicals. This efficient design has been working for millions of years.

All mammals have a cortex, but some only have a smidgeon. The smaller a mammal's cortex, the more it relies on the automatic neurochemical responses it was born with or learned in infancy. The larger the cortex, the more a mammal can adjust its automatic responses by drawing on stored experience.

Our cortex is about triple the size of our ape cousins' (when the surface area is fully unfurled). An ape's cortex is about triple the size of a monkey's, whose cortex is much larger than a dog's. Yet dogs and monkeys all manage to conduct complex social lives without words and without much cortex. They rely on neurochemicals.

A cortex can generate alternatives to simply acting on neurochemical impulses. Since all mammals have at least a small cortex, all mammals have at least a small ability to restrain an impulse and substitute learned experience. More cortex means more ability to create alternatives to neurochemical impulses. Humans rely so heavily on these complex alternatives that we can overlook the limbic system always working in the background.

Our mammalian neurochemicals are usually categorized into two groups: neurotransmitters and hormones. The ones that stay in the brain are called neurotransmitters, and the ones that cross the blood-brain barrier and circulate in the bloodstream are called hormones. We often hear about hormones in the context of sexuality. This book focuses on the happy chemicals and only addresses sexuality as it relates to status. We will use

the more general term "neurochemical" because hormones and neurotransmitters work together in the pursuit of status and happiness.

The imprint of mammalian neurochemicals is all over the record of human history if you look for it. Yet it's widely overlooked, because humans of every time period prefer to explain their behavior in other ways. We prefer not to think of ourselves as status-seeking mammals. But research on animal brains and behavior has expanded in recent years, making it harder for us to avoid the underlying patterns.

Social Dominance in Humans

Humans create dominance hierarchies just like animals. Whenever humans gather, whether two or two million, a hierarchy emerges. Each brain checks out the others for signs of relative strength and weakness.

We humans rank ourselves in myriad ways. Athletes create their social hierarchies, and antique collectors create theirs. Hierarchies based on money get a lot of attention, but people create social hierarchies in everything that matters to them. Consider the distinct hierarchies based on attractiveness, knowledge, physical strength, spirituality or titles.

Each brain is free to create its own hierarchies based on its own values and information. But each brain gathers information by interacting with others, so our social judgements often overlap.

If your status rises within a social hierarchy, it feels good. Happy chemicals flow in your brain when you get recognition from others. You can tell yourself it shouldn't matter, but the happy chemicals are real.

Imagine that you have an award-winning collection of Elvis memorabilia. Your status among fellow collectors soars. Your reproductive success may not be immediately affected because we humans build abstract concepts about reproduction and success. But your happy chemicals respond to the status, and you enjoy it.

Imagine that you win a triathlon. Your brain celebrates with the same happy chemicals that reward reproductive success. In the human world, triathlons might hurt your reproductive success by taxing your body and filling your time. But winning matters to your mammal brain, and it seeks out that feeling.

Alas, bursts of happy chemicals are brief. They evolved to respond to changing circumstances, not to be a steady state. You can get more neurochemical happiness if you advance your status again. Even small advances will do – a momentary reminder of past achievements or future hopes can trigger them. But each new tide subsides, and your brain is soon seeking opportunity again.

Sometimes you fail to win respect, recognition, or status, despite a big investment of effort. Sometimes the status you already have is threatened. Unhappy chemicals flood your system. You may tell yourself it shouldn't matter, but the unhappy chemicals are a real experience. Your mammal brain will look for ways to protect your status to stop the unpleasant feeling.

"Nice" people may say they don't care about status, but they cannot undo millions of years of evolution. Status thoughts enter the mind in spite of ourselves. The mammal brain keeps looking for ways to stimulate happy chemicals and avoid unhappy chemicals. What's a nice person to do?

People often resolve this conflict by telling themselves they care about *other* people's status. You can focus your attention on the status threats confronted by another being or institution to explain your unhappy chemicals. You can strive for an improvement in *their* status. You can stimulate your happy chemicals by dominating on behalf of others, and winning admiration for it. In this way, you can feel good without acknowledging your own appetite for status.

"I don't think this way," you might react. "And I would know it if I did." But your mammal brain doesn't report its survival strategies to your cortex in words. It just releases the chemicals relevant to promoting your prospects as it sees them. It struggles to balance your many different needs. Your need for social alliances often conflicts with your other needs. This problem has no ultimate solution. Your mammal brain simply weighs the

options in each moment. It emits happy and sad chemicals as you might use an accelerator pedal and a brake, to steer you toward things that advance your prospects and away from things that threaten you.

You may think others care too much about status. Other people's status seeking is easy to see, while one's own status seeking is easy to ignore. Other people's interest in social dominance gets your attention because your unhappy chemicals alert you to potential threats to your status.

Being human with a mammal brain is so frustrating that nice, educated people often decide that something is wrong with the world. Our frustrations may seem like proof of flaws in the system. But research on primates makes it clear that the same frustrations would have perplexed the first humans that walked the earth, and all of their descendants.

The point is not that we should seek happiness by dominating others. The point is that we do seek happiness, and dominating does stimulate it momentarily. Every one of us struggles to manage this neurochemical contraption we've inherited. It's easy to get frustrated with the mammal in other people, but that just triggers more unhappy chemicals. Neurochemical happiness is more likely to come from accepting our own mammal brain than from demanding that people not be the way they have always been.

Our brain was not naturally selected for happiness; it was selected for reproductive success. Reproducing as much as possible is not the goal of most people today, but our brains evolved at a time when people died before reproducing more often than not. Reproducing was a valid gauge of success, even if it was not a conscious goal.

Birth control technology has made it possible to give up reproduction without giving up sex. Modern humans can choose to put their energy into other ways of leaving a legacy after they're gone. You might create art, or technology, or a social institution that improves life for future generations. Instead of trying to have as many children and grandchildren as possible, you might invest your effort into a small number of grandchildren who will carry on your values. We learn to define our legacy in unique, individual ways, but we care about that legacy with a common intensity. We are all trying to get happy chemicals from a brain that evolved to reserve them for advancements to its legacy.

Status improves prospects for your legacy, however you define it. That is why status stimulates your happy chemicals. In nature, status brings more and better mating opportunities. This does not sound like a worthy goal to modern humans, so we find loftier ways to explain our lust for status. Many people say they want money so they can give it to a worthy cause. What they really want is the happy chemicals that are stimulated by all forms of "scoring."

We have to live with the brains we've inherited. We cannot demand change in our basic mammalian physiology. The only thing we can change is the neural pathways we connect to our limbic system – and that, we will see, is harder than we expect.

Each individual must manage their own mammal brain. No one can do it for you. You may wish your happy chemicals flowed all the time, but that is not what our equipment evolved to do. We survived as a species because our happy chemicals reward that which we link to survival. If the mammal brain were bathed in constant neurochemical euphoria, we would not be motivated to do what needs to be done.

The neurochemical facts of life are daunting. Your mammal brain is disposed to take risks to get the neurochemical reward. That's because risk-taking is essential to reproductive success. Just surviving is not enough to keep your happy chemicals flowing. Your brain rewards you for finding new opportunities, because that brain kept your ancestors alive.

The True Meaning of Status

A male chimpanzee's ability to mate depends heavily on his status in a group. A female chimpanzee's ability to keep her children alive improves when her status improves. Chimps don't care about status consciously. But a male that ignores status is likely to be frustrated, and a female is more likely to see her babies die before they mature. Unhappy chemicals motivate them to do something about it.

Apes invest energy in the pursuit of status. Males schmooze and spar to display their fitness. Females compete for the best foraging sites and the best male attention. Successful status seeking can bring better nutrition, more strength, better mating opportunities, and ultimately more offspring that live to pass on your successful genes.

Animals don't understand genetics, but they often arrive at behaviors that enhance the survival of their genes. For example, monkeys avoid incest. They do not comprehend the risks of incest, and they do not even comprehend paternity in the way we do. Yet their standard behaviors routinely avoid inbreeding. They avoid mating with close relatives by dispersing to another troop as soon as they reach puberty (just the males or just the females disperse, depending on the species). These behaviors don't come from planning and analysis. They're prompted by neurochemicals, routinely and reliably. Over time, monkeys with incest-avoiding behaviors had healthier heirs than in-breeders, and came to dominate the gene pool.

Mammals with status-seeking habits came to fill to the gene pool in the same way. They didn't intend to be status seekers. They simply did what their brains associated with happy chemicals, and those brains were naturally selected for because they triggered successful survival behaviors.

Genes are only part of the dynamic. Dominance-seeking behaviors get passed on through modeling as well as genes. The primate brain is perfectly designed to learn behaviors from others. Special neurons in the primate brain, called *mirror neurons*, prepare a brain to repeat a behavior it observes in others. Young primates learn dominance-seeking behaviors by observing their dominance-seeking elders.

Primates cooperate too, when it brings a survival advantage. The brain focuses on survival, and cooperation is one of many possible survival strategies.

Species have different behaviors because they adapt to survive in different environments. But their diverse survival adaptations are motored by common brain structures. In this book we will see how diverse mating habits have a common core of rewarding status with sex. Bonobos, for example, have gotten attention recently for their apparent "hippie" lifestyle. They reportedly practice "free love," and ingest hallucinogenic herbs. But bonobos also have status hierarchies. Males get their status not from jousting but from Mom. Female bonobos compete for the carnal attentions of the sons of high-status females.

By contrast, savannah baboons oust their sons at puberty and the mother-daughter bond is the primary relationship. Chimps oust their daughters at puberty, and the male-male bond is the primary relationship. The same neurochemical apparatus generates many different cultures as it adapts each species to its environmental niche. But we will see in the following chapters that status plays a central role in each of them.

Humans also seek status in different ways. The word "status" may evoke images of men on yachts and women in jewels. But you may have hitched your neurochemicals to different status indicators. Every scientist knows who ranks in the science world, and every music lover knows who rates in music. Homeless people on a street corner have a status hierarchy and drug dealers on the same street corner have their hierarchy. When humans gather, a status hierarchy emerges, because each brain compares itself to others.

Brain chemicals do not need consciousness to do their thing. We mammals focus on promoting our own legacy without consciously intending to. It's easy to revile the status seeking of people you dislike. And it's easy to glorify the status advancements of those you like. Once we understand how the brain creates this urge for status, we can stop feeling like something is wrong with the world. Humans today are doing what mammals have done for millions of years.

Social Dominance Hierarchies

The mammal brain's genius lies in its simplicity. It releases happy chemicals when it sees improvement in survival prospects, and unpleasant-feeling chemicals when prospects are somehow threatened. With this simple mechanism, it manages whatever comes along.

Happy neurochemicals reward us for scoping out healthy-looking mates and getting their attention. Happy chemicals reward us for making social alliances that protect ourselves and our offspring. Raising one's status in a social hierarchy helps a mammal succeed at getting mates and protection, so happy chemicals reward that too.

Unhappy chemicals flow when a mammal is threatened by a predator or excluded from mating opportunities. When a mammal's status falls, it is more likely to lose out on mating and safety opportunities, so unhappy chemicals respond to status threats too. Unhappy chemicals are warning signals that alert a mammal to the need to do something different. When a mammal acts to stop unpleasant neurochemicals, it thereby improves its survival prospects.

Animals don't philosophize. They simply try to stimulate their happy chemicals and avoid unhappy ones. They don't plan to create hierarchies. They simply submit to those they fear, and dominate those they don't fear. A hierarchy emerges without effort or intent as each individual responds to its neurochemical impulses.

Why does anyone need to dominate, a nice person is likely to ask. Why can't we all just get along? The answer is clear if you take the perspective of the first mammals. Living in groups brought them safety from predators, but things got complicated at feeding time. When a solitary reptile sees a piece of food, it just lunges for it. But if a whole herd lunged at a piece of food, someone would get hurt. The weakest individuals would get hurt. So the weaker individuals protected themselves by hanging back and eating after the stronger individuals were satisfied. This habit made it possible for the weak to live alongside the strong, improving safety from predators for all of them.

Natural selection produced a brain skilled at doing what it takes to survive in a group. Each mammal knows where he or she ranks in the hierarchy. Each brain determines when it is safe to help itself to food and mating opportunities. Humans may be shocked by the idea of animals pushing and shoving at food. It does not fit the idealized view of nature, full of innocence and harmony. But the fact is, mammals have thrived for millions of years by creating social hierarchies, and that is what their brains evolved to do.

Mammals often get along without conflict, thanks to the neurochemical *oxytocin*. This chemical triggers the feeling humans recognize as trust. But we mammals don't trust everyone. That would not promote survival. Our interests are best served by the ability to make decisions about whom to trust, and our brain evolved to make such decisions. Better social decisions mean better survival prospects.

Mammals with bigger brains make more complex social judgements. They shift fluidly between trusting, dominating, and submitting by constantly analyzing their social environment.

The word "dominate" has a bad ring to modern ears, but field biologists needed a term to denote a widely observed behavior pattern. When an animal asserts itself and another animal defers, biologists call it *dominance*. When an individual animal is habitually deferred to by group mates, biologists call them the *dominant*. The dominant may protect or lead group mates at times, and put its own needs first at other times. These roles are not fixed, and the bigger a species' cortex, the more these roles are re-negotiated. Each mammal brain continually chooses between acting on its urges and restraining urges to avoid conflict.

You would not survive for long if you tried to dominate everyone you met. The resulting conflict and injury would hurt your reproductive success. But if you submitted to everyone you met, you might not get the food you need for strength or the allies you need for safety. You might not get the mates you need to keep your DNA alive. Your well-being rests on the ability to make decisions about when to dominate and when to submit.

The word "submit" also has a bad ring to modern ears. Yet submitting is a skill with important survival benefits. Submission helps a mammal avoid conflicts that it would lose. Avoiding injury means living to spread

your genes another day. Leaving the group is not an effective way for a mammal to avoid injury because solitary mammals are quickly attacked by predators. Sticking with the group even when dominated is a skill that helps a mammal keep its DNA alive. We are descended from mammals who found ways to live alongside stronger, more aggressive individuals.

Submission promotes survival when an individual is weaker than those next to it. Dominance promotes survival when an individual is stronger. The mammal brain determines which position furthers its well-being at each moment.

More dominant animals end up having more surviving offspring. Dominant males get the girls and keep other males away. Dominant females keep more of their children alive because they seize the safer foraging spots and mate with stronger fathers. The differences are often slight, but mammals pursue them anyway. Dominance-seeking behaviors thus got passed on to a new generation.

The mammal brain is a sophisticated instrument for making those constant little choices between staking one's claim and bowing to the preferences of others. We are descended from individuals who did what it took to meet their own needs and their children's needs. That meant deferring to others some of the time, and seizing opportunity for one's self at other times.

Knowing how an animal makes social decisions gives us a window into our own neural operating system. A monkey does not use words when it decides between asserting and deferring. An ape does not analyze pros and cons the way you do when faced with a complex social dilemma. Our primate cousins do not theorize about the common good or the struggle for individuality. They simply assert themselves when they think they will win and restrain themselves when they think they would lose. This sounds awful to human ears, and we are constantly told not to think this way. But the issue keeps resurfacing because underneath each cortex is a mammal brain that thinks this way.

A monkey decides whether it would win a conflict by comparing itself to another. Mammals that assessed others accurately had more reproductive success. Brains that are good at making social judgements were naturally selected for. The cortex supports success with its skill at extracting information from contrasts. Humans often lament social comparisons without noticing how much their own brain is doing the same thing.

A mammal draws on its past experience when it compares itself to others. Mammals accumulate a lot of experience because they have a relatively long childhood. Mammals have larger brains than earlier creatures, and they need longer childhoods to fill those brains with survival information. A mammal's survival depends as much on its social learning as it does on its learning about food or predators.

Neurochemicals help the mammal brain learn from experience. When a mammal does something that satisfies its needs, a good feeling results, and that etches memory. Happy chemicals create real physical connections between neurons. The mammal brain learns what works because happy chemicals flow when a mammal advances its survival prospects.

Ask Not For Whom the Neurochemicals Flow

If you associate status with spoiled rich people, you risk overlooking the many status hierarchies in your own daily life. Money is only one way that people satisfy their appetite for status. Let us explore other common strategies.

1. Family

The urge for status is expressed within families in many ways. Parents care intensely about the status of their children despite great differences in parenting styles. Raising your children's status is a basic form of "reproductive success," though no one consciously thinks about it in those terms.

Every family has status dynamics. Your brain knows from experience which family members tend to get respect and which submit to keep the peace. Some families discuss these dynamics constantly, while in others it's taboo to even mention them. We learn the status dynamics of our own family from experience rather than from conscious intent, so we're not always aware of all we've learned. Yet family is the first social experience stored in your brain, and thus the scaffold on which the brain layers later social experience.

Families exist to help each other meet survival needs, but internal struggles for status within a family are common. Family members can dominate each other with words, or with money, or with aggression, or even with affection. Some families are dominated by an individual who shows extreme, even criminal, disrespect for others. The family dominator could be a person who is strong in the outside world, or weak. Some family alphas dislike the role but find themselves surrounded by individuals who try to get protection by submitting to a leader.

Being born into a high-status family is not the fast track to happiness that people tend to imagine. Children from high-status families can have low status within the family. They must constantly submit in order to retain a place in their high-status world. Their efforts may be scrutinized in a way that leaves them feeling greatly inadequate. Any boost they get from the family name may come at a terrible price, since they risk losing everything any time they do something the family disapproves of. They may seek dominance by rebelling, and that often leads to suffering in other ways. In the end, children from high-status families feel like their survival is threatened just like other mammals, even though they have plenty to eat.

2. Strength

"I can beat him up" is not a respected sentiment these days, but physical strength has been a key to survival throughout human history. A family's combined fighting strength matters intensely where there is so little protection from predators that you have to fight them off at your front door. The physical strength of your family was your only protection from rape and plunder – and from avengers of past rape and plunder – for many of our ancestors.

Where strength is essential to survival, it raises a person's status. Strength is also valued in places where people rarely come to blows or carry a harvest to the barn. Experience teaches us to judge another person's strength in the ways relevant to our environmental niche. Whether you judge strength by a person's workout at the gym or a person's ability to herd livestock, your brain learns to interpret indicators of strength.

3. Honor

Many cultures attach life-or-death importance to honor. In centuries past, men engaged in duels over honor, sacrificing their lives to prevent a drop in status. My Sicilian ancestors kept their women locked at home to preserve their honor. If such measures failed to prevent suspicion from descending upon a lady, the men in the family were entitled – even obliged – to kill her and her suspected defiler in order to protect their "honor." It still works this way in some cultures.

Honor is a matter of survival because it affects belonging to a group. In modern times, your professional reputation is a common example. If someone destroyed your good name as a doctor or a lawyer, you could lose your ability to make a living. Thus, your mammal brain cares greatly about anything that affects your reputation.

Your mammal brain knows that losing the acceptance of the herd means survival-threatening vulnerability to predators. However you define honor in your life, you defend it with all the energy of a mammal trying to ensure its survival.

4. Looks

Physical appearance has a big impact on status because mammals prefer healthy mates and powerful social allies. Good looks convey health to the mammal brain.

An attractive face has no obvious survival function, but humans prefer to be around people with nice faces. Words that come out of a nice face are typically credited with more intelligence, sincerity, kindness, strength and wit. The difference between a good face and a bad face may be just a few millimeters of cartilage, but such differences affect social dominance hierarchies in important ways.

A nice body is equally relevant. We no longer need a strong body to fight our way up the status hierarchy. And we're not interested in reproductive potential most of the time. Yet the appearance of physical strength and robust health still confer status.

Different social groups have different ideas about what looks good. But in every group, small differences in appearance can have a big impact on status. That's why people invest great effort in improving their looks.

5. Education

School gives us experience with social hierarchy at a young age. Different social hierarchies can exist within the same school, reflecting different goals and interests.

People often look to education to raise their status. Sometimes they seek knowledge that will raise their status, and sometimes they simply expect the credential itself to garner respect.

Schools can provide a structure that reflects the real world, showing students that learning can bring future rewards even when it is not "fun" in the present moment. Schools likewise prepare students to respect authorities outside their own family, and to rely on these authorities to resolve problems and conflicts. The educational system is often criticized without appreciation for these accomplishments.

Testing is widely criticized, but the fact is that mammals seek information about those they interact with. People seek information about other people's skills, and testing is one source of it. Some schools' graduates have more skills than others. Those schools acquire status. Students prefer schools that are respected by others, and compete to attend. The competition is intense because reliable skill indicators have survival value.

The need to judge skills is real. When I get a massage, my spinal cord could be paralyzed by an ill-trained massage therapist. I feel safer with someone whose skills were evaluated and certified by a recognized institution. Some massage therapists even get extra certifications in alternative health-promoting techniques. Obviously the skills behind the credentials are what matter, but formal credentials give me information that can help me avoid a survival-threatening encounter with an unskilled practitioner.

6. Religion

Social hierarchies appear in religious and spiritual groups. There are formal titles and rankings as well as spontaneous hierarchies that emerge from the preferences of worshipers. Some religions posit a hierarchy in which all members dominate all non-members.

In a world full of risk and uncertainty, the brain seeks guidance to feel safe. The demand for spiritual guidance creates a supply of people willing to provide it. Spiritual leaders emerge because people want spiritual leadership.

Spiritual leaders acquire alpha status. In some cases they start behaving like typical mammalian alphas, dominating reproductive opportunity for their own interests. Yet, most modern spiritual communities have evolved to the point where leaders promote the welfare of children instead of dominating reproductive opportunity.

Each brain is free to value spirituality in its own way, just as we're free to value looks and fame and politics and even family members in our own way. Many brains choose to construct a status hierarchy around spirituality.

7. Work

Social hierarchies are common at work, and people often look to the workplace for status. As a result, workplace hierarchies get our attention. We notice when people try to dominate at meetings. We get frustrated

with our co-workers' status seeking, especially when we perceive them as ingratiating with superiors and disrespectful to subordinates.

Modern workplaces strive to reduce status differences. But when everyone is responsible, no one is responsible, so work groups typically find they need to clarify status relations to ensure that the work gets done.

Office politics is annoying when it raises other people's status. When it raises your own status, however, you may see it differently. You may feel justified in getting a return to all the effort you invested in building workplace relationships. The mammal brain knows that alliances promote survival, and invests in them strategically.

8. Social life

In your free time, you get to choose your friends. But status plays a role in friendship. We don't like to think so, but it is easy to see monkeys choose friends that advance their status. Monkeys put a lot of effort into sustaining social alliances. They groom each other, share access to resources, and support each other when they are attacked.

Monkeys choose their friends wisely because alliances involve them in conflicts that can get violent quickly. They put special effort into building alliances with high-status individuals who can help them raise their status. And they avoid alliances that may bring harm.

Popularity matters to people. No one will admit that as an adult, but everyone can see the sacrifices people make to be popular. Sometimes we see people sacrifice the truth as they know it in order to preserve and defend their popularity.

Humans seek friends with the kind of status that matters to them. People care about who is "cool" and who isn't, even if they don't put it into words. Friendship rests on the social hierarchies most meaningful to you. Dominance can exist within friendship. But friends negotiate the roles instead of having them imposed by outside hierarchies.

9. Culture

People often blame "the culture" for things they don't like in themselves and others. It's comforting to imagine things are better in some other culture. But when you get behind the scenes in another culture, you find that it is full of mammals with the same problems as in your own culture – sometimes worse problems. For example, some cultures accept domestic violence as inevitable, while others allow each child to start life with the presumption that conflict can be resolved without violence.

The other kind of culture, often called "high culture," also plays a big role in the mammalian quest for social dominance. Cultural pursuits such as art, music, and literature provide opportunities for self-expression, community, and insight. But like any gathering of humans, they become laden with status hierarchies. Culture provides opportunities for social dominance without the damage that goes with some other dominance strategies. A proliferation of cultural hierarchies allows more human mammals to feel dominant without hurting anyone.

10. Politics

Politicians who raise your status trigger your happy chemicals. Politicians who threaten your status trigger your unhappy chemicals. To win your support, a politician must appeal to your status urge without explicitly acknowledging that you care about your status. We blame politicians for disappointing our expectations without regard to the reasonableness of our expectations.

People invest great effort in politics because it can boost status so much. Politics is the gateway to government status. Governments establish official status hierarchies, with formal rankings and prerogatives. The power of government officeholders is effectively limited by politics, as rivals continually check each other's dominance.

Cynicism about politics obscures the deeper problem of government. Life is insecure, yet we expect governments to fix it. Governments help solve life-threatening problems by building consensus around potential solutions. Consensus is hard to achieve among large groups of self-interested mammals. Politics helps build consensus among competing alliances, and thus helps us survive.

In nature, almost all mammal groups have leaders. Mammals expect their leaders to protect them. When baboons are threatened by a lion, they climb a tree until the alpha fights it off. Wolves and chimps follow their alpha when hunting and foraging. Humans usually expect protection and leadership from political leaders, be they government officials or tribal equivalents.

Some people feel frustrated by politicians, but they feed their own frustration by focusing their attention on political figures. Monkeys in the wild spend more time gazing at their leaders than at other monkeys. Monkeys in a laboratory study exchanged food for the chance to look at photos of their leaders. The mammal brain focuses on leaders because they're relevant to our quest for social dominance.

Mammals topple their alpha when they see weakness or abuse. Animals sometimes cooperate to oppose bad leaders. Once an old leader is gone, another individual asserts dominance. Strength and seniority play a role in determining this status. Social alliances play a larger role among mammals with larger cortexes. The routines of human politics are staples of the mammal world.

Humans often try to raise their status by challenging the status of existing leaders. Finding fault with leaders seemed to be the primary focus of education when I was in the academic world. Critiquing the government seemed to be equated with being an educated person. Intellectualized opposition to authority obscures the fact that young mammals everywhere oppose their elders in order to establish their own place in a hierarchy.

People often look to politics to relieve the uncomfortable feeling of being dominated. But it only provides a brief spurt of happy chemicals. Soon, they return to whatever feeling is supported by the neural pathways they happen to have built from their life experience. Your mammal brain can always find someone who is dominating you if you've learned to experience the world that way. Politics can be a way to explain the constant one-up and one-down feelings that are part of every mammal's life.

11. Fame

In every human group, a few people seem to get more than their share of the attention. Attention is the ultimate scarce resource. This motivates people to make huge investments in pursuit of fame. We are all free to decide how much of our lives to invest in the pursuit of fame. But we cannot make that decision for other people. We have to share the world with people who care about fame.

The human mind responds to familiar faces. When you see a famous face, your mind perceives the person as an intimate because their face is so familiar. But when you give your attention to a famous person, it is not reciprocated. Famous people are giving their attention to other famous people, not to you. Long before television and movies, primates focused their attention on the individuals others paid attention to. People in every culture choose to give their attention to "celebrities" of significance to them.

12. Money

Billionaires often worry about how they stack up against other billionaires. Our feelings about money depend on whom we compare ourselves to. You may feel bad if you have less money than your parents or sibling or spouse or friend or neighbor, no matter how much you have. And you might feel good about your status if you have more money than those who are significant to you, whether you make a lot or a little in absolute numbers.

Most people say that money can't make you feel good. Yet they often continue to focus on earning more money, depriving themselves of time for other pursuits. They don't make the trade-offs they say they want because the mammal brain perceives the potential status threat from having less money.

Money can be its own hierarchy, or it can be used to raise your status in any of the preceding categories. It can improve your attractiveness and help you gain recognition in culture, politics, religion, academia, sports, or business. Money can buy symbols of status in the hierarchy of your choice.

People often expect money to bring the feeling of freedom from dominance or the relief of past feelings of subjection. They are often disappointed, because the task of earning money requires a lot of submitting to others. You can earn good money without feeling dominant. You might think more advancement will solve the problem, but you end up submitting more to others to advance your career. An unrewarding cycle can result.

No amount of money can guarantee alpha status on every social hierarchy in this list. You can always find someone who has something you don't have if your mind looks for it. Unlimited status goals leave you feeling poor no matter how much money you have. The only escape from this trap is to learn to feel comfortable when you're in the subordinate position.

13. Crime

Some people seek dominance in ways that violate others. Human groups strive to prevent aggressive dominance seeking. But we are all biased judges of when others have violated us and when our own self-advancement efforts violate others. Human groups create formalized justice systems to solve this problem. We need explicit rules and enforcement mechanisms because humans can beat, kill, steal or rape to satisfy their urge for dominance.

Some individuals violate the rules of their group. These law-breakers often form alliances with each other to promote their own interests. Status hierarchies emerge within those alliances. Making alliances with law-breakers can raise your status in many ways, which tempts people to do it.

Crime is often excused with the presumption that a person has to feed their family. But many criminals accumulate far more than is necessary to eat. Few acts of aggression are caused by the immediate need for food. Aggression brings a feeling of dominance that the mammal brain likes. People learn to restrain their aggression by anticipating the consequences. Many criminals have highly developed social skills in certain areas, but they have not built the skill of restraining the urge to violate others.

Right and Wrong, Good and Evil, Fair and Unfair

When another person helps you advance your status, you are inclined to see them as fair and good. It's only human.

When another person threatens your status, you're inclined to see them as bad or evil. The brain is not an objective machine. It evaluates things in relation to its own well-being. This bias annoys us in others, but it is easy to overlook in ourselves.

We aspire to objectivity, and often transcend a narrow focus on our own interests. But our mammalian bias is real, whether we perceive it or not. Becoming more aware of our individual subjectivity can help us be more objective. We can only benefit by knowing how our urge for status colors our judgment. Ethics and morals are just words unless a mammal brain puts them into action.

There is a difference between right and wrong, but no individual is a reliable judge of it. We are inclined to feel "wronged" by any setback to our own interests. We don't see the neurochemicals that bathe our conceptions of ethics and morals. Each brain sees the world from the perspective of its own needs and desires. It's easy to notice other people's mammalian biases. That's why discussions of ethics and morals often focus on what other people should do. Telling other people what is right gratifies the urge for social dominance. Moral superiority is an effective way to raise your status. It's easy to see this strategy in others. In one's self, it just seems like "goodness."

The mammal brain evolved for life in groups. Bonding with a group stimulates the happy chemicals. Unhappy chemicals warn a mammal when it strains its group bonds. Every group of mammals determines which behaviors to tolerate and which to reject. Animals decide this without words. Each critter simply moves toward or away from another, as their neurochemicals flow through the channels they built from their past experience. Underneath our higher abstractions, humans do the same thing.

From the largest public institution to the smallest clique of friends, human groups are always rewarding some behaviors and resisting others. Each individual interprets the group's feedback to plot his own survival strategy. Our neurochemicals guide us according to the neural pathways we have built for them from life experience.

Mammals continually shift between cooperating and competing. The mammal brain discerns which strategy best meets its needs in each circumstance. This book is not a prescription for how mammals *should* act but an exploration of how mammals come to settle on certain actions.

Every mammal figures out when they benefit from dominating and when submitting best promotes their survival. This urge to dominate we inherited is neither all good nor all bad. It can be used for good or bad. It can lead people to make great contributions to the world, and to protect children from harm. But it can also lead to evil. The outcome depends on the neural circuits each person builds from their accumulated experience.

Each person develops a sense of right and wrong by processing feedback from the environment. To the mammal brain, the behavior that gets the cheese is right and the behavior that doesn't get the cheese is wrong. This doesn't mean mammals are always selfish. In some situations, a mammal can get the cheese by trusting or aiding its pack-mates. Experience teaches the mammal brain when to trust, when to assert, when to defer, and when to protect. Each brain learns from the rewards it experienced in the past.

As we promote our survival in the world, we are inevitably surrounded by others who are promoting theirs. Our own goal seeking is often frustrated by the goal seeking of others. The daily play of one-upmanship can be hurtful, but it also spurs efforts to solve real problems.

The moment one mammal brain encounters another, it scans for cues about relative strength. Each brain scans for the information it needs to decide if it should submit to survive. Say a dancer meets another dancer. Each brain ponders its relative strengths and weaknesses. Who has better legs? Who has better moves? Who gets better party invitations? The mammal brain goes there. It's easy to condemn this in others and ignore it in one's self.

The urge to dominate drives mammals to take risks. Many good things result from this risk tolerance. People protect those who are weaker than they are. People triumph over difficult circumstances and find solutions they did not expect. The mammal brain is always weighing risk of acting against the risk of doing nothing and having its DNA wiped off the face of the earth. You may not care about reproduction, but your mammal brain strives non-verbally to avoid the risk of dying without a legacy. Paradoxically, this explains the self-destructive behaviors humans are sometimes inclined toward. Your mammal brain will engage in risky behavior if your past experience built a neural link between that behavior and the advancement of your legacy. Chapter 6 explores this problem in depth.

Rage Against the Machine

We often get frustrated with the mammalian dominance hierarchies in our lives. To your mammal brain, those above you in the hierarchy are threatening your life because they are impeding your chances of passing on your genes. They trigger your unhappy chemicals, and you can easily conclude that your happiness depends on opposing them.

But opposing dominants does not assure happiness. It might raise your status and trigger a brief spurt of happy chemicals. Soon, however, you are likely to be back where you started, frustrated about your status and

looking for something to do about it.. You might seek a new splash of happiness by embarking on a new campaign against those you feel belittled by. Yet a big investment of effort may leave you feeling frustrated.

The best way to free yourself of status frustration is to understand why your brain creates it. Status disappointments feel life-threatening to your mammal brain because in the animal world they truly are. A mammal's DNA is wiped out forever if higher-ranking individuals get the mates and the safety from predators. Your mammal brain seeks status because you are descended from those who scored in the reproduction game.

Your mammal brain focuses on your well-being, but it defines that in its own way. Other people's brains are focused on their well-being. They define it differently because each mammal brain is shaped by its unique experience. Of course, each brain has certain experiences in common. We all start as vulnerable children and come to understand the true extent of our vulnerability as we mature. We all fail to get some of the rewards we seek, and see rewards go to others. We all feel the consequent frustration;, and wonder if something is wrong with the world.

Each bull's legacy is threatened by the other bulls. No bull thinks this consciously, but its neurochemicals surge when rivals appear. Your neurochemicals also respond when others pose a threat to your legacy, even though you would never consciously think that. Your mammal brain equates threats to your status with real survival threats. Unhappy chemicals flow because that motivates mammals to do what it takes to spread their genes. Natural selection built a brain that motivates us to care about our status.

Our world is full of status hierarchies and reading the news often focuses our attention on them. You may have strong neuro-chemical reactions to the news. But focusing on the strangers in the news distracts us from the fact that the people we interact with directly are also mammals disposed to one-upping each other. Our focus here is not to blame the people on the public stage for the behavior patterns common to all mammals. We are better off learning to see those patterns in everyone than blaming them on the alphas in the news.

Success

You probably don't measure success by the spreading of your genes. But when you know how animals pursue reproductive success, you may find their strategies surprisingly familiar. Animals continually check out each other for fertility indicators in ways not too different from the humans impulse to check out others. Animals promote the status of their children in ways that resemble humans who obsess over their children's SAT scores. Animals get mating opportunities by improving their status, and humans do too.

Your definition of success depends on the neurons you've connected to your happy chemicals. Things relevant to reproductive success in the state of nature get your mammal brain's attention, even if you've been sterilized or live in a monastery or already have many grandchildren. Your mammal brain zooms in on reproductive success factors: your health, your looks, your status in relation to others, your safety, and the safety of children. You may not care about keeping your genes alive, but your ability to feel successful depends on mammalian factors because the mammal brain controls your emotional chemistry. This does not mean you would feel good if you had a lot of babies, because your cortex has built up circuits with additional information. But if you follow *only* your cortex and ignore your mammal brain, you are not likely to feel good no matter how successful you are. You have to define success in a way that makes peace with your mammal brain. And that starts with understanding it.

In nature, males and females have different strategies for reproductive success. Male mammals tend to rely on a quantity strategy, whereas a quality strategy works better for females. The strategies overlap, but the distinctions have importance.

A female mammal must invest so much time in each child that she can only have a limited number of children in her lifetime. Her success depends on her ability to keep each child alive until it mates. She does this by

getting the best nutrition possible, the best protection from predators possible, and the best paternal genes possible. High status helps her do all these things.

Male mammals, on the other hand, succeed by getting as many mating opportunities as possible. The main obstacle to this strategy is other males. Becoming strong enough to scare away other males is thus an effective path to success. Another effective path to reproductive opportunity is developing bonds of trust with females or other males. Social alliances tend to increase the quantity of mating opportunities.

Of course male and female strategies overlap. Females compete with other females for the best mating opportunities. Males invest effort in keeping the young alive. This book focuses on the commonalities among mammals rather than the differences, Therefore, we will use the term "reproductive success" to refer to both the mate-seeking (quantity) strategy and the child-protecting (quality) strategy.

The mammal brain never stops seeking reproductive success. As soon as a mammal meets its immediate survival needs, it invests its effort into raising its status. An animal cannot put reserves into a bank account or a warehouse to help meet tomorrow's needs. When it has extra energy, it puts it into raising its status instead. In an uncertain world, achieving status today can help meet survival needs tomorrow. Survival and status are the same thing to the mammal brain because status improves chances of having surviving descendants.

Modern birth control has given us the freedom to define success in different ways. We can have sex without investing energy in children. We are free to invest our energy into other personal legacies. But whatever your yardstick of success, you care about it with the intensity of the neurochemicals that drive animals to reproduce. All the survival energy of nature gets invested into your status goals because the same neurochemicals motivate it. If you want more happy chemicals and fewer unhappy ones, you have to please your mammal brain.

This book is certainly not advocating reproduction as the standard of success. The earth is crowded and there are many other ways to leave a legacy. But understanding our instincts toward reproductive success help us understand why we care about status despite our best intentions.

What Love Has To Do With It

Love is obviously linked to sex, and also to happiness. But truth be told, love is also linked to status. No one likes to admit it, and no one intends to love in this way. But people typically fall in love with someone who raises their status. The exceptions prove the rule: when a high-status person falls in love with a low status person, the romance often helps the high-status person resist the domination of their family, thus raising their status in the way that matters to them. And a person who does not want children still falls for a Mr. Big or a Miss Nubile who's ideally suited for making high-status kids.

Love is a big dose of happy chemicals. A big neurochemical spurt is the mammal brain's response to a big boost in its genetic survival prospects. When you meet someone who improves your prospects in a way that's meaningful to you, the neurochemicals are your brain's way of motivating you to make a big investment of effort.

Love is not one happy chemical but a cocktail of them. That multiplies the reward. The brain rewards love so abundantly because the things we do for love are so crucial to reproductive success. Sex is only a small part of the story. Love motivates people to do what is necessary to find a mate that enhances their legacy. However you define your legacy, your mammal brain zooms in on a potential mate's relevance to it. When you see that special someone, your mammal brain sees an extra-large boost to your legacy, and gives you an extra-large shot of happy chemicals. Love is an extra-large link between status and happiness.

Let us look at the happy chemicals individually to see how they reward survival behaviors.