

A Mind of Its

----- { *How You
Distorts*

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For Russell

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A Mind of Its O

Introduction

Do you FEEL THAT you can trust y
maybe it falters for a moment, faced wi
table. It may occasionally send you into
something, only to abandon you entirely.
thing like mine, it may stubbornly refu
parking. Yet these are petty and ungrat
consider all that our brains actually do
have we been made so aware of the extra
and sophistication of those one hundre
that make up the engine of the mind. A
by when these gathered neurons aren't
paper article highlighting a newly discov
teamwork.

From day to day, we take our br
granted, but (particularly with this lux
that you're feeling a little quiet pride on

And, reading books on the subject of its own self aside, what else can't the thing do? After all, it tells you who you are, what to think, and what's out there in the world around you. Its ruminations, sensations, and conclusions are confided to you and you alone. For absolutely everything you know about anything, you have your brain to thank. You might think that if there's one thing in this world you can trust, it's your own brain. You two are, after all, as intimate as it is possible to be.

But the truth of the matter—as revealed by the quite extraordinary and fascinating research described in this book—is that your unscrupulous brain is entirely undeserving of your confidence. It has some shifty habits that leave the truth distorted and disguised. Your brain is vainglorious. It's emotional and immoral. It deludes you. It is pigheaded, sensitive, and weak-willed. Oh, and it's also a bigot. This is more than a minor inconvenience. That fleshy walnut inside your skull is all you have to know yourself and to know the world. Yet, thanks to the masquerading of an untrustworthy brain with a mind of its own, much of what you think you know is not quite as it seems.

CHAPTER 1

The Vain Brain

For a softer, kinder read

A WEEK AFTER THIS BOOK WAS COMPLETED by my publisher, I discovered that I was pregnant with a child. The manuscript was due three days before the baby was born. My husband, a project manager both at work and at home, drew up a project plan for me. The plan, however, failed to reflect the complexity, subtlety, and nuance of the process of writing a book. It was an Excel spreadsheet showing the number of words I would write per week, and when I was going to have the baby. It had me scheduled to work every weekend from the time the baby is born.

"This plan has me scheduled to work every weekend from the baby is born," I said.

"Plus all the annual leave from your employer," he added.

I felt that he had missed the point. "But

"Rest?" My husband pretended to examine the plan. "As I see it, you rest for two days after you finish the manuscript, shortly before going into labor, giving birth, and having your life entirely taken over by the nutritional demands of a newborn."

I had a brief image of myself in labor, telling the midwife between contractions what a treat it was to have some time to myself.

"What if I can't do it?" I asked.

My husband gave me a this-really-isn't-difficult look. "That's how you do it," he said, stabbing the plan. "You write this many words a week."

He was right, I told myself. Of course I could do it. It was irrelevant that I was pregnant. After all, growing a baby is easy—no project plan required. My first trimester nausea and exhaustion would soon pass. The brains of other, weaker women might be taken hostage by pregnancy hormones, but not my brain. My belly would remain well enough contained to enable me to reach the computer keyboard. And absolutely, definitely, without a doubt, the baby would not come inconveniently early. Of course I could write the book.

I then did something very fixatish. I began research on this chapter—the vain brain. The vain brain that embellishes, enhances, and aggrandizes you. The vain brain that excuses your faults and failures, or simply rewrites them out of history. The vain brain that sets you up on a pedestal above your peers. The vain brain that misguidedly thinks you invincible, invulnerable, and omnipotent. The brain so very vain that it even considers the letters that appear in your name to be more attractive than those that don't.

I didn't want to know any of this. But I went on to read just how essential these p... They keep your head high and your head... They keep you from standing atop rail... contemplatively at approaching train... deluded optimism, your immune system... whether it's worth the effort of keeping y... extraordinarily, it seems that sometime... manages to transform its grandiose... Buoyed by a brain that loves you like a r... and persevere—happily blind to your... arrogantly dismissive of likely obsta... achieve your goals.

I needed my vain brain back. *Immedia*

Luckily, I managed to regain my opti... uscript was delivered a few days before th... months later, however, my agent contacte... that the publisher W. W. Norton was int... In fact, they liked it so much that they w... dred pages of it. (My husband didn't k... first—the champagne or the spreadsheet... ing prosper: just writing a shopping l... when there is a small baby in the house... my positive illusions triumphed once aga... dispiriting thoughts of the difficulties... sharpen the pencils. And, as the existenc... it worked for me. But now it's time for m... your chances of happiness, health, and su... ing you.

While it troubles philosophers, for the rest of us it is vastly more comfortable that we can only know ourselves and the world through the distorting prism of our brains. Freud suggested that the ego "rejects the unbearable idea," and since then experimental psychologists have been peeling back the protective layers encasing our self-esteem to reveal the multitude of strategies our brains use to keep our egos plump and self-satisfied. Let's start with some basic facts. When asked, people will modestly and reluctantly confess that they are, for example, more ethical, more nobly motivated employees, and better drivers than the average person.² In the latter case, this even includes people interviewed in the hospital shortly after being extracted from the mangled wrecks that were once their cars. We don't consider ourselves to be in the bottom half of the heap and, statistically, that's not possible. But in a sample of vain brains, it's inevitable.

For one thing, if it's at all feasible then your brain will interpret the question in the way that suits you best. If I were asked how my driving compares with that of others, I would rate myself better than average without hesitation. My driving record at speeds above one mile per hour is flawless. Yet below this speed my car's paint, and any stationary object I am attempting to park near, are in constant peril. These explosive unions between the stationary and the near-stationary are so frequent that at one point I actually considered enveloping the vulnerable portions of my car in bubble wrap. My mother, in contrast, can reverse with exquisite precision and at whiplash speeds into a parking spot. On the other hand, she regularly rams into the back of cars that "should have gone" at intersections. She, too, considers her driving to be superb.

You begin to see how everyone is able to see the superior half of the driving population that you're being asked about is helpful in interpreting the question to suit your strengths.³

Even if you are unambiguously hopeless, your brain gets around this by simply discounting the existence of that skill. I, for example, cannot play the piano. It's not the same as being tone deaf. Heavens, no! It bothers me in the slightest because to my ears it's an unnecessary extra. I can see that it would be an asset to an artist, but in the same way that it's useful to be able to wrap his legs behind his back, it's a small minority, but nothing more than a skill that everyone else has. And as a final clever enhancement, we believe that our weaknesses are really just part and parcel of our humanity, while our strengths are rare and valuable.

What these strategies reveal is that a person's self-image has been taken a very long way by a vain brain. If you are asked how your brain's arsenal of ego defense exploits the question, you will explain to yourself and to others that you have done well or badly, we prefer explanations that give us the best possible light. Thus we are quick to attribute our successes to our own sterling qualities, while our failures can often be conveniently explained as bad luck or damn fool others. This self-justification, of course, is all too easy to demonstrate in the real world.

People arbitrarily told that they did well (e.g., people solving puzzles) will take the credit for

arbitrarily told that they did badly will assign responsibility elsewhere, such as with their partner on the task. The brain is especially self-advancing when poor performance on the task could deliver a substantial bruise to the ego.² People told that puzzle solving is related to intelligence are much more likely to be self-serving than those told that puzzle solving is just something that people who don't like reading books do on trains. The bigger the potential threat, the more self-protective the vain brain becomes. In a final irony, people think that others are more susceptible to the self-serving bias than they are themselves.³ (Allow yourself a moment to take that sentence fully on board, should you need to.)

So when life or psychology researchers are kind enough to leave the reasons for success or failure ambiguous, the self-serving bias is readily and easily engaged to protect and nurture the ego. However, our vain brains aren't completely impervious to reality. No matter how partial my explanation of why I added up the restaurant bill incorrectly, I have no intention of applying for any professorships in mathematics. This is definitely good. When we lose all sight of our ugly face in reality's mirror, it generally means that we have also lost hold of our sanity. On the other hand, who wants to see the warts and all with pristine clarity? We've already stumbled the fact that the vain brain casts our features at their most flattering angle. Now we'll rummage deeper into its bag of tricks. For by calling on powerful biases in memory and reasoning, the brain can selectively edit and censor the truth, both about ourselves and the world, making for a softer, kinder, and altogether more palatable reality.

Failure is perhaps the greatest enemy of the ego, and that's

why the vain brain does its best to barricade this unwelcome guest. The self-serving bias encountered provides a few extra servings. One approach is to tell yourself that, in retrospect, you were stacked against you and failure was inevitable. Researchers have found that optimists use this strategy, which has been dubbed *retroactive self-handicapping*, to make failure easier to digest.⁴

Self-handicappers, as they are called, exhibit the bias in a different way. In self-handicapping, you are sure that it has a nonthreatening excuse for failure to occur. If you can blame your poor performance test on your lack of effort, for example, your entering self-image of your intelligence will remain unchallenged. Self-handicapping is the sweetness of success when it occurs, even if it's a lie for your ego. Drug use, medical conditions, and so on—they can all be used to shield the ego from failure. For example, a group of students who reported high anxiety during tests. According to a study by Brusque researchers, the brains of these students would exploit their test anxiety, whenever they were given a test.⁵ The researchers gave their test-anxious students a difficult two-part test, purportedly a measure of intelligence. In the interval between the two parts of the test, students were asked to say how anxious they were about the test, and how much effort they put into it. However, right before this survey, some of the students had their potential handicap snatched away. They were told that a remarkable feature of the

ing was that their score was impervious to anxiety and—no matter how nervous they were—their score would be an accurate measure of their intellectual ability.

This was cunning as well as mean. If a test-anxious student merely reports accurately how anxious she is feeling, with no self-serving motivations, it should make no difference to her whether she thinks that anxiety might reduce her score on the test—she should declare the same level of anxiety regardless. However, if test anxiety is used to protect self-esteem, then it will be important whether she thinks that anxiety offers a plausible excuse for poor performance on the test. If she thinks that scores are adversely affected by nerves, she will be tempted to protect herself against possible failure by claiming greater susceptibility to the jitters. This is exactly what the researchers found. Only students who thought that their anxiety offered its usual nonthreatening excuse for low marks hoicked up their self-reports of anxiety. The other students, who knew that they wouldn't be able to blame their nerves, didn't bother. They did something else instead. In place of their handicap of choice, these students claimed to have made less effort on the test. It takes more than a few psychologists to stymie the cunning of a determinedly vain brain.

Even when your brain does accept responsibility when things go wrong, research shows that just a few days later it may have conveniently cast off the more unflattering explanations for failure. In one experiment investigating this phenomenon, male university students were given a task that supposedly assessed their "manual dexterity and cognitive-perception coordination."¹¹ ("I'm handy and I'm coordinated.") You can of course imagine a male ego immediately

wanting a piece of that pie. The students were either that they were dexterous virtuosos or that, frankly, the average china shop would more warmly welcome a bull into his shop than they. They were then asked either immediately afterward to explain why they had done well or bad. The students whose vain brains were given a piece of the pie and a memory of the experiment were much more forthcoming in their explanations of why they had succeeded than the students whose comparison with the students who were given a piece of the pie and no memory of the experiment were given in their explanations immediately afterward.

Memory is one of the ego's greatest allies. It allows us to tell things about ourselves tend to secure a firm grip on the brain cells, while bad stuff—oopsie—has a tendency to slip and grasp and slipping away. Imagine being given a list of behaviors that, according to a test, you are likely to perform. Would you later report more negative behaviors (such as, "You would not help your parents because of their looks" and "You would not help your neighbors because of their secrets, you would")? Intuitively you might expect that rather surprising predictions that you are likely to be unkind and untrustworthy would so jar with your self-concept that they would be more memorable. When researchers gave people a bogus personality test, this is not what they found.¹² Instead, they found reports of caring and honorable acts that stood out in their memories. The reason was that their brains allocate as much processing time to nasty p

nize ones. It seems that it is easier for a camel to pass through the eye of a needle than for negative feedback to enter the kingdom of memory.

Not only does memory collude with the brain in the information that it lets in but, as you might begin to fear, it also controls the information it lets out. All brains contain an enormous database of personal memories that bear on that perennially fascinating question, *Who am I?*, or the self-concept. But the self-concept, psychologists have discovered, is conveniently self-shifting.³ If the self-concept you are wearing no longer suits your motives, the brain simply slips into something more comfortable. The willing assistant in this process is memory. It has the knack of pulling out personal memories that better fit the new circumstances. Two Princeton researchers observed this metamorphosis directly by tempting the vain brains of their volunteers with an attractive change of self-concept.⁴ They asked a group of students to read one of two (fabricated) scientific articles. The first article claimed that an extroverted personality helps people achieve academic success. The second article, handed out to just as many students, claimed instead that introverts tend to be more academically successful. You can guess what's going to happen. Imagine it. You're a vain brain. You're a vain brain at *Princeton*, for goodness sake. Someone's offering you a shimmering, glistening, dazzling self-concept that says, "Hey, world. *I* am going to make it." A personality trait that you've been told offers the crystal stairway to triumph might not be quite your size, but if you can make it fit with a bit of tweaking, then you will. Whichever personality trait the students thought was the key to success, they rated themselves more highly as possessing.

What happens is that the vain brain makes sure that the most attractive self-concept enormous wardrobe of rich and complicated events from your life, your memory those memories that best match the self-concept you are trying to achieve. When people are told that to be more successful than shy and retiring memories that bear out their sociable and that rush quickly and easily to consciousness already seen, memory keeps the gate at the door for someone who's been told that one type of success a bit of personality feedback, and much more of the feedback that shows the supposedly more favorable attribute.⁴

Reasoning is the vain brain's other post office. This might seem a little odd. Isn't reasoning the compass that guides us toward the truth from it? It seems not—particularly when it comes to attack. In fact, the best we can say for our behavior in these circumstances is that we do at least draw conclusions cannot be drawn out of thin air and evidence to support our case. The problem is that a smart lawyer searching for evidence to win a case, rather than a jury searching for the truth, when seen, memory is often the overzealous search engine in this process by hiding or destroying unwanted information. Only when credible stuff has been shredded dare we take a look at that supports your case is quickly swept away and assistants are sent out to find more of the same.

dence that threatens reason's most important client—you—is subjected to grueling cross-examination. Accuracy, validity, and plausibility all come under attack on the witness stand. The case is soon won. A victory for justice and truth, you think, conveniently ignoring the fact that yours was the only lawyer in the courtroom.

Time now to watch your hotshot lawyer in action. Imagine there's a rumor afoot that certain things about you augur badly for how well you will do in your chosen profession. Your reputation is at risk, and your lawyer is engaged to defend you from this potential slander. This was the situation created in a study demonstrating that the client is always right. University students were asked to take part in an experiment to do with the reasons for success in law, medicine, and business.⁵ They were given fictitious descriptions of people who supposedly did well or badly at professional school. The sorts of attributes they read about were things like being the youngest or oldest child, being Catholic or Protestant, and having had a mother employed outside the home or a stay-at-home mother.

Now, say one of the students is the youngest child of a Catholic family whose mother stayed at home rearing her and her ten older siblings, and she longs to be a doctor. Then she reads about a successful doctor who is Catholic, the oldest child, and whose mother went out to work. Wouldn't it be nice if she could convince herself that the things she has in common with the doctor are what make for success, but that the things they differ on aren't important? This is just what happens. The student decides that a Catholic upbringing brings success, but that the other two factors are relatively unimportant. However,

if the student had been told that the same doctor was unsuccessful, suddenly her Catholicism would be irrelevant (what could religion possibly have to do with success or order and mother's employment—the fact that the doctor would suddenly become crucial. Your lawyer would construct the most flattering and self-serving interpretation of the available data.

The next step is the evaluation of evidence. This step poses a threat to your ego, a good lawyer's worst enemy. In one such experiment, high-school students were given an intelligence test.¹⁰ Some of them had done well; others that they had done poorly. They were also given a few pages to read culled from scientists both for and against the value of intelligence tests. Even though everyone was given the same test, the poor gained pigs whose egos had been threatened by negative feedback decided that intelligence tests were a cruder tool for measuring intellectual development than those who were told that they'd done well. Because memory had hidden the pro-intelligence test articles, the ego-threatened students remembered *more* of the pro-intelligence test articles than the others. This seems a little odd, until you realize that the vain brain's lawyer must have put forth a lot of effort to disparage those particular arguments. It takes a great deal of effort cross-examining a witness who has good memory for what he said, even if you don't believe a damn word of his lies.

On the whole, it seems we are content to accept the best piece of reasoning . . . until some three

appears, at which point we suddenly acquire the strictest possible methodological standards.²⁶ The smart lawyer inside us is also skilled at finding supporting witnesses to bolster our case. Remember the experiments in which people were told that either being outgoing or withdrawn by nature is more conducive to success? Well, your brain not only biases your memory to make you think that you've been blessed with the more favorable personality attribute but it also then encourages you to spend time in the company of people who think you're really like that.²⁷

It's RATHER unsettling to know that your ego is so very well-protected from reality. And it's not just your ego that's kept so safely removed from the truth. Perhaps understandably, given the slings and arrows of fortune we must dodge every day, your vain brain calls upon many of the same strategies to keep your perception of your future health, happiness, and fortune pleasantly unrealistic.

Just as we all believe ourselves to be better-than-average people, so too we think ourselves relatively invulnerable to life's trials. As with anything that threatens our egos, we push absurdly high our standards for evidence that might challenge our easy beliefs. For example, brains prefer not to have to take too seriously any medical information that challenges our sense of physical invincibility. My father-in-law enjoys a lifestyle that, to put it bluntly, would leave the hardiest of cardiologists weeping over their public health information pamphlets. Statistically, he should probably have died shortly before he was born. Concerning all those pesky smoking-

disease-death studies he is breathtakingly dismissive. Yet he is not immune to the discovery when it suits. For example, he would urge me to push aside my bottle of water for a healthy glass of red wine. In an experiment on a phenomenon, known as motivated skepticism, given an article to read that set out the benefits of coffee for women (but not men) of drinking too much coffee, women who drank little or no coffee found the article convincing. Men who drank a lot of coffee found it convincing. No prizes for guessing which group thought coffee and disease unconvincing.

Vain brains are reluctant to accept hints of vulnerability even when it's staring them in the face. In a demonstration of self-protective incredulity, volunteers were told about a fictitious medical condition, "thioamine acerylase (TAA) deficiency." Individuals, they were reliably informed, were vulnerable to a variety of pancreatic disorders. One by one the volunteers were led into a laboratory (was it?) to rest themselves for the condition. They were given a small piece of test paper (or was it?) into which they were to spit. Some of the volunteers were told that if their pancreatic enzymes were normal, the strip would remain yellow. They were the lucky ones. The rest of the volunteers were told that if their TAA levels were normal the strip would turn blue. They were the unlucky ones. The test strip, which was ordinary yellow paper, wasn't going to change color no matter how much spit it encountered.

These unlucky volunteers, the ones who

reaction test, were determinedly optimistic about the perils of TAA deficiency. They reckoned that both TAA deficiency and pancreatic disease were far less serious and far more common than did people who "passed" the test. Those volunteers who failed also rated the saliva reaction test as less accurate. Even more defensive was their behavior while they were taking the saliva test. The researchers were secretly spying on them, of course, while it took place. Everyone had been told that color change in the test paper took from ten to sixty seconds, but was generally complete within twenty. Volunteers were asked to pop their strips into an envelope as soon as the test was done. The supposedly deficient volunteers were much slower to do this, giving their yellow paper a generous extra half a minute or so to change color, compared with the other volunteers. What's more, the majority of the volunteers who failed engaged in some kind of illicit retesting to help their recalcitrant strips along. Some people used a fresh saliva sample. Others retested using a new strip. Some placed the strip directly onto their tongue. The strips were shaken, blown, wiped, and saturated with enormous volumes of saliva. These unlucky volunteers didn't like their diagnosis and they were seeking second, third, and fourth opinions on the matter.

Vain brains can even trick us into unconsciously manipulating the outcome of a medical diagnosis to make it more acceptable. To show this, a group of experimentees were asked to immerse their forearm in a vat of icy cold water (yes, painful) and to keep it there for as long as they could bear.²⁸ They had to do this both before and after physical exercise. Some volunteers were told that if they could keep their arm in

the ice water for longer after exercise, that would increase their life expectancy. The other volunteers were told that if they could exercise the volunteers changed their tolerance for the ice water in whichever direction they'd been told would lead to a longer and healthy life. Of course manipulating the time the arm was in the water couldn't possibly affect actual life expectancy, but it did not really what's important to a vain brain.

The rose-tinted spectacles through which we view our information about our health can also lead us to an inevitable demise to a more distant horizon. When confronted with a precisely calculated actual time of departure, we blithely estimate that we will live ten years longer than we are allotted by the gods. I recently came across a website that, on the surface, presents pertinent pieces of information, furnishes you with your date of death. (For those with a morbid interest in making very long-term plans, the website is www.life-clock.com.) From this helpful website I learned that I will die on Sunday, May 10, 2054, at the age of 84. "That seems very young," I thought, and instead of indulging in another well-earned sausage, I decided to eat another—well—ten years, mostly on the grounds that I long eschewed sausages, a product which would substantially impair longevity. Indeed, it seems that when we gaze into the future we take care only to peep through tinted lenses. Who, at the wedding altar, is likely to die fifty chances of this working—let's keep our fingers crossed. Possibly most of the congregation, but probably not the priest or groom. Remember our Catholic student who was unable to explain why she was likely to suc-

school? In the same study the researchers showed that people use the same sort of self-serving speculations to persuade themselves that *their* marriage will be happy.²⁶

Not does the self-deceit stop with our dismissal of the possibility that there may be trouble ahead. We also have an inflated sense of control over what is to come. Take, for example, a task in which volunteers are asked to try to get a light to come on by pressing a button.²⁷ Volunteers are told that the button might control the light; in fact, the light comes on and off randomly and its illumination is entirely unrelated to what the volunteer does with the button. Yet although the volunteers have absolutely no control over the light, their perception is very different. They experience an illusion of control, as it is known, and claim to have an influence over the light. As subjects of further vanity, people rate their personal control more highly if the light happens to come on more often. In other words, we are even more susceptible to the self-flattering impression that we are responsible for how things have turned out, when they turn out well.

We also succumb more readily to a false sense of influence on occasions when a little omnipotence would be particularly helpful. Offer a hamburger as a prize in a random draw from a deck of cards, and hungry volunteers will optimistically persuade themselves of greater clout on the task than will volunteers who have already eaten.²⁸ And desperate times call for desperate delusions. In the painfully sleep-deprived months just after the birth of our second child I was convinced that I, and I alone, knew the best and quickest way to get the baby back to sleep. "No, no!" I reprimanded my husband one afternoon, walking in on his attempt to settle the

baby for a nap. "You have to sit him on your back, curved to the left and hum *Humpty Dumpty* on his forehead with your thumb. Really, it's works."

"Well, no wonder it takes you so long to get the baby to sleep," my husband replied with paying scorn. "The actual thing that actually linds most soothing is to be wadded between the crib and the window with a plying motion. Would you mind adjusting the window blind out? It needs to be raised to exactly two inches above the sill."

When it comes to babies, an illusion of control is the best one can hope for.

The conceit that we show in our thinking goes further still than self-aggrandizing our own power and prospects. We are not alone in that our favored political parties or sports teams are over-optimistic. Ask a group of people who they think will win the coming election, and then divide them up into those who *hope* will win (Republicans and Democrats) and those who *wish* something rather curious. The Republicans are significantly more hopeful about the Republican party than are the Democrats. And the more fervently you want your own party to win, the higher you rate its chance of success.²⁹

From where does this eternal hope of a lawyer may play a part, hiding or distorting information. Yet even promises of cash predictions--which should surely serve to counteract a predisposition to be unrealistic--can't rid

expectations. It is the same, too, in the stadium. Even in the betting booth, where people put their hard-earned money where their mouth is, judgment is swayed by desire.⁴⁰ Another possible explanation for our undue optimism is that we are tempted into complacency by the company we keep; if everyone you know is a Democrat, the chance of victory may begin to seem more hopeful than it really is.⁴¹ Yet this cannot be the whole story. Even people with the most up-to-date polling information at their fingertips are susceptible to the wishful thinking effect.⁴²

We think it will be so, simply because we would prefer it to be so, the research suggests. This was made starkly clear in a laboratory study of wishful thinking in which the researcher randomly assigned college students to two teams, and then pitted the teams against one another in a dart-throwing competition.⁴³ As one person from each team stood ready, dart in hand, everyone else scribbled down a guess as to which of the two would throw closer to the bull's-eye—the teammate or the opponent. Then the next two competitors stepped up for a throw-off. Their chances were rated by everyone else, and so on, until everyone had thrown a dart.

Although the teams were put together in an entirely haphazard fashion, the flame of fellow feeling was nonetheless sparked. When asked, the students confessed to a desire that their own team would triumph. And, in line with their desires, each team thought it more likely that their own team would prevail against the opposition. Not only that, but almost all of the students were confident that their predictions about which team would win were unaffected by their banking for their own team's victory. Yet what could have

been biasing their judgments, other than what they would be on the winning side? Indeed, when I took a closer look at the data, he found that the yearning, the greater the confidence. Hope flows from hope, it seems.

As we draw toward the end of this chapter, several morals to be drawn. One, never trust a source. Two, never trust your brain. They both may be a distortion of reality, thus tricking you into error. (Of course, in the case of the social psychologists, the vanities are then permanently recorded in the journals. Professionals may be entertained by them, but they should trust social psychologists even less than they should trust their own brains.) But don't feel too angry with yourself for allowing yourself to be tricked from the truth. There is a whole lot of people who get unusually close to the truth, and they and the world. Their self-perceptions are distorted, they assign responsibility for success and failure to themselves, and their predictions for the future are pessimistic. These people are living testimony to the power of self-knowledge. They are the clinically depressed.

Psychologist Martin Seligman and colleagues identified a pessimistic explanatory style that is characteristic of depressed people.⁴⁴ When pessimists fail at something, they think that the fault is in themselves ("I'm useless"), will last forever, and will affect everything they do. This is a far cry from the sorts of optimism that happy, self-serving people give for failure.

What is more, it is becoming clear that pessimism can seriously endanger your physical, as well as your mental, health. The deathclock asks only four questions in order to calculate how many years to shear off your expected time of death. Are you male? Do you smoke? Are you overweight? And are you a pessimist? You may be surprised to see your personal disposition up there as a risk factor along with gender, smoking, and obesity, but the research does seem to bear out its right to be in the Big Four. In one remarkable study of the effect of mental outlook on longevity, researchers analyzed brief autobiographies written more than seventy years ago by North American nuns about to take their final vows.³⁶ The researchers scrutinized the passages, counting how often the nun expressed a positive emotion. This yielded, for each nun, what one might (bearing the joyful heroine of *The Sound of Music* somewhat wryly in mind) refer to as a "Maria measure." The researchers then looked to see whether their emotional outlook was related to their life span. The statistics showed that the more cheerful a nun's autobiographical account, the longer the nun had on this earthly plane before being gathered up to the celestial empire. In fact, on average, the jovial nuns lived almost a decade longer than their more somber sisters.³⁷

Indeed, a Maria-style outlook could be just the ticket when the dog bites on the bee stings. Thinking about raindrops on roses and whiskers on kittens in the face of adversity may help to subdue the damaging cardiovascular effects of sadness.³⁸ And the cheery Pollyannaism of optimists is matched by a similar can-do attitude in their immune systems.³⁹ Optimists make fewer doctor visits, are more likely to survive

cancer, and less likely to suffer recurrent heart disease. They are less likely to meet with an untimely death. And, as the deathclock chants may find it hard to cultivate a more optimistic attitude in the face of such data, let it's certain.

While both our emotional and physical health can benefit from a careful filtering of the bad news, there is not a price to pay for being blind. (Aside, that is, from the small matter of the blind person turning out to be little more than an idiot.) Certainly, blind optimism can sometimes be a self-serving tendency to blame anything that goes wrong on ourselves for mistakes in our past can doom you. This was the dismal conclusion of a study in which students to predict when they would finish a task they had just been given.⁴⁰ As we have already seen on many occasions, the students seriously underestimated how long it would take. Even asking the students to reflect on their failures to finish similar assignments had allowed themselves on previous occasions, did not challenge this immoderate confidence. The students dismissed those hunch-ups as irrelevant. They were late due to freakish obstacles that would never arise again.

This planning fallacy, as it is known, is a common trait. From the take-home work that lies untouched on the desk all weekend, to the years-long delays in construction projects that have project managers reaching for their blood pressure pills.

Not only is time money, but we may also be losing it directly for the vain brain's sleight of hand.

their profits, bookkeepers and casinos should offer up heart-felt thanks to the wishful thinking phenomenon. And if your salary happens to depend on your ability to predict the future, an illusion of control can become an extremely expensive psychological luxury. Researchers asked a hundred traders from investment banks to play a computerized financial market version of the “press the button and hope for the light to come on” task.¹² Instead of trying to get a light to come on, the traders had to try to increase an index value. Afterward, the traders filled in questionnaires about the game that revealed how readily they were seduced into the erroneous belief that they could control changes in the value of the index. Interestingly, the statistics showed that the more arrogant the trader about his influence on the computer task, the less he earned on the trading floor. According to the researchers’ analyses, traders with a high score on the illusion of control scale earned about \$100,000 per annum less than traders with only an average score.¹³

INEVITABLY, OUR unrealistic expectations, and our reluctance to admit to our weaknesses and limits, will sometimes trip us up. However, the brain does have a helpful strategy in place to minimize such mishaps. When we’re faced with a choice to make, we actually view ourselves and life unusually realistically as we quietly contemplate our future. Volunteers asked to deliberate a decision they had yet to make (to go on vacation, for example, or end a relationship), were less grandiose about themselves, more pensive, more attuned to the risks of life, and less susceptible to the illusion of contempo-

rence, than were other volunteers not in the contemplative frame of mind.¹⁴ This “winded” state, the researchers term it, is presumably what keeps us from becoming too fanciful, our str-

Once our decision is made, however, the illusion is snapped shut more tightly than ever. We’re told to reflect on a decision that they had even more exaggeratedly buoyant about the prospects than normal. And there is good reason for the brain to speed into high gear just as soon as we put our plans into action.¹⁵ The shamed, the conceited brain—“Sure! I can do that! It’s someone else’s fault . . .”—is like a psychomotor propels you upward, but provides a soft landing that rapidly descend. The tricks of the vain brain are to pursue your ambitions while keeping your feet on the ground. Self-handicappers, who protect themselves by providing themselves in advance with a reason for poor performance, gain another strategy. By buffering their delicate egos, self-handicappers can try anything, and know they have an excuse on hand should things go wrong. People who habitually protect their pride from the given the opportunity to self-handicap before playing a ball machine.¹⁶ By allowing the volunteers to practice beforehand, the researchers found how self-handicapping (by practicing less) reduces the psychological leeway they need to persist at playing pinball, even when they weren’t terribly good at it.

Ego-friendly excuses for unrealized aspirations are also invaluable in the classroom. Schoolchildren doing badly in reading or math, when encouraged to blame their difficulties on lack of effort rather than lack of ability, show remarkable gains in both persistence and accomplishment.¹⁷ And persuading yourself that the sun *will* come out tomorrow—that the setbacks you are experiencing are only temporary and nothing to do with any personal deficiencies—leads strength to persevere with your goals. First-year undergraduates worried about their poor grades were enticed by researchers into thinking that grades naturally improve after the first semester.¹⁸ In a spectacular demonstration of the self-fulfilling prophecy, these students went on to get better grades (both a week and a year later) and were less likely to drop out, compared with similarly concerned students who were not persuaded to be optimistic about the future in this way.

We have many reasons, then, to be grateful to the brain for its careful stretching of the truth. Indeed, without our vain brains, would we even bother to get up in the morning? One final, glorious reason to thank your brain for its little white lies is that they make life itself endurable. According to the sensationally named “terror management theory,” developed by a psychologist rejoicing in the surname Pyszczynski,¹⁹ a healthily vain brain is “a protective shield designed to control the parental fear of terror that results from awareness of the horrifying possibility that we humans are merely transient animals groping to survive in a meaningless universe, destined only to die and decay.” I’m sure you will agree that if a few positive illusions can keep at bay the disturbing thought that in truth you are of no more significance in the universe than,

as Pyszczynski cruelly puts it, “any rodent, apple, or porcupine,” then we all owe a lot to our vain brains.

But let us end on a more comforting grand scheme of things you may not be. If you are not a porcupine, you are almost certain

The Emotional

Sweaty fingers in all t

MY SON, THIRTEEN MONTHS OLD, is
will break. He sobs with his entire body,
few seconds he will assume what my husband
tragedy pose. Sure enough, soon he will
and flops forward so that his forehead
holding in my hand the accomplice to the
ated all joy from my son's existence. This
us, have left no other course available to
to give himself over completely to a
drenching grief. I struggle painfully but
urge to ruin his character forever by re
item upon which, clearly, his entire happiness
ballpoint pen.

As it happens, I know just how it feels
pens taken away. My husband, as part of
tuning system, has strategically located

note-making points around the house: clipped onto the calendar, by the phone, and in the travel bag. According to the system, these pens should only ever be removed from their posts to be used for, respectively, noting events on the calendar, taking down phone messages, and filling in travel-related documents. My husband is quite strict in his enforcement of this rule, and any pen found being used for a purpose other than that intended is immediately returned to its post.

And irritating though it is to have a writing implement removed midword, I simply do not seem to feel the loss as keenly as does my son. For this I have my prefrontal cortex to thank. A mere smudge of brain cells at birth, it takes twenty-odd years or more to reach its full stature as the sergeant major of the adult brain. One of the many jobs of the prefrontal cortex is to regulate the emotional responses of less civilized brain regions, which is why it's such a useful thing to have. While earning my PhD, I studied a man who had damaged part of his prefrontal cortex in a car accident. Because he had a little problem with his temper (he liked to let a blunt instrument do his arguing for him), he had been removed to a high-security psychiatric hospital for the safety of all. I made the mistake of reading his case notes just before meeting him and I felt deeply nervous as to how the two of us would hit it off. Unfortunately, when I am anxious my palms become unpleasantly sweaty. As I began to shake hands with the patient, he rapidly withdrew his own with an expression of the utmost disgust, and ostentatiously wiped it on his trousers.

"Christ!" he remarked to my supervisor, who was relishing every moment. "It's like shaking hands with a wet haddock."

Had his prefrontal cortex been intact, I have no doubt that he would have kept himself.

There is little doubt that, compared with an inhibited brain-damaged patient, we have authoritative control of our emotions. Not the case that our emotions and moods control us. It may seem, as we busily go about deciding what actions are best taken for our heady eye over people and events are making judgment on them, or reflecting on the past, or making good use of our uniquely human capacity. However, research suggests that it is not we that are actually wearing the pants. Our emotions fiddle with our psychological world, from the seemingly straightforward issue of what to do in the world around us, to the rich and complex issues of the world within us.

UNLIKE A cow, say, whose alternative is to munch on this little patch of grass, or that one, we humans have some labyrinthine decisions to live. One of the hottest new topics in psychology is how our emotions wield over our choices—decisions that might be tempted to think require intricate calculations and calibrations. The expert on this interest in the power of feeling is Daniel Kahneman, who has turned the game as a laboratory simulation of the complex mix of risks and benefits that our everyday

researchers asked volunteers to select cards, over and over, from any of the four decks in front of them.¹ They weren't given much information about the decks, just that some worked out better than others. When they turned over a card they learned whether they had won or lost points. Two of the decks yielded high point gains but, every so often, very severe point losses. This meant that, overall, these packs were best avoided. The other two packs were actually more beneficial in the long run; they offered less dazzling point wins, but less devastating point losses. While the volunteers played the game, the researchers monitored their emotional responses. They did this by measuring their skin conductance response—the polite way of referring to how much someone is sweating. (Skin conductance equipment measures the electrical conductivity of skin, which is affected by the salt in sweat.)

The pattern of winning and losing was too complicated for the volunteers to calculate which decks were the best. Yet by the end of the experiment, nearly all of the volunteers were choosing from the winning packs. They had developed hunches about which decks to avoid. This isn't particularly remarkable in itself, but what was rather eerie was that the volunteers' sweaty fingers seemed to work out which decks to avoid before the volunteers themselves did. In the pre-hunch stage, while the volunteers were still choosing cards laphazardly, their skin conductance responses would shoot up just before they chose a card from a losing deck. Only after the volunteers started showing these warning emotional jolts did they develop their gut feeling that they should avoid those decks.

The authority that these gut feelings had over becoming clear when the researchers asked the volunteers to play a gambling game to a patient with damage to the ventromedial prefrontal cortex (the ventromedial prefrontal lobe, as EVR, had been a happy and successful husband, and father until a brain tumor destroyed the prefrontal cortex and had to be removed). His professional and personal life went to rack and ruin. He had an extraordinary inability to make decisions— which purchases— which razor to buy? what business to start?—required exhaustive comparisons of pros and cons. You could faint from hunger waiting for a decision on which restaurant to eat. He would begin a discussion of each restaurant's seating, menu, its atmosphere, and its management. His work would begin, in the form of driving to see how busy each restaurant was. Yet even after all this EVR still found it impossible to choose. His indecision was so time-consuming that it put a severe strain on both his marriage and his employment. If he did manage to make decisions, they were almost always the wrong ones. Despite numerous warnings from his friends about making a terrible mistake, this once-successful investor invested all his savings in a home-built business partnership of dubious commercial and moral value that went bankrupt.

What was so odd about EVR's condition was that it was so hard to understand why his post-surgical behavior was so disastrous—was that his intellect was completely intact despite his brain injury. The researchers studying

him for hours about current affairs, politics, and ethics, and were unfailingly impressed with his intelligence and knowledge. They quizzed him (on or off) hypothetical social dilemmas, asking him what a person could and should do in tricky social situations. EVR had no trouble coming up with a whole range of sensible solutions to these problems even though, as he himself cheerfully admitted, he wouldn't have a clue what to decide to do if he ended up in these situations himself.³

In fact, it was partly this strange unconcern about his problems that triggered the researchers' suspicions that EVR's failing might be an emotional one. Nothing seemed to touch him emotionally, and this was confirmed by an experiment showing that EVR (and other patients like him) didn't show normal skin conductance increases to emotionally charged pictures (such as scenes of mayhem, mutilation, and nudity).⁴ Could it be that this emotional lack was behind EVR's debilitating incapacity to make decisions? The researchers investigated this idea using their gambling game, monitoring the skin conductance responses of EVR and other similar patients while they played. In the game, as in life, the patients made poor decisions, never learning to avoid the bad decks. This was despite the fact that half of the patients even came to realize that the high-risk decks they were going for were going to hurt them.⁵

Why couldn't the patients "solve" the gambling task? Unlike the non-brain-damaged volunteers, who let off an emotional skin conductance shudder right before choosing from a bad deck even before they consciously began to suspect that those decks should be avoided, the patients showed no signs of building up this sort of emotional knowledge. The

conclusion it is most tempting to draw is that EVR lacks tags (or somatic markers, as the researchers call them) for our decision making. Without these emotional tags, we must rely on our most encyclopedic knowledge or power of calculation to help us to pluck a bottle of shampoo off the shelf.

EVR's chaotically indecisive life vividly illustrates how disabling it is for us not to have our emotions as input while we are weighing up our options. As information brings its own peculiar bias, so taking the cause of those emotions. If we attribute an emotion to the wrong source, thinking of its origin other than the one that is actually causing the feeling, this error can be carried forward into our judgments and decisions. Research suggests that this happens more often than we realize.

The problem is that our bodies seem to register all emotional response. For a long time, psychologists had trouble accepting the idea that we respond pretty much the same way regardless of what we are doing. An exam, have just seen the lottery, or are about to get married.⁶ These die-hard psychologists went to elaborate lengths in their attempts to show that the body responds differently to different emotions. They showed no amount of emotional trauma in their volunteers. (This was before the concept of repressed emotion came back in the golden era of psychology when unsuspecting volunteers into the throes of repressed emotion and then all have a breakdown.) For example, a researcher with the name of Ax asked volunteers to lie down

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