chapter 1

Consistently Inconsistent

The mind consists of many different parts. These parts often "believe" different, mutually inconsistent things. Sometimes this is obvious, as illustrated in cases of brain damage and optical illusions. Other cases are less obvious, but no less interesting.

Do I contradict myself?
Very well then I contradict myself,
(I am large, I contain multitudes.)

—Walt Whitman, *Song of Myself*, section 51

The very constitution of the human mind makes us massively inconsistent. In this book, I try to persuade you that the human mind consists of many, many mental processes—think of them as little programming subroutines, or maybe individual iPhone applications—each operating by its own logic, designed by the inexorable process of natural selection; and, further, that what you think and what you do depends on which process is running the show—your show—at any particular moment. Because which part of the mind is in charge changes over time, and because these different parts are designed to do very different things, human behavior is—and this shouldn't be a surprise—complicated.

What's worse, because so much of what goes on in our heads is inaccessible—that is, we don't know why we think what we do, an idea recently made popular by, among others, Malcolm Gladwell in *Blink*—we are often not able to say what's really causing our behavior. If you're like me, you have often—and quite honestly—answered the question "Why did you do that?" with "I have absolutely no idea."*†

But the good news is that a fundamental insight about human psychology allows us to think more sensibly than ever before about all the different subroutines in your head and the way that they are organized. Evolutionary psychology—my discipline—focuses our attention on the idea that the different bits of our brain have *functions*. Just as some of your mind's subroutines are for seeing, some for processing language, and some for controlling muscles, the rest have functions as well, some of them having to do with choosing mates, some with making friends, and—one subject I currently study—some with morally condemning others for doing things like baking pot brownies.

This is *not*, however, just another book about how people are irrational, or why we make bad decisions. There are enough of those already.

This book also isn't about our "emotional self" and our "rational self," or about the difference between "affect" and "cognition." It's not about our right brain and our left brain. It's not about the duality of man, the duality of woman, or the triality of Freud's id, ego, and superego. As we'll see, cutting up the brain into such a small number of parts undersells, by a fair amount, just how complicated things are.

Instead, this book is about contradictions. It's about how you— OK, *I*—can, at one and the same time, want to go for a training run and also want to stay in bed on a cold November morning. It's about how you can, at one and the same time, during a severe economic downturn, both want to know how your retirement fund is doing and also not want to know how your retirement fund is doing. It's about how you can, at one and the same time, want the government to leave people alone as long as they're not hurting anyone and also very much want the government to interfere with people's lives even when they're not hurting anyone.

* In many ways, you're holding a book-length apology for (many) such moments. Sorry, sweetie!

† I'll use footnotes, here on the bottom of the page, for material that is important enough that you might want to read it, but not so important that it needs to go in the main text. I'll use numbered endnotes, which are at the end of the book, for references to others' work and for a small number of technical discussions. Endnotes are more or less serious, but footnotes . . . not so much.

It's also about how many, perhaps even most, contradictions in our heads go unnoticed.

The reason it sometimes feels as though we're conflicted, the reason it feels like we have multiple competing motives, and the reason we're inconsistent in the way we think and reason about fundamental issues of morality, are all explained by this important insight about the human mind. Because of the way evolution operates, the mind consists of many, many parts, and these parts have many different functions. Because they're designed to do different things, they don't always work in perfect harmony.

The large number of parts of the mind can be thought of as, in some sense, being different "selves," designed to accomplish some task. This book is about all these different selves, some of which make you run, some of which make you lazy, some of which make you smart, and some of which keep you ignorant. You're unaware of many of them. They just do what they're designed to do, out of sight and, as it were, out of mind.

This book is about how all of these different parts of mental machinery get along or, occasionally, don't get along, and it's about how thinking about the mind this way explains the large number of contradictions in human thought and behavior.

It explains why we are conflicted, inconsistent, and even hypocritical.

Understanding the whole of human behavior requires understanding all of the large number of different parts that produce it.

These parts are called *modules*.

Half-truths

To start off, I'm going to persuade you that you—yes, *you*—simultaneously believe (or, at least, "believe," with quotation marks around it) many, many things that are mutually contradictory. I'll start out by talking about some weird people, continue by talking about some weird cases, and before I'm done I'll talk a little bit about why you do weird things like locking your refrigerator door at night.*

* I'll explain about the refrigerator by and by.

If you know about the structure of the brain, you probably know that it is divided into two hemispheres, the left and the right. The two hemispheres are, in normal people, connected by the corpus callosum, which, roughly, allows the two halves of the brain to "talk" to each other. That is, it allows for the transmission of information from the left cerebral hemisphere to the right, and vice versa.

In some cases, this connection is surgically severed in patients with epilepsy to prevent the spread of epileptic seizure activity from one cerebral hemisphere to the other. This procedure, called a corpus callosotomy, prevents the spreading not only of seizures, but also of information that would normally move from one hemisphere to the other. People who have undergone this procedure are called "split-brain" patients for this reason.

Why am I telling you this? Because a brain in which there is limited or no direct communication between its two hemispheres illustrates a very straightforward case—albeit an unnatural case—in which a brain can have mutually inconsistent pieces of information. Suppose that the connections between the two hemispheres, under normal conditions, allow information from the two sides to be integrated and reconciled. If so, then if these connections are cut, you can wind up with information in one that is inconsistent with information in the other.

Neuroscientists Mike Gazzaniga and Joseph LeDoux performed experiments that illustrate exactly this. They took advantage of the fact that the way the nervous system is set up, it is possible to present information to one hemisphere but not the other. Further, it is also possible, in some sense, to get one hemisphere to respond to a question without involvement from the other. Split-brain patients make it easy to think about having "multiple selves" because you can communicate with each hemisphere separately.

The short (and slightly imprecise) story is this. When you present information to these patients in the right visual field (basically, stuff in front of them to the right of their nose), that information goes only to the left hemisphere, and when you present information to the left visual field it goes to the right hemisphere.

Now, because the right hemisphere controls the left hand and the left hemisphere controls the right hand, if you want to ask the right hemisphere a question, you can ask the question verbally—which goes through both ears and on to both hemispheres—and ask the patient to respond using his left hand. This tells you what the right hemisphere thinks the correct answer is.

You can also tell the patient to respond to the question verbally. Because the vocal apparatus is controlled by the left hemisphere, the answer to the question tells you what the left hemisphere "thinks" the correct answer is.

In a set of classic studies, Gazzaniga and LeDoux[1] showed a split-brain patient two pictures at once: a chicken claw, shown to the left hemisphere (in the right visual field), and a wintry scene to the right hemisphere (in the left visual field). The patient was then shown an array of cards with pictures of objects on them and asked to point, with each hand, to something related to what he saw.

Consider each hemisphere separately. The left hemisphere was being asked to use the right hand to point to something related to a chicken claw. The right hemisphere was being asked to use the left hand to point to something related to a wintry scene.

The hands—or the hemispheres—did fine. The left hand pointed to a snow shovel. The right hand pointed to a chicken.

Now consider what happens when the "patient"—really the left hemisphere—was asked to explain why his hands were pointing at those pictures. The right hemisphere, even though it heard the question, couldn't answer it, not having control of the verbal apparatus. As for the left hemisphere, what did it know? Well, it knew the question, it knew that it saw a chicken claw, and it knew—because it could now see if it looked—the left hand was pointing to a snow shovel. (It probably also knew that it was one hemisphere of a split-brain patient.) What would I do if I were asked to explain the relationship between a chicken claw and a snow shovel? I might, as the patient's left hemisphere did, say that the shovel is for cleaning up after the chicken.

If you were able to ask just the right hemisphere, which knew the question, saw a wintry scene, and—if it looked at the right hand pointing to a picture of a chicken—saw the two seemingly unrelated facts, it might have given you a very different answer.* It might even have responded, "Well, I

*I like to think it would be something about really cold chickens.

know that I'm a split-brain patient, so you annoying experimenters are probably messing with me. My left hemisphere controls my right hand, and who knows why my right hand is pointing to a chicken." At any rate, it seems unlikely that it would have said anything about cleaning up after a chicken.[2]

What did "the patient" think was going on? Here's the thing. *There's no such thing as "the patient."* There's no real answer to that question because "the patient" is two more or less disconnected hemispheres. You can only ask about what individual, distinct, and separated parts think. The question asking what "the patient" sees is bad, and the answer is meaningless. (Questions can be bad in many ways, for example by assuming a condition contrary to fact, like the infamous "Have you stopped beating your wife?"[3]) Here, asking what "the patient" believes assumes there's one, unitary patient who can have a belief about something. If I'm right about the ideas here, then a lot of intuitively sound questions like this one will turn out to be at best problematic and at worst incoherent.

Seeing with your brain

The cases of split-brain patients aren't the only ones in which it is easy to see that different parts of someone's brain seem to believe two mutually inconsistent things. Neuroscientist V. S. Ramachandran, among others, has written about many such cases, and among the most interesting are the mysterious-sounding instances of "phantom limb."

People who have had an arm or leg amputated frequently report that they still "feel" the limb that has been removed. (These sensations vary, but they are often sensations of pain. The neurophysiology of this is interesting, but, as I do in nearly all of the remainder of this book, I am going to ignore all the neurophysiological details.) Do patients with a phantom arm "believe" that they have both arms intact? Well, if you ask them, they can tell you that one of their arms is missing. So, no, they don't believe they have two arms.

However, the fact that there is a sensation of pain *in the missing arm* means that *some* part of the nervous system "believes" that there is an arm there. Indeed, anecdotal evidence from Ramachandran suggests that this part of the brain not only *thinks* there's an arm there, but positively *insists* on it. He reports a case in which he told a patient to reach for a cup of coffee with his phantom arm. He then yanked the cup toward himself . The patient yelled "ow" because his phantom fingers got caught in the cup's handle just as Ramachandran was moving the cup away.[4] Some part of his brain "really" believed there was an arm there.[*]

By the way—and we revisit this in more detail later—there's no reason to say that we should discount the part of his brain that thinks there's an arm there just because it disagrees with the part that talks (and because the talking part happens to be correct), as though what the person says is the only thing that matters. In the split-brain case, we don't think that the patient *only* saw the image of a chicken just because the part of the brain that talks was the part that saw it. It's a mistake to pay attention only to what comes out of the mouth when we're trying to understand what's in the mind, because there are many, many parts of the mind that can't talk.

It's easy to put special emphasis on what people can report. Ramachandran says that even though some part of the patient's brain did not know that the limb was missing, "John 'the person' is unquestionably aware of the fact."[5] Ramachandran didn't say, "the bit of John's brain that controls the vocal apparatus." I hope to have persuaded you already or, failing that, that I will have persuaded you by the time you're done with this book, that the bit of John's brain that caused him to say "ow" even though the phantom fingers couldn't really have been caught in the cup handle is as at least as entitled to—or, at least nearly as entitled to—being considered "John, the person" as is any other bit. There's nothing special about the bit of the brain that controls the vocal cords; it's just another piece of meat in your head.

Moving on. In the literature on patients with neurophysiological damage, perhaps no condition is more compelling than alien hand syndrome (AHS). Patients with AHS report that the affected hand moves without the exercise of their will.[†] Not only do they talk as though the hand is not under their control, but they also say that it is not even their hand. Patients will, in this case, literally "talk to the hand," addressing it with the second-person

[*]Apparently, according to the report of this incident, some part of the person's brain also thought Ramachandran was a jerk for ripping the cup out of his "hand."

[†]Think of Dr. Strangelove.

pronoun "you"—and not always politely ("Damn you!"). Patients report that the alien hand prevents them from doing various tasks. As one patient put it, it is "as though it has a mind of its own."[6] In this case, the hand would wake the patient up, interfere with eating, and un-tuck shirts previously tucked in by the other hand. In this case, "conflict" is literal: "[T]he patient's wife also observed the hands 'fighting.' "[7]

It is tempting to dismiss such patients smugly as being foolish. Who could possibly believe that the hands attached to the rest of their bodies were not under their control? Anyone who has spent a spooky evening moving the pointer around on a Ouija board convinced that some otherworldly entity was in charge shouldn't be so smug. And anyone who never believed it for a second but still somehow feels that, yeah, "it *does* seem like I'm not moving my own hands," well, you don't get to be smug either.[8]

One more illustration of seeming contradictions in patient populations before moving on to normal people: blind sight. Consider the following. A patient reports that she can't see anything—that she is completely blind. Her eyes themselves are undamaged. There is, however, damage to parts of the brain that are responsible for allowing light coming into the eye to be converted into an image of the world *out there*.

Nonetheless, you tell such a person that you are going to present X's and O's in front of her, and you want her to tell you which letter she is seeing. She protests that she would love to do this little experiment, but reminds you that she's *blind*. You insist, and, being polite, she agrees. You show her the X's and O's, and she gamely guesses, or at least tells you that she was forced to guess, reminding you that she's *blind*.*

The thing is that some patients perform statistically above chance. To be above chance, some part of their brain *must* have access to the information about whether you presented an X or an O. Further, this bit must be sending its information to a part of the brain that itself is connected to the vocal apparatus, or the patient couldn't say the correct answers aloud. But *some* part of the brain, also hooked up to the speech-production systems, doesn't seem to know all this is going on. That's the one that keeps reminding the

*I'm embellishing the details here, but preserving the sense. I'm just envisioning what I'd say if I were blind and someone asked me to perform a visual discrimination task. I think I'd be a little snarky about it.

experimenter that "Hey, I'm *blind*." So, one part of the brain thinks—or, really, knows—that it is seeing, and another part of the brain thinks that the first part can't see. Oddly, there is a sense in which they are both right. Again, the perverse way they can both be right is that when the patient says, "I'm blind," that "I" is tricky. Yes, the part that talks has no experience of sight. This does not mean that no part of the brain does.

A similar phenomenon has been observed with emotional expressions. One patient was shown pairs of faces: happy or angry, happy or sad, and fearful or happy. The patient didn't get them all right, but was above chance for all three pairs. Interestingly, the part of the brain involved in this task seems to be pretty specific in its function. The patient did no better than chance when presented with male and female faces and asked to guess which was which. The patient's responses were no better than chance even when presented with faces compared to jumbled faces. That is, this person was not able to distinguish a non-face from a face, but could distinguish (again, imperfectly) a happy face from an angry one.[9] Taken together, this suggests that some bits of the brain that are responsible for some parts of visual processing are working, at least a little, while others are not. These working parts have pretty narrow jobs—distinguishing facial expressions.

One patient, referred to with the initials TN, who was known to have such abilities despite being blind, was recently given the task of navigating a hallway in which various obstacles had been placed.[10] He was able to go from one end to the other without hitting anything, even though he had to change his course to do so. Reports indicated that TN was not even aware that he altered his course, let alone why he did so. This is another case in which you shouldn't "believe" that the part of the brain that talks is special. There is some sense in which, in cases like this, the talking part is wrong.

This is a profound illustration of how parts of the brain do many interesting jobs, while remaining inconspicuously out of awareness. Evidence like this has suggested to some people that the case of TN is not so unlike that of normal people. As neuroscientist Chris Frith put it, "the mark of the self in action is that we have very little experience of it. Most of the time we are not aware of the sensory consequences of our actions or of the various subtle corrections that we make during the course of goal-directed actions."[11]

Just like TN.

Seeing is disbelieving

Even if you agree that these examples illustrate that contradictory information can simultaneously be present in the same brain, perhaps you think that there's something strange about these cases, drawing as they do on people with brain damage. Well, that's fair enough. I'm suggesting that two pieces of information that are separated from one another in the brain can be in conflict, and having a split brain—or other kinds of damage—somehow seems to load the dice in my favor. So let's try some examples with normal brains.[12] Let's try yours.

Consider first an optical illusion called the "same color illusion" (figure 1.1).[13] In this picture, have a look at the squares labeled A and B. Are they the same shade or different shades? You've probably had enough experience with these sorts of things that you know that I wouldn't be asking you unless A and B, strange as it seems, are the same shade. You can verify this for yourself by covering up all the bits of the picture except the two squares in question. Without the board and the cylinder surrounding our two key squares, you'll see the shades of the two squares are identical.

Optical illusions are fun, but what's the point? First, ask yourself if it's true that some part of your brain "thinks" that the two squares are not the

Figure 1.1. The same color illusion.
The squares marked "A" and "B" are the same shade.
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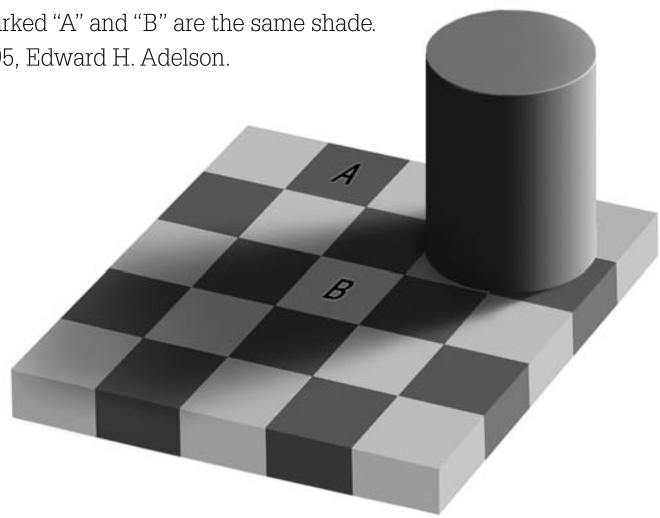

same shade. It seems to me that the answer is transparently "yes." You can only have the experience of seeing the two squares as different if they are *somehow* perceived and experienced as different by your visual system. So, roughly—and I clarify how I use words like "belief" later on—it must be true that some part of your brain—your visual system, or a part of it—"believes" that the two squares are different. If you could directly quiz that part of the visual system, as we did with individual hemispheres of split-brain patients, it would tell you that they're different.

Now, you've covered up the rest of the figure, and you've also seen that the two squares are the same shade. They appear to be different once you see the figure in its entirety again, but "you" "know"—and by that I mean something like, the information is in your head somewhere—that the two squares are the same shade. So, my claim is that this simple optical illusion is a case in which two contradictory pieces of information—same shade versus different shade—are simultaneously present in different parts of your—normal—brain.

Well, OK, you say, you'll grant that. In very strange, contrived cases, it's *possible* that the same brain can have conflicting information that is left unresolved in different bits. I'm satisfied, at this point, if you're willing to concede just that much, because the remaining arguments I'm going to advance only turn on the *possibility* of such conflicts being present in your brain, and take the question of the actual amounts of conflict—how many there are, how frequently they occur, what areas they are present in—to be something that we can only answer by looking at the relevant evidence.

But, just to push the point home, let me answer a couple of possible objections. Perhaps you think there's something funny about the visual system and, in particular, that the visual system is special in that perceptual experience can't be affected by new knowledge or new experience. That is, maybe you think perception is just too "bottom up" to be able to be changed by "high-level" information. If that's your argument, then what you want to be true is that once I show you a picture, simply telling you something about it can't change the way you perceive it.

Take a brief look at figure 1.2. Describe it. Say it out loud, so you can't cheat and say you knew it all along later. You probably said something like, "It's a bunch of black blobs in a white field." That's true as far as it goes. OK,

Figure 1.2. Black blobs on a white field. Photograph © copyright 1965 by Ronald C. James.

now look at the bottom left part of the picture, and try to see the head of a Dalmatian. She's munching something on the ground, and you can see her ear flopped over and her collar. Now how would you describe the picture? Look away, and look back, and try to see the picture as you did before, as just a bunch of blobs. Most people report that this is difficult, even impossible. Once you get the information that it's a dog, the way you see the image changes.[14]

There are any number of other optical illusions that show that the visual system has one set of "beliefs" about the world, while some other part of your brain has a different one. I'll mention just one, the Müller-Lyer illusion

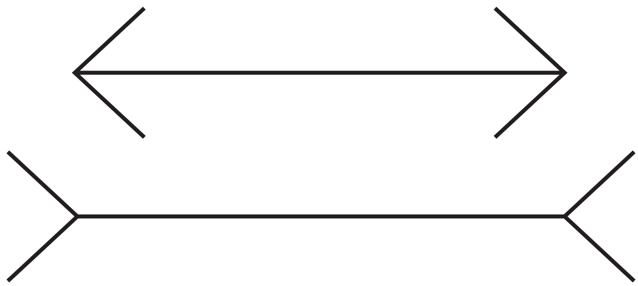

Figure 1.3. The Müller-Lyer illusion.

(figure 1.3), which consists of two equal-length lines, one right above the other. The line with the outward facing arrows appears longer than the one with the inward facing ones.[15] This is true *even if you yourself just drew the equal-length lines*. Some part of your brain, part of the perceptual system, contains the information "the lines are unequal in length," whereas another part of your brain contains the information "the lines are equal in length." Again, it's tempting to put more weight on the part that thinks they're equally long, since that feels more like "you"—and, again, that part is correct in this case—but I think that's a mistake. More about that later.

You might also be thinking that there's something funny about all of these things because they're illusions, somehow obscuring the world as it "really is." I'm not going to get into the philosophy of the reality of the world, but it's worth mentioning another effect that isn't subject to the same criticism.

Those of you old enough to remember turntables and the records they played might also remember that it was possible to play the record by spinning the turntable manually. This worked forwards as well as backwards, and for a short period of time it was popular to record material that could only be understood if the record was played backward.

Two researchers, John Vokey and Don Read, conducted a now-classic study investigating this.[16] They listened to a bunch of material, including Lewis Carroll's "Jabberwocky" and the 23rd Psalm, played backwards. In any material played backwards, it's usually possible to find some bits and pieces that sound kind of sort of like real phrases, and these researchers identified some, including, in the "Jabberwocky," the phrase "saw a girl with a weasel in her mouth." They played the recordings backwards for a group of subjects and told them particular phrases to listen for. Most subjects did indeed hear the phrases. However, they *only* reported hearing each of the phrases *after* they were told to listen for it. Their expectations caused them to hear phrases that they otherwise were oblivious to.

If you listen to this stuff yourself, once you're told what the phrase is, it's actually pretty hard *not* to hear it, just as it was hard not to see the Dalmatian once you had a hint. But, of course, unlike the Dalmatian case, you're hearing a phrase that isn't "really" there.

The "Jabberwocky" case and the Dalmatian case show that some kinds of information—that there's a Dalmatian in the picture, that someone is saying "saw a girl with a weasel in her mouth"—in one part of your head can actually change your experience. "High-level" information, such as what an experimenter tells you, can change your low-level perception, transforming dots into a dog and a mix of phonemes into a phrase. No such "feeding down" occurs in the case of the same color illusion. When you see the checkerboard with the surrounding material, your perception of it doesn't change even though some part of your brain knows that the two labeled squares are equally bright.

These relatively simple demonstrations illustrate something important about the way normal brains work. Illusions like the checkerboard show that different parts of your brain can "disagree" about what's true. Further, in some cases, information that one part of your brain "knows" to be true doesn't change, or update, the part of your brain with the discrepant information. So, just as in the cases of patients mentioned above, *normal human brains can have mutually inconsistent information in different parts*.

Moreover, these examples illustrate something about the way the brain updates information from one part to another. In some cases, updating occurs, and the expectation to hear "saw a girl with a weasel in her mouth" really does change a string of sounds into the sense that one has heard the phrase. In the checkerboard case, perception doesn't change.

This implies that, even in normal brains, *information can stay isolated in particular brain parts*. If the knowledge that the two squares were equally bright changed how the figure looked, that would be good evidence that this kind of information "fed down" into the perceptual system. It doesn't.

To link this to the technical literature in cognitive science, the philosopher Jerry Fodor, in a highly influential book called *Modularity of Mind* published in 1983, used the term "encapsulated" to refer to this aspect of information flow in the brain.[17] A system is said to be encapsulated from another part in cases like the checkerboard illusion. Here, the visual system that generates the perceptual experience is encapsulated with respect to the part of the brain that "knows" that the two squares are equally bright. This just means that the information either doesn't get into the visual system generating the perceptual experience, or it doesn't affect it.

While Fodor thought encapsulation might be limited to cases like the perceptual system, we'll explore cases that suggest that it happens in many areas of psychology.

Snack break

If inconsistencies in human brains were restricted to cases like optical illusions, then it might not be worth worrying too much about them. These are interesting and fun examples, but hardly something to get worked up over.

Some kinds of inconsistencies, however, get people very worked up. In the provocatively titled book *Why More Sex Is Safer Sex*, economist Steven Landsburg wrote: "It has always seemed to me that the two great mysteries of the Universe are 'Why is there something instead of nothing?' and 'Why do people lock their refrigerator doors?' "[18] I'm really not in a position to solve the first of those two mysteries. I think I can say a little about the second one, though.

In essence, what Landsburg is worried about here—so much so that he dubs it a Great Mystery of the Universe, is human inconsistency. He reasons that there is a very big—and mysterious—inconsistency here. People who are dieting are occasionally given advice to make getting food more difficult as part of their regime. The idea is that if it's hard to satisfy a craving for a midnight snack, you'll be less likely to indulge. But this advice carries an apparent contradiction in the sense that if people don't want to snack when they wake up in the middle of the night, then, well, they simply shouldn't snack when they wake up in the middle of the night.

Landsburg, like many other economists and probably most people in general, has a view of the mind without divisions or compartments. Here's how it works. Each person's mind has a vast store of knowledge about the world and the person's own preferences. When the mind faces a decision, it integrates all of the relevant information together and spits out the answer. Given everything that I know, and all of my preferences, what is the best course of action to take to satisfy my preferences? It doesn't matter what time it is, what room I'm in, or whether my stomach is, at that moment, empty or full—on this view, the same answer comes out each time.

If you think this is how the mind works, then if you ask it, before you go to bed, if you should snack or not snack at midnight, it'll tell you not to snack, and if you ask it at midnight, it'll say the same thing. So there's really no need to lock the refrigerator door before you go to bed.

This view of a mind without divisions reminds me of the old toy, the Magic 8-Ball. The Magic 8-Ball—"has all the answers you need!"—is a little larger than a regular 8-ball. You ask a yes/no question, concentrate really hard, shake it up, and, presto! the answer appears in a little window cut into the ball. The 8-Ball is, of course, completely random, giving one of 20 possible replies, including "It is decidedly so," or "Better not tell you now." But imagine a genuinely *Magic* 8-Ball that has all the information in the world, integrates it, and comes up with the best answer. If the mind were like a Magic 8-Ball in this sense, taking everything that one knows, and one's preferences, and integrating them all together—a process as magical as what economists refer to as "rationality"[19]—then people would behave consistently, just like the sort of person Landsburg and other economists have in mind. Shake your 8-Ball/mind up before bed or at midnight, the right thing to do is clear.

I don't think that economists literally believe that the mind works this way, that the mind has supernatural or magical abilities. What is clear is that many of them don't seem to think that the mind has important divisions within it. Rather, they think of it as more or less "unitary," the opposite of the modular view.

My hope is that by the time you finish reading this book, you'll want to demote the refrigerator door problem from a Mystery of the Universe to just one of a large number of phenomena that can be easily explained with modularity.

The morals of this story

One type of inconsistency is moral hypocrisy, which I'll take to be something like expressing moral condemnation for something and then doing exactly that thing. Hypocrisy is so easy to imagine that it might be hard to imagine anyone who *isn't* a hypocrite. So, just to give a sense of what the *absence* of hypocrisy might look like, here's a fanciful example.

Consider the android Commander Data from *Star Trek: The Next Generation*. It doesn't have to be exactly him; only someone like him. Suppose this android has to travel about in a universe full of people, and has to make various decisions, many of them having some sort of moral weight. Being an android, he has bad intuitions about morality, so he carries a notebook around with him with encyclopedic information about what is and is not immoral.

Our android is programmed to consult his list whenever he is about to pronounce judgment on whether some act is wrong or not, as in, "Lieutenant La Forge, it would be morally wrong for you to set your phaser on 'kill' and fire it at Captain Picard, intentionally causing his death." Importantly, he *also* consults his list whenever he himself is about to act. If a potential action is morally wrong, he doesn't do it.

It seems to me that our android, by and large,* can't be a hypocrite. If his list guides both moral judgment and moral action, he's going to be morally consistent. Take his list and change it from a notepad into a little hard disk that he can place somewhere in his body, and now our android has a little morality machine that will allow him—roughly—to be consistent.

*The hedge is here because morality is sufficiently complicated that I'm not sure this is going to work out properly in practice. What would Data do if he could only save the *Enterprise* or, heck, the entire Federation from certain destruction, by killing Captain Picard? Our own moral notebooks are unclear on this point.

Whether such an android could now or ever be built is beside the point.[20] This little thought experiment is simply to illustrate what something or someone would be like if the same sets of principles—the beliefs and rules on the notepad—guided both action and moral condemnation. Such a robot could not find itself in the position of a certain former governor of New York.* Any robot that condemned prostitution could not participate in it because if prostitution was on the list, he couldn't patronize a prostitute. If it weren't on the list, he couldn't condemn it.

Whatever one thinks of the plausibility of this robot, we, humans, are very unlike it. Without a doubt, the moral principles that people endorse clearly are not guiding their behavior, or, at least, are not the only force guiding their behavior. Our hypothetical android is very unlike the modular minds that I've been describing to this point. We have brains that seem to be divided up into different sections, with different, even mutually exclusive sets of beliefs. This situation—the architecture of human cognition—allows hypocrisy as just one kind, albeit a very important kind, of human inconsistency.

Where we're going

In this book, I present arguments and evidence that the human mind—your mind—is modular, that it consists of a large number of specialized parts, and that this has deep and profound implications for understanding human nature and human behavior. One important part of this is that modules, because they are separated from one another, can simultaneously hold different, mutually contradictory views, and there is nothing particularly odd or surprising about this. Such an idea is perfectly continuous with the material we've already visited in this chapter and, indeed, with the rest of the biological world.

The next three chapters develop this argument gradually, building on the ideas in this first chapter. Chapter 2 presents some ideas drawn from the

* New York Governor Eliot Spitzer resigned in 2008 after it was revealed that he had engaged the service of prostitutes. Previously, as the Attorney General for New York State, Spitzer had—visibly and vocally—overseen the prosecution of two prostitution rings. He ran for Governor in part on his record of convictions. In his inaugural address, Spitzer said, "all citizens will win when we finally get a government that puts the people's interests, openness and integrity first."

functional approach to understanding the human mind. This branch of psychology assumes that minds are useful for various things, and that thinking about what the mind is *for* might be helpful in understanding what the mind actually *does* and how, exactly, it does it.

Part of this functional approach includes the idea that in the same way computer software that is very flexible consists of a very large number of subroutines,[21] the human mind has a large number of subroutines—modules—designed for particular purposes.

An important consequence of this view is that it makes us think about the "self" in a way that is very different from how people usually understand it. In particular, it makes the very notion of a "self" something of a problem, and perhaps even quite a bit less useful than one might think.

In contrast, one idea that *is* very useful is the idea that if the mind consists of a large number of modules, then it needs one module to speak for the whole. In chapter 4, I introduce the notion that if you like the metaphor of your mind as a government, then "you"—the part of your brain that experiences the world and feels like you're in "control"—is better thought of as a press secretary than as the president.

This view helps explain certain puzzling things about human psychology. In chapter 5, I discuss why certain modules might not be designed to seek out the truth, and what the advantages are of ignorance. In chapters 6 and 7, I go beyond the value of ignorance and discuss how certain modules function *better* if they're not just ignorant, but actually wrong. Chapters 8 and 9 show how inconsistencies in the modular mind give rise to interesting phenomena surrounding "self-control" and, finally, hypocrisy.

My hope is that by the end you will come to have a fundamentally different view of human nature. Even though it might feel like there's one "you," and that "you" are in charge, in fact, just as Whitman said, you contain multitudes. The multitudes are designed to work together, but nonetheless contradict one another with some frequency.

In this lies the origins of human inconsistency, and the explanation for why everyone in the world except you is a hypocrite.