

Chapter 1. What is Reason?

The Terry Gilliam film *The Adventures of Baron Munchhausen* opens with a broad panorama of an army camp overlooking a burning seaside village. A title sets the scene: “Late 18th Century... The Age of Reason.” No sooner have the words faded away than a row of cannons unleashes a fiery volley, and the town is pummeled by another round of bombardment. Soldiers in smart red jackets are seen being blown aside by incoming shells, as women scream and run from burning buildings with cowering children in tow.

This tongue-in-cheek reference is fairly typical of contemporary attitudes toward the Enlightenment. The Age of Reason is recalled more for its grandiose pretensions than for its achievements. Tom Paine's book, *The Age of Reason*, was published in 1794, as the revolutionary terror was unfolding in France. It had to be smuggled out of a French jail, where Paine was awaiting execution. (In the end, he managed to evade the guillotine, but only due to an administrative oversight.) People, it turns out, were not quite as rational as they thought they were.

The first Enlightenment is generally taken to have been sparked by the work of the great 17th century philosophers – René Descartes, Thomas Hobbes, Baruch Spinoza, John Locke – to have reached its highest expression in the work of the 18th century *philosophes*, and to have been thoroughly discredited by the events of the French revolution. Yet throughout this period, people managed to say a lot more about what reason is *not* than about what it is. Reason was more often defined in terms of a set of oppositions: reason versus faith, reason versus superstition, reason versus prejudice, and reason versus tradition. Everyone preferred reason, but no one was able to say very clearly what it was, or why it was supposed to be so much better than the alternative.

Nevertheless, it is possible to distill a few central themes. The term “reason” traditionally refers to a particular mental faculty, one that is associated with a distinctive *style* of thinking. David Hume famously described reason as a “cool passion,” and a degree of detachment and distance from immediate circumstances is a hallmark of the rational style of thinking. But perhaps the more significant feature of rational thought is that it can be made fully *explicit*. To the extent that we are reasoning, we are fully aware of what we are doing and we are able to fully explain what we have done (hence the connection between the faculty of reason and the practice of *giving reasons*, or argumentation and justification.)

This is what accounts for the traditional contrast between reason and intuition. An intuitive judgment is one that you make without being to explain why you made it. Rational judgments, on the other hand, can always be explained. This doesn't make intuitive judgments wrong or defective, it just

means that they are produced by a different sort of cognitive process. Malcolm Gladwell helped to popularize this distinction in his book *Blink*, using a number of very striking examples. One in particular involved a forged statue and a group of art historians, many of whom were convinced that the piece was inauthentic, but were hard pressed to explain why. Something about the statues just felt wrong. According to one of these experts, the first word that came to mind when he saw the (supposedly ancient) statue was “fresh.” Another said that the statue “felt cold,” as though he were seeing it through a pane of glass.

These judgments were clearly the product of *cognition* – in fact, they were the product of very sophisticated expert judgment, a system of discernment built up over the course of decades of experience. But they were not a rational judgments. Why? Because the experts themselves had no access to the basis for their judgments. They could not explain what exactly it was about the statue that triggered the reaction.

We make this sort of judgment all the time. Look at a photo of a young child, maybe five years old. Is it a boy or a girl? In most cases you can easily tell. Yet how do you form that judgment? What exactly is it about a boy's face that makes him look like a boy, and not a girl? Most of us would be hard pressed to say. Judgments of age are similar. How do you tell the difference between an 18 year old and a 25 year old? The judgment is intuitive, not rational. We can go back afterwards and try to figure out how we made the decision, it's just that the basis of the decision is not available to consciousness as we are making it. What intuitive judgments provides us with are simply the *outputs* of a set of cognitive procedures.

Rational judgments, on the other hand, are based on reasons – considerations that the (famously eccentric) American sociologist Harold Garfinkel described as “detectable, countable, reportable, tell-a-story-about-able, analyzable – in short accountable.” With a rational decision, we have conscious access to the inputs, the decision procedure, as well as the output. If the experts assessing the statue had been able to point to an aspect of the technique, the material, or the style, and shown that it was anachronistic, this would have provided a basis for rational judgment. Like Sherlock Holmes solving a crime, they would have been able to explain precisely how their process of deduction had unfolded. But they weren't. They just *knew*, without being able to say how they knew.

The other major feature of rational judgments, which explains a lot of their attraction, is that they are thought to be intersubjectively valid. This is a somewhat cautious way of stating the old idea that reason is universal, or that the rational faculty functions the same way in all persons. Specifically, it means that rational arguments are ones that everyone should find persuasive. Much of the traditional opposition between reason and faith was understood in these terms. One of the most lively debates

during the European Middle Ages involved the status of so-called rational theology, compared to other sources of Christian belief, such as revelation, authority, faith, or mystical experience. Rational theology was based upon a series of “proofs for the existence of God,” which many took to be sufficiently compelling as to render faith unnecessary. Divine revelation, according to this view, was not necessary, strictly speaking. People could have figured out the truth of the Christian religion on their own, it's just that it would have taken them a very long time, and so God mercifully intervened in order to provide a few hints. Others, however, felt that only so much could be proved by reason alone; the rest would need to be filled in by faith.

The problem with beliefs based upon faith, however, is that they are fundamentally private, in a way that rational beliefs are not. Even if you can articulate them, this doesn't give anyone else a reason to adopt them. And this means that if some people don't share your faith, there's isn't all that much you can do about it. If you have them at an obvious disadvantage – say you're a parent dealing with a child, or a missionary dealing with an illiterate society – then you may be able to get them to accept your beliefs on authority. But when dealing with a person much like yourself, from a different culture or religious background, disagreement of this sort is usually irresolvable. The temptation, then, will be to try to *put* them at a disadvantage, so that they will become more receptive to your beliefs.

This is, ultimately, what makes the combination of religion and politics so problematic. It is no accident that the “Age of Reason” in Europe came on the heels of over a hundred years of non-stop religious warfare – often very bloody civil war – between various Christian sects. The Thirty Years War (1618-48) was particularly devastating, resulting in the death of as much as 30 per cent of the population of the German lands (which made this war, in relative terms, even more destructive than the Second World War). By the second half of the 17th century, it had become pretty much apparent to everyone that the doctrinal differences between Protestants and Catholics were not going to be settled by force of arms. Furthermore, the traditional tools of philosophical inquiry – steeped as they were in Christian theology – had proven themselves worthless when it came to settling such disputes. European intellectuals were casting about, desperate to find a method of inquiry that could produce *agreement*. And they hit upon reason precisely because it promised to do this.

Indeed, while Protestants and Catholics had been massacring each other with abandon across Europe, fundamental advances were being made in geometry by Descartes and in physics and astronomy by Galileo. What was particularly striking about these advances is that the claims being made – despite being contrary to the wisdom of ages, and subject to suppression by the Church – were *absolutely irrefutable*. No one, it seemed, who looked at the arguments and the evidence could deny the conclusion drawn. Thus Descartes' axiomatic approach and Galileo's experimental method became the

foundation for the two great philosophical movements that dominated the early modern period: rationalism and empiricism. Although superficially in tension, what they both shared was a commitment to the supremacy of reason over all other traditional sources of knowledge and action. And if it worked in the sciences, why not try it in the political sphere as well? Thus the “age of reason” – and of revolution – was born, ultimately as a new strategy for bringing about agreement, and hence unity of purpose, in human affairs.

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One of the things about having a human brain is that we get so used to the way it works that we quickly forget just how strange it is. The little thumbnail sketch provided above, which describes the traditional understanding of reason as a cognitive faculty, should be extremely familiar to us all. And yet the central claim that it makes is rather extraordinary. The suggestion is that we have, within our brains, a set of quite distinct, partially redundant cognitive systems, which we may or may not choose to deploy under any given set of circumstances. In particular, it seems that we are not *forced* to think rationally, we have other ways of deciding what to do.

The ancient Greeks articulated this idea by saying that the human soul had multiple parts, each of which made a distinct contribution to our overall mental and behavioural economy. Plato, for instance, divided the soul into three parts. The first part, appetite, was responsible for our base desires, like hunger and sex. The second, spirit, was the seat of strong emotions, like righteous anger and pride. The third part, reason, was the part that made us distinctively human. It was the part that allowed us to plan ahead, to understand the world, and to engage in abstract reflection.

In principle, each of these parts of the soul was intended to make a complementary contribution to our overall life and happiness. In practice, they were often at war with one another. (Indeed, the primary bit of evidence Plato pointed to, in order to show that the soul had parts, was the experience of inner conflict – paradigmatically, when we have a strong desire to do something, but at the same time know that it isn't a good idea and so try to resist the temptation.) The secret to happiness, in Plato's view, was to have a well-ordered soul, which meant keeping the lower parts under the control of the higher ones.

What is interesting about Plato's view, however, and what distinguishes it from the more rationalist positions that became influential in the modern period, is that he did not think we should simply try to act rationally all of the time, or that reason should subordinate the other parts of the soul to its own directives. He thought that reason was too weak a force to run the show on its own. Thus he thought that the rational part of the soul would need to ally itself with the spirited part, in order to

exercise control over the passions. (The analogy he drew was to the philosopher-king, who would need the support of the military in order to rule the people. Because of this, Plato's preferred arrangement of the well-ordered soul is often referred to as the “constitutional” model of rational agency.)

This “parts of the soul” theory was given an even more influential articulation by Aristotle, who modified it somewhat in order to bring the analysis into line with a broader picture of the order of nature. All living things were organized into a hierarchy, in Aristotle's view, with human beings at the top. Where one fit into this hierarchy was dependent upon the complexity and quality of one's soul. Plants, the lowest form of life, had souls with only a nutritive part. This allowed them to grow, to absorb nutrients and to reproduce. The next step up were the animals, which were capable of the same nutritive functions, but also had appetite and perception, which gave them desires, and hence the capacity for motion. Finally there were humans, alone at the top of the pyramid, with nutrition, appetite, but also reason, which Aristotle defined as “the part of the soul by which it knows and understands.”¹

The picture that results from all this is one that assigns a relatively modest role to reason. Although it was common to refer to human beings as the “rational animal,” the suggestion was never that reason and human nature were somehow synonymous. The claim was simply that possession of reason is what makes us *different* from other animals. This is not to deny that we have a lot in common with them, not just in our bodies, but in the way that our minds work as well. Both Plato and Aristotle believed that there could be all sorts of things going on in our soul that were not part of reason, and not even subject to direct rational control.

The early Enlightenment, however, was dominated by a conception of reason that was significantly less modest. Unlike the ancient Greeks early modern philosophers began to think of reason and the soul as synonymous, or at least coextensive. It started as almost an accidental byproduct of Descartes' method of inquiry, but it wound up becoming enormously influential. The most radical aspect of Descartes' philosophical project was his “method of doubt.” In order to put knowledge on a secure foundation, he argued, it was necessary to first suspend all of one's existing convictions, to start out by doubting everything, in order to build back up from scratch. This would allow one to create solid foundations for one's beliefs, instead of cobbling things together haphazardly from a variety of different, largely unreliable, sources (like things your parents, your teachers, or your local priest told you).

It was this methodological use of doubt that put the famous “I think, therefore I am,” at the heart of Descartes' philosophical system. I may be able to doubt everything, he reasoned, but the one

1 Actually, it was *nous*. Reason is descended from latin *ratio*.

thing I cannot doubt is the experience of myself doubting. Thus our own experience of our conscious mental life winds up serving as the foundation, for Descartes, of all other knowledge. From this, he went on to argue that we acquire knowledge of the external world through our senses (which, for various not-particularly-compelling-reasons, he took to be largely reliable guides to what is going on around us).

This basic Cartesian setup is well known. What is important in this context is what it does to the traditional understanding of the soul. The immediate consequence is the famous Cartesian dualism between mind and body. There are two types of 'things' that we can know: our own minds, which we have direct experience of in the process of thinking, and then our bodies – or the external world more generally – which we become aware of through our senses. The mind that I am aware of, however, can only ever be the part that does the fully explicit, conscious thinking. There cannot be such a thing as an unconscious mind, in Descartes' view. There are only two types of knowing things: either through introspection – in which case it must be conscious – or through the senses – in which case it must be material. So we could never have any knowledge or awareness of an unconscious mind. Because of this, the mind gets restricted, on Descartes' view, to what Plato and Aristotle would have recognized only as the *rational* part of the soul.

What happens to the lower parts of the soul, in Descartes' view? They fall out of the picture. Or more specifically, they become part of the body. Indeed, this is what led Descartes to his (at the time) controversial claim that animals were merely machines, without souls. Parity of reasoning suggested that all the lower parts of soul, the parts that you share with animals, are not really part of *you* either. They are just a part of the machine that you find yourself attached to (*res extensa*). The real you is nothing but a “thinking thing” (*res cogitans*) – and “thinking” here means explicit, conscious, rational thought.

It is this Cartesian view of the mind that is largely responsible for the “Mr. Spock” caricature of reason, according to which rationality requires the total suppression of all emotion or affect. It arises through a transposition of traditional Christian attitudes toward the body (which tended to be rather censorious) onto our emotional life. In the same way that our physical nature was a source of corruption and temptation, which the true Christian must resist, our emotional life comes to be seen as something alien to our proper selves. So a person who aspires to being rational must treat the emotions in much the same way that a monk was once obliged to treat his body.

Descartes's view of the mind was immediately and widely challenged, most famously by John Locke, who rejected both the deductive approach and the notion that the mind contained “innate ideas” that were prior to experience. In Locke's view, everything that we know must have been learned, in

some way, through the exercise of our senses. Thus he argued that the mind was like a blank slate – the ideas we develop and the beliefs we form are all a consequence of what we have experienced. This solidified the tension between empiricism and rationalism that dominated the early modern period.

Many people found Locke's commitment to empirical evidence refreshing, and strongly validated by the emphasis on experimentation in early scientific culture. It seemed more level-headed, more down-to-earth than Descartes' rationalism (and a lot more sensible than the esoteric doctrines that were developed under Descartes' influence). And yet Locke shared with Descartes a crucial assumption, namely, that there is only one part to the soul, and it is the rational part. Because everything that is in your mind comes from sensible experience, and all experience is in principle available to consciousness, this means that everything in your mind must also be available to consciousness. There cannot be any subterranean depths, unconscious thoughts, or non-rational parts.

Thus despite the apparent antagonism between the two great philosophical schools that dominated the age of reason – empiricism and rationalism – they actually shared a number of important presuppositions about the nature of the human mind. Obviously both views were highly rationalistic, in that they assigned no cognitive role to intuition, emotion or gut feelings. But they were also highly individualistic. They assigned absolutely no status to other people in the production of individual knowledge (indeed, for Descartes the question of whether other people – in the sense of other minds – even *exist* became a difficult philosophical problem). This means that authority, tradition, and public opinion were assigned absolutely no status on these views, they were regarded as nothing but a source of prejudice and bias. Social learning was seen as an unreliable substitute for individual learning.

Of course, one might easily think that this is a good thing, since most people are far too credulous, conformist, conservative, superstitious and prejudiced in the way that they formulate their opinions. Submitting a bit more of this to the tribunal of reason might not be such a bad idea. There is an enormous difference, however, between introducing reason as a critical tool, used to selectively correct the output of other cognitive systems, and suggesting that reason is able to take over the job completely, so that we can dispense entirely with tradition, authority, intuition, and other non-rational sources of belief. It's the difference between giving reason a larger role and asking reason to go it alone. The central figures of early Enlightenment philosophy were united in the conviction that it should be the latter.

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There was obviously some overreach involved in this Enlightenment conception of reason. Nevertheless, the critical response that it provoked, particularly during the 20th century, was truly

withering. To say that Enlightenment rationalism was subject to crushing refutation would be to risk understatement. By the end of the 20th century, many people doubted that there was any such a thing as reason at all, or that it played any significant role in our mental life. Among those who did believe in it, many felt that it was actually responsible for most of the world's problems.

The political ideals of the Enlightenment were largely taken to be discredited by the bloodbath that followed the French Revolution. This killing is what inspired Thomas Carlyle's remark that the second edition of Jean-Jacques Rousseau's work was "bound in the skin of those who laughed at the first." What was particularly striking about the revolutionary Terror was not just the loss of life, but rather the machine-like quality that the killings took on, as the executioners, having accomplished their bloody work, were in turn executed by a new wave of more radical, and even more enthusiastic executioners.²

Yet even though the Enlightenment was widely seen as discredited, the theories of mind that motivated the Enlightenment conception of reason were not subject to serious challenge until the late 19th century. Although many people had their doubts about the supremacy of reason – emphasizing, in particular, just how much of what goes on in the mind is outside the sphere of conscious awareness and rational control – Sigmund Freud is usually credited with having struck the death blow. Freud's central contribution is to have focused attention on just how much of what goes on in our mind is unconscious. It is sometimes suggested that Freud "discovered" the unconscious. This is an exaggeration.³ There is no doubt, however, that he succeeded in drawing everyone's attention to the fact that the unconscious was doing a *lot* more work than anyone – even the Ancients – had ever taken it to.

Consider, for example, Freud's analysis of parapraxes. This is the official term for what we now more often call "Freudian slips" (in his honor). They occur when we mistakenly say the wrong word in a sentence, usually substituting one that sounds a lot like the correct one. What is striking about these sort of mistakes is that they are typically not random (like saying "Walloon" when you mean to say "balloon"). On the contrary, the mistake often expresses some *other* thought, typically one that is subject to censorship or inhibition (for example, writing "wish you were her" instead of "wish you were here"). Many of these slips are of a sexual character, or they involve inadvertent revelations of the truth. (For example, when correcting my own writing, I often find that I have typed "it is worth nothing" instead of "it is worth noting," particularly when the argument I am introducing is one that I don't find terribly compelling.)

2 E.g. see Simon Schama, *Citizens* (New York: Knopf, 1989), p. 784, p. 851. This pattern emerged again at various times during in the 20th century, particularly in the Soviet Union under Stalin and Cambodia under the Khmer Rouge.

3 For an overview of 19th century discussions of the unconscious, see Keith Frankish and Jonathan St. B. T. Evans, "The Duality of Mind: An Historical Perspective," in Keith Frankish and Jonathan St. B. T. Evans (eds.) *In Two Minds* (Oxford: Oxford University Press, 2009), pp. 3-5.

What these sorts of mistakes suggest is that there is a part of you that is thinking something quite different from what *you*, your conscious, rational mind, is thinking (or at least is trying to say). More generally, Freud argued that if you look at people's patterns of behaviour in the long term, you can see that they are acting on all sorts of motives that they themselves have no awareness of and would deny having if asked. Often there is a huge amount of self-deception involved. This is obvious in the case of neuroses and mental illness, but when Freud turned to the study of supposedly “normal” people he found many of the same tendencies.

This insight is central to one of his most important books, *The Psychopathology of Everyday Life*, where he tried to show that many features of mental illness were just exaggerated versions of defects that ordinary people exhibit on a constant basis. All of it reflects the intrusion of the unconscious into everyday life. He pointed out, for instance, the ubiquitousness of what he called “motivated forgetting.” In general it's impossible to make yourself forget something you've seen or someone you've met. Indeed, trying too hard to forget is more likely to make you remember. Nevertheless, people have a strange tendency to forget things when it is in their interest to forget them, even though they are clearly not doing so “on purpose.” Absent-minded people, for instance, have an extraordinary ability to be absent-minded in ways that inconvenience others and not themselves. So a friend who would never forget when you owe him money will somehow find it easy to forget that he owes you money. A man who never forgets what day the hockey game is on will nevertheless forget what day the garbage goes out. In each case, the forgetting may be perfectly genuine, in the sense that the relevant information is simply not available to consciousness, or at least not available at the time when it matters. And yet if one asks the eternal question, *cui bono?*, the overall pattern is so suspicious that one figures, at some level, the person *must* know. In many cases the behaviour is so transparently self-serving that's it's almost impossible to believe that that person isn't doing it on purpose.

These are examples where our conscious mind appears to be “out of the loop,” when it comes to determining our behaviour. Our brain is doing something and failing to keep us posted on the results (and certainly not including us in the plan). This suggests that in many cases “we” – that is, our conscious, rational minds – are bystanders in our mental life. We are not in the driver's seat, but are at most riding shotgun, providing retroactive explanations and justifications for our conduct. Furthermore, there are many cases in which our conscious mind is not only out of the loop, but completely mistaken about the true purpose of our actions. Freud eventually came to the view that many, if not most, of the reasons that we offer for our conduct are actually rationalizations, provided in order to make our actions seem more acceptable to others and to ourselves.

For example, take any moderately successful person and ask her why she chose the profession

that she is in. Almost everyone will respond by citing the “intrinsic” rewards of the job – being able to help other people, to solve interesting problems, to pursue new challenges, and so on. Very few will mention the “extrinsic” benefits, such as high pay or social status. Ask them what motivates *other people*, however, and they are far more likely to list the extrinsic rewards.⁴ “Everybody else,” in other words, “is in it for the money, but not me.” The question then becomes, who is kidding who? (Thus university professors will typically explain their career choice with reference to their “love of learning” and “desire to teach,” while failing to mention the superior social status that the job confers. Indeed, many will heatedly deny that status considerations played any role in their career choice. Any yet how plausible is this? Rich people are prepared to pay millions of dollars to endow university chairs, just to get themselves a small slice of the social status that institutions of higher learning confer. Is it really conceivable that the *occupants* of these chairs are indifferent to the status rewards?)

In the end, most human behaviour can be perfectly well explained by some combination of money, status, sex, conformity, and social approval. And even if these motives don't explain everything, they can certainly sustain some very robust generalizations. Yet these factors almost never show up in anyone's explanation of their own behaviour. Indeed, what it means to be “vulgar” is precisely to be insufficiently scrupulous in concealing these motives. Any yet concealment over time generates conviction, and deception becomes self-deception. People come to believe their own stories.

Freud observed that people with neurotic compulsions often do the same thing that we all do in everyday life, it's just that their behaviour is so aberrant that the explanations they propose are self-evidently false. For example, people suffering from (what we now call) obsessive-compulsive disorder will typically have an explanation for why they wash their hands for several hours a day, or why they need to check the stove twenty times to make sure it's off. What Freud was particularly struck by was the fact that, even though the explanation is completely unbelievable, the person who is proposing it typically does so with utter and complete sincerity. Most disturbingly, these people seem to have no introspective access to the source of the explanations that they offer for their own behaviour. In particular, they cannot tell when they are (obviously) just making things up.

The conclusion that Freud drew from this – the one that was truly devastating to Enlightenment rationalism – is that the “explanations” offered by psychologically normal individuals may be no different from those offered by patients suffering from various neuroses and compulsions. We may all be making things up with abandon, since *none* of us can tell by introspection when we are doing this.

4 See Chip Heath, “On the Social Psychology of Agency Relationships: Lay Theories of Motivation Overemphasize Extrinsic Incentives,” *Organizational Behavior and Human Decision Processes*, 78 (1999): 25-62. Reports that only 12% of students taking the LSAT identify money as a reason for entering law, but attribute the motive to 63% of *other* students.

The only difference between us and the neurotics is just that their behaviour is so far outside the norm that their explanations become unbelievable, and so the deception that lies at the heart of consciousness is more easily exposed.

Freud of course had some unusual views about what people really want. These specific theories have not stood the test of time. The claims that he made about rationalization, however, have received striking confirmation in modern psychological and neurological studies. The core phenomenon is now referred to as “confabulation.” Subsequent psychological discoveries not only support Freud's contention that our conscious minds make up all sorts of false stories to explain our actions, but they show that in every single instance, the person doing it *cannot tell by introspection* that he is doing it. This raises an obvious, massive skeptical problem for the claims of reason: if we cannot tell when we are just inventing reasons for our actions after the fact, how do we know that we're not doing it all the time? How do we know that we are not just observers of our own mental life, subject to an illusion of control?

Some of the most dramatic studies on confabulation were done in the 1970s on so-called “split brain” patients. These are individuals who had the *corpus callosum* – the connective neural tissue that links the right hemisphere of the brain to the left – surgically severed, in order to control potentially deadly epileptic seizures. This deprives the two brain hemispheres of the ability to communicate with respect to higher functions, which in turn makes it possible to feed information to one side of the brain without the other knowing about it (using a technique called “tachistoscopic stimulation”⁵). Since language is typically localized in the left hemisphere, it is possible to feed the right hemisphere images or simple instructions without the individual having any explicit awareness of it.⁶ The right hemisphere still exercises control over the left side of the body, so patients can respond to and execute simple commands, even though they have no explicit awareness of why they are doing so, since they cannot say what they have seen (and indeed deny that they have seen anything). Yet they continue to offer explanations for these actions, as though nothing were wrong.

For example, when the right hemisphere was flashed the instruction “rub,” the patient would lift his left hand and start to rub the back of his head. Yet when asked why he had done so, the patient would say that he was scratching an itch.⁷ When told to “walk,” he would push back his chair and stand

5 Even when the corpus callosum is severed, the optic chiasm still permits transmission of visual information to both hemispheres. Tachistoscopic stimulation involves displaying an image in one visual field for a period of time too short to permit eye movement, which results in it being transmitted to only one hemisphere.

6 Thorny problem regarding consciousness. Obviously “conscious” of it, in the sense of being awake. But not explicit awareness.

7 Gazzaniga, M.S., LeDoux, J.E., & Wilson, D.H. (1977). Language, praxis, and the right hemisphere: Clues to some mechanisms of consciousness. *Neurology* 27, 1144-1147 at 1146 (ck).

up, yet claim that we was doing so because he needed to get a drink of water. In these and many other cases, the patient had no sense at all that there was anything strange going on. Furthermore, he would never say “I’m not sure, I just got this sudden urge,” or anything along these lines, but would instead offer a *rationalizing* explanation of the action, one that posited an explicit purpose. He would literally watch his own left arm do something, invent an explanation for why “he” was doing it, and yet have no conscious awareness whatsoever that the behaviour preceded the explanation.

Naturally, these are people in a pathological condition. Even more extreme forms of confabulation can be found in patients with Alzheimer's' disease, suffering from aphasias, victims of stroke and other types of brain damage. Patients who are unable to move one entire side of their body may insist that they are perfectly fine, and concoct some excuse for why they are unable to get out of bed, or even lift an arm. Of course, one might be inclined to think that the confabulation is just one more consequence of the pathological condition. Unfortunately, this seems not to be the case. There is no evidence to suggest that the limits of introspection are caused by the pathology, since they show up consistently with such a wide variety of impairments. Furthermore, normal people have been shown to exhibit exactly the same capacity – including the obliviousness to the fact that they are doing it – the only difference is that it's harder to catch them out in the lie.

In one particularly famous experiment, psychologists Timothy Wilson and Richard Nisbett asked passers-by in a mall to evaluate the quality of four different pairs of panty hose, arranged from left to right on the table. The samples were in fact identical. For some reason, however, people exhibit a fairly strong right-side bias, making them far more likely to prefer one of the samples on the right (only 29% of people chose one of the two samples on the left, while 71% chose one of the two on the right, 40% chose the one furthest to the right). However, when asked to explain their choice, no one mentioned the spatial arrangement of the samples. “People typically pointed to an attribute of their preferred pair, such as its superior knit, sheerness, or elasticity.”⁸ When asked whether the spatial arrangement could have influenced their judgment, all but one strongly denied it.⁹ Thus not only did they make up a reason to explain their preference, they had no conscious access to the real reason for their choice.

Results such as these are what motivated Wilson to call his book *Strangers to Ourselves*. Not only does our brain have a mind of their own, as it were, but it doesn't always keep us informed of what it is doing. A large amount of what is going on, and of what we do, is governed by processes that we have no conscious awareness of or access to.

⁸ Timothy Wilson, *Strangers to Ourselves*, p. 103.

⁹ The one who didn't deny it was a psychology student, who had learned about ordering effects. p. 103. This is an important point, since the individual's knowledge was external, not introspective.

In a short piece entitled “A Brain Speaks,” philosopher Andy Clark imagines what “John's brain” would say, if it had a chance to describe its relationship with John:

In the first place, John is congenitally blind to the bulk of my daily activities. At best, he catches occasional glimpses and distorted shadows of my real work. Generally speaking, these fleeting glimpses portray only the products of my vast subterranean activity, rather than the processes that give rise to them... Moreover, John's access to these products is a pretty rough and ready affair... Evolution, after all, would not waste time and money (search and energy) to display to John a faithful record of inner goings on unless they could help John to hunt, survive, and reproduce. John, as a result, is apprised of only the bare minimum of knowledge about my inner activities. All he needs to know is the overall significance of the upshots of a select few of these activities: that part of me is in a state associated with the presence of a dangerous predator and that flight is therefore indicated, and other things of that sort. What John (the conscious agent) gets from me is thus rather like what a driver gets from an electronic dashboard display: information pertaining to the few inner and outer parameters to which his gross considered activity can make a useful difference.¹⁰

One can think of the rational part of our mind as being like a customer, sitting in a restaurant, waiting to be served her meal. In the kitchen there is pandemonium, as the chefs scream at one another, run around madly, slicing and dicing ingredients, throwing food and threatening each other with knives. Every so often, a waiter emerges from the kitchen, calmly bearing a meticulously prepared dish. As the door swings open, the diner catches a momentary glimpse of the scene in the kitchen, and sees what looks for all the world like a violent altercation between the sous-chef and the busboy. The waiter assures her in smooth tones that everything is perfectly under control, that she need not be concerned by the occasional shout or thud that she may hear. When she tries to get up to have a look, she finds that she is stuck to her chair, and so can only crane her neck to try to get a better glimpse of what is going on.

This view of the mind is, perhaps needless to say, catastrophic for the Cartesian method – some might say the philosophical method – of trying to figure out one's own mind through self-examination. Perhaps the biggest “take home” message of 20th century psychology is that the part of the mind we have introspective access to provides an extremely misleading model for understanding how the mind as a whole functions. The amount of stuff that our brain is doing, without our knowing it, is truly

¹⁰ Andy Clark, *Being There*, p. 223-24.

astonishing, and the way that it goes about doing it is based on a radically different style of cognition.

This new perspective obviously necessitated a move away from the immodest view of reason that prevailed in the 18th century, towards a significantly more careful and restrained conception. At the same time, it is important not to overstate the importance of these findings. While modern psychology has shown reason to be an extra gear in many cognitive operations – including many of the operations in which we once thought reason ruled supreme – it has also succeeded in demonstrating, through very careful studies, a range of cognitive operations in which reason is indispensable. Clark is right in claiming that our brains provide us with information about the world on a strictly “need to know” basis. And yet there are cases where we really do need to know what is going on; cases where our “gross considered activity” not only makes a useful difference in our lives, but is indispensable in ensuring that things go well.¹¹

In the end, the upshot of all this psychological research has been to return us to something that resembles the ancient “constitutional” conception, where reason is taken to be dependent upon other parts of the mind. Its primary function is not to run the day-to-day operations, but rather to supervise, and to override deleterious inclinations when they arise. Although this is a more modest conception of reason, it is based upon a much sharper understanding of what reason can contribute, and where its comparative advantage over other forms of cognition lies.

11 For review, see Roy F. Baumeister, E.J. Masicampo, Kathleen D. Vohs, “Do Conscious Thoughts Cause Behavior?” *Annual Review of Psychology* (2011):331-61.