



On Being Certain: Believing You Are Right Even When You're Not

Robert A. Burton

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You recognize when you know something for certain, right? You "know" the sky is blue, or that the traffic light had turned green, or where you were on the morning of September 11, 2001--you know these things, well, because you just do.

In *On Being Certain*, neurologist Robert Burton challenges the notions of how we think about what we know. He shows that the feeling of certainty we have when we "know" something comes from sources beyond our control and knowledge. In fact, certainty is a mental sensation, rather than evidence of fact. Because this "feeling of knowing" seems like confirmation of knowledge, we tend to think of it as a product of reason. But an increasing body of evidence suggests that feelings such as certainty stem from primitive areas of the brain, and are independent of active, conscious reflection and reasoning. The feeling of knowing happens to us; we cannot make it happen.

Bringing together cutting edge neuroscience, experimental data, and fascinating anecdotes, Robert Burton explores the inconsistent and sometimes paradoxical relationship between our thoughts and what we actually know. Provocative and groundbreaking, *On Being Certain*, will challenge what you know (or think you know) about the mind, knowledge, and reason.

On Being Certain: Believing You Are Right Even When You're Not Details

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Joe says

Robert Burton has written a very accessible book that ends up spanning a much wider range of the biological limitations of the human mind than the title implies.

Robert shows evidence that feelings of rightness or certainty are one of our basic emotions, and the role that emotion plays in our decision making. But he also does a great job of discussing how much of our brain's work happens in parts of the brain inaccessible by our perceptual mind.

I'd highly recommend this book to anyone with an interest in why we behave the way we do. The neurology is very understandable, and Robert makes a very compelling case for his arguments, and aims some criticisms at some other well known authors for their fast and loose interpretations of recent neurological studies.

This is a really really good book.

Andrew says

This is one of the best books I've read in a while. I was doubtful it would be much good, but the more I read the better it got. If you're interested in understanding why it is that we think we know what we know and how our minds really work when it comes to the feeling of certainty, this is a great book. If you're familiar with Landmark technology, this explains some of the biology and neurology behind our overconfidence in our own knowledge. Great to read if you're a religious fanatic or a fervent atheist and anyone in between who thinks they know anything "for certain". We should all learn to be more humble about the views we hold as absolute. If I were president for a day I'd make this book required reading at school.

Jeffwest15 says

This was given to me for Christmas, perhaps as a dig at my joked-about intensive defense of my own ideas.

Burton's thesis that there is an innate biological *feeling of knowing*, i.e. of certainty, that is separate and distinct from reason and actual fact, is not so hard for me to swallow. Our ability to believe that we are right about something is a useful but not always failsafe attribute. And reasoning itself is beset by bias that will never be entirely eliminated. So what, one might ask, is the big deal?

The book meanders over disparate subjects before 3/4 of the way through the book he finally puts it on the table. He takes his "you can only be 99.998% rational" argument and extends it to argue that man is biologically religious, that to assume a non-religious stance is itself just another act of faith. Man needs a sense of purpose; Dawkins gets it from science but others will be genetically driven to get it from religion. So, leave them alone, they are exercising their genetic dispositions! We innately talk of afterlife, soul, higher powers and seek the heartfelt joy and meaning of religion.

Data or evidence? Forget about it. The idea of a rational mind is an "unsubstantiated belief". So finally the bait-and-switch has been revealed. Evolution should be given provisional assent and it should be acknowledged that creationism and intelligent design might be right.

Where does this all come from? I tend to put this in the context of anti-enlightenment literature of the last 20 years and the more recent counterattack of anti-religious bestsellers by Dawkins and Hitchens and others that have perhaps attempted to capitalize on the unpopularity of both Islamic and Evangelical fundamentalism to get their pro-science digs in. Burton's diatribe seems to me to be in the same vein as that of Chris Hedges' "I Don't Believe in Atheists" - also given to me for some reason - that tries to find a moderate middle ground between mysticism and science. And hating Dawkins, the rotweiler defender of science ties them both together.

Am I certain of this? Kinda. But from now on according to Burton, I should say that it is my belief.

Erikka says

This was a bit slow, and a bit dry, in parts, but the overlying concept was fascinating. We are not purely mechanical creatures. We don't void our beliefs when faced with uncertainty; we take into account new information and either reshape our thoughts or, more often, stick to our guns. How do we know what we know? The short answer is: we don't. Admitting ignorance is the purest sign of intelligence--we have a general feeling of knowing something, but that doesn't mean we are correct. Being able to question what we believe, change our views, and soundly and calmly discuss thoughts with others is the milieu of a rational and open-minded person. This book I believe will make me think differently about what I "know" in the future.

Traci says

Interesting but tough reading, as it's rather technical. I like the idea, but I have to be honest - I'm not really sure I completely understood everything I read. Much like the title, there's no way to be certain that it really was a good book.

Love the fact that the author had the same problem with Richard Dawkins that I did! This sentence had me nodding my head in complete agreement: "[Dawkins'] near-evangelical effort to convince the faithful of the folly of their convictions has the same zealous ring as those missionaries who feel it is their duty to convert the heathens." Amen! (pun intended)

Lena says

I'll start this review with a quote from the back of the book, since it explains the premise better than I can:

"In *On Being Certain*, neurologist Robert Burton challenges the notions of how we think about what we know. He shows that the feeling of certainty we have when we "know" something comes from sources beyond our control and knowledge. In fact, certainty is a mental sensation, rather than evidence of fact. Because this "feeling of knowing" seems like confirmation of knowledge, we tend to think of it as a product of reason. But an increasing body of evidence suggests that feelings such as certainty stem from primitive areas of the brain, and are independent of active, conscious reflection and reasoning."

Needless to say, the ideas presented in this book will be discomforting to anyone who has come to rely on their gut feelings for decision making. Burton does a pretty good job of presenting his case that any feeling of certainty we experience tells us more about our inner biology than it does about the external world, and we would do well to understand that how much we can really know is far more limited by our biology than our rational minds would like to admit.

Of particular interest to me was a chapter in which he discusses the implications of these findings on the debate about religion. He takes both Dennett and Dawkins-as well as religious fundamentalists-to task for claiming certainty regarding the existence or non-existence of God. He claims that the space between 100% certain and 99.9999% certain is the best place to find tolerance for opposing viewpoints; if we can all admit the universal limitations of our minds, perhaps these debates could become a lot more civilized.

Nicholas Moryl says

Can basically be summarized as:

1. "Knowing" is a feeling and, as such, is subjective. You can feel like you "know" something that is, in fact, totally false.
2. We can't control the reaction of feeling like we know something. Part of it is controlled by our subconscious and is essentially immune to direct observation or manipulation.
3. We can acknowledge it and choose to approach it with skepticism. Not questioning our own "feeling of knowing" can lead to adverse outcomes, professional mistakes, etc.

Jacob J says

I really thought I was going to like this book because I enjoy epistemology and cognitive science. And yet, I only made it about 2/3 of the way through the book before I gave up. It was not so much that it was boring as that it was frustrating. The main problem I had was that this book does not present scientific evidence and talk about implications or possible interpretations. Rather, it presents the author's theory about the existence and function of what he calls "the feeling of knowing" and then pulls in scientific and anecdotal evidence every now and then to bolster his case. When he started theorizing about why evolution might have created the "feeling of knowing" I knew the book had jumped the shark. There is nothing that drives me more bonkers than people dreaming up ideas about why evolution could have come up with this or that wildly-far-

removed-from-biological-reproduction trait. It is nothing more than an exercise in creativity, since evolution could have conceivably created and selected for anything under the sun. His explanations of standard problems in epistemology also struck me as second rate. To top it all off, he couldn't just set aside his political convictions to talk about cognitive science. Instead, he constantly got in jabs at George Bush and conservatives in general for absolutely no reason other than that he is obviously thinks conservatives are stupid. Not sure why that would be in a book about believing strongly that you are right even when you are not.

Popup-ch says

This book is based around an interesting question that I had never considered before:
What does it mean to know something?

The author points out that 'the feeling of knowing' is a neuro-biological reaction and not a logical conclusion. There is also a wide genetic variability in the population as to what criteria can elicit this reaction.

What I find lacking is a distinction between statements that are perfectly knowable (within a specific system), such as $2+2=4$ on the one side, and statements that depend on sensory inputs, such as 'I have two hands' on the other. While I can be pretty certain that I have two hands, I can conceive of scenarios where all my sensory signals have been hijacked (e.g. [i]Matrix[i]), or that I only exist as a disembodied simulation.

Anyway - it's an interesting question, and the author approaches it as a neurological specialist, showing how various parts of the brain are involved. (With the expected mentions of Phineas Gage and lobotomy.)

There is also an interesting digression on religious faith, as well as a piece on the existence of free will. (How can we prove the existence of a Free Will? Can the setting up of an experiment to prove it be anything but preordained?)

Tucker says

What do we know about what we know? "Metaknowledge," knowledge about knowledge, is addressed in this book under "the feeling of knowing," into which Burton collapses the feelings of certainty, rightness, conviction and correctness.

You *know* what he's talking about: The sense that you know the answer, that the answer is "on the tip of your tongue," in the seconds, minutes, or hours before you are actually able to access the correct information. The conviction that you've found the same street you visited years ago when in fact you are wrong. The feeling can override one's logical awareness, as when someone has phantom limb sensation and is convinced the limb somehow actually exists; knows oneself to have received a placebo yet nevertheless believes oneself to have been healed due to that "medication"; has Cotard's syndrome and is convinced that one is dead despite being conscious and showing ample signs of life; or is schizophrenic and believes oneself to be in contact with aliens. Examples of the *opposite* of the "feeling of knowing" include obsessive-compulsive disorder in which an individual may be in constant doubt of having locked all the doors; someone who suffers a stroke and is convinced that one's belongings have been replaced by fakes, although every last detail about them

remains identical; or someone who has "blindsight," able to visually navigate a room while believing oneself to be blind.

"The *feeling of knowing* is universal," Burton writes, "most likely originates within a localized region of the brain, can be spontaneously activated via direct stimulation or chemical manipulation, yet cannot be triggered by conscious effort. These arguments for its inclusion as a primary brain module are more compelling than those postulated for deceit, compassion, forgiveness, altruism or Machiavellian cunning." (p. 61) In other words, the *feeling of knowing* is more basic to our brains even than ethical feelings and thoughts.

Ben Libet's oft-cited book *Mind Time* -- which I've not read yet -- is cited by Burton as well. It has been described as raising the possibility that many decisions are made on an unconscious level and only several seconds later does the conscious mind take credit for having made the decision and confabulates a reason for the alleged choice. (p. 208) This does not mean, however, that one will like the decision later on or that it will turn out to be beneficial. (pp. 152-153) In fact, Burton criticizes Malcolm Gladwell's *Blink* for its praise of subconscious decision-making. While accepting that the ability to make split-second decisions is indeed adaptive for a species that faces frequent threats, Burton reminds us that decisions made by the gut are unscientific and aren't always correct or beneficial. (pp. 147-148, 185-186)

Science shows us how to understand probabilities, so we shouldn't demand certainties. Risk management is uncomfortable insofar as it carries an "inescapable moral dimension," in that, when you make a choice, you're hoping for one outcome while also accepting responsibility that something else might happen. Our tolerance for risk may have a genetic component.

He quotes William James as having written about religious experience: "Although so similar to states of feeling, mystical states seem to those who experience them to be also states of knowledge." He adds: "This is a brilliant observation, equating religious and mystical states with the sensation of *knowing*, and with the further recognition that such knowledge is felt, not thought....James's description is perfectly straightforward--with mystical states, people experience spontaneous mental sensations that feel like knowledge but occur in the absence of any specific knowledge." (p. 23) Initially it seems, then, that the feeling of knowing underpins religion. Later, Burton asks: "Are there inherent individual differences in the degree and quality of expression of these [biological] rewards [for abstract thought]...Can we learn to sense greater pleasure out of feelings of doubt in the way that some people derive more pleasure from questions than answers?" (pp. 100-101) He goes on to mention a study that suggests that religious tendencies may be genetic. (p. 104)

Taking his comments about ethics and religion together--with the feeling of knowing underpinning both of them--this points in a very interesting direction. First, I want to point out that some atheists are possessed of a very strong feeling of knowing, equivalent to that enjoyed by some theists. Colloquially they are often called "dogmatic atheists" although this is somewhat of a misnomer. Such atheists do not strictly obey a dogma proposed by a leader, but they are nevertheless convinced that they have found the truth, in part because they feel that they have found it. My commonsense intuition, however (for what it's worth), is that people who bring a strong *feeling of knowing* to their spiritual or philosophical lives are much more likely to lean theist rather than atheist. As for ethics, people with a strong *feeling of knowing* are probably more likely to be moral absolutists rather than moral relativists, where relativism's hallmarks are often the expression of constant questions and doubts. The correctness of both of these hypotheses would have to be investigated. If true, they could explain why a belief in God tends to pair with moral absolutism. It isn't because moral beliefs logically require absolute grounding, nor is God able to serve as such a grounding. (Plato's *Euthyphro*--"do the gods love it because it is good, or is it good because the gods love it?"--dispensed with

this association.) Rather, it could be that a strong feeling of knowing encourages both belief in God and belief in absolute morality. There are, of course, unusual pairings: Sam Harris is an insistent atheist and in *The Moral Landscape* he revealed himself to be insistently morally absolutist as well. But I suspect that the majority of atheist-leaning individuals tend to *feel* less certain of their theological position (probably describing themselves as "spiritual but not religious" or "agnostic") and will also tend to feel less certain of their ethical or meta-ethical position, simply because this degree of the feeling of knowing is in their personality type.

Eva says

I was totally in love with this book when I first picked it up. Just saw it on the shelf, started browsing it, and couldn't put it down. A neurologist who is also a novelist, who has a lifelong interest in existential questions and wrote essays on William James in college? Dude! It seemed like we should be BFF.

Unfortunately, I found myself increasingly irritated with the book, and have gone from recommending it to everyone I see to only giving it 3 stars.

The author starts with a fascinating premise, that the "feeling of being certain" (or of "knowing that you know") is a separate experience/emotion that is not necessarily linked to logic or rationality and, in fact, never can be due to the structure of human brains. Thus, biology becomes totally postmodern, and dogmatism a physiological quirk.

However, Dr. Burton never really puts together a cohesive discussion. He meanders out amongst the speculative, philosophical clover fields, grazing here and there, amusing himself, and dwelling on his pet ideas. Alternately describing concepts in too great of depth or being too glib, the author ultimately disappointed me. I cry.

Richard says

It is always somewhat astonishing when an intelligent author manages to make an interesting topic dull.

The unassailable certainty exhibited by ideologues of many varieties lies behind many of the world's political and cultural problems. One would expect that an examination of how such certainty develops and how one might avoid the traps this entails.

Burton has one good punch: he hammers home that the *feeling of knowing* is a *feeling* like any other: not really very amenable to rational understanding. While he goes into some detail regarding the neurochemistry, etc., the key point is that no human has a purely rational portion of their brain set aside to coolly examine these feelings (or any other thought). For genetic or environmental reasons, some people might just lean more towards accepting that kind of feeling when others might resist.

Oddly enough, this is also where Burton gets into trouble. Over and over again, he assails those that believe a reasonable person should examine that *feeling of knowing* and reflect on whether it is to be trusted. But that falls into the trap of asserting the existence of that rational corner of the brain—that one that doesn't actually exist. Burton helpfully terms this the *myth of the autonomous rational mind*.

Apparently there's no gray in Burton's world. You presumably have a *feeling of knowing* what your own birthday is; you might have a very similar feeling about whether your spouse likes black licorice; and might

also have that certain feeling in your gut that the woman you saw yesterday on the bus was your third-grade teacher. But you have no rational way of judging between these! Or, at a minimum, if you find that you can exercise some discretion, make sure you don't use the word "rational", since then you'd be falling for the *myth of the autonomous rational mind!*

All this despite the simple fact that Burton has explained the dangerous appeal of certainty. Let's say you were to think, in spite of your gut feeling, "Well, it has been many decades since I've seen my teacher, and I barely got a glance at that woman; maybe I really shouldn't be so certain." Well, as long as you don't pretend that is a *rational* attitude, you'll probably be safe from Burton's scorn. Anyway, if you are able to reflect on the feeling then you really must not have been certain anyway.

On Being Certain has a good chunk of wisdom at its core, but Burton is simply too *certain* that he knows how to communicate it. Unfortunately, he spends too many pages preaching at the reader and splitting hairs.

If you read this book, be prepared to skim the boring parts.

Kevin says

In the words of the author:

The message at the heart of this book is that the *feelings of knowing, correctness, conviction, and certainty* aren't deliberate conclusions and conscious choices. They are mental sensations that *happen to us*.

Unfortunately, once one understands this point, the rest of the book is rather less inspiring than promised. Although the discussions concerning the neural basis of experience is well-written, once the author turns to more speculative areas such as evolutionary psychology, religion, or epistemology his arguments rapidly display a lack of rigor and understanding of the fields.

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Angela Juline says

You read these brain books, and you just have more questions - even more so with this one, because the author is arguing against certainty. So how can I be certain he is right??? It really is something to consider and I think it explains a lot as to why people have such a hard time hearing new ideas. I'm going to try to be

mindful of not being so certain...
