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The Anosognosic's Dilemma: Something's Wrong but You'll Never Know What It Is (Part 1)

By **Errol Morris** June 20, 2010 9:00 pm

Errol Morris on photography.

Existence is elsewhere.

— André Breton, "The Surrealist Manifesto"

1. The Juice

David Dunning, a Cornell professor of social psychology, was perusing the 1996 World Almanac. In a section called Offbeat News Stories he found a tantalizingly brief account of a series of bank robberies committed in Pittsburgh the previous year. From there, it was an easy matter to track the case to the Pittsburgh Post-Gazette, specifically to an article by Michael A. Fuoco:

ARREST IN BANK ROBBERY,
SUSPECT'S TV PICTURE SPURS TIPS

At 5 feet 6 inches and about 270 pounds, bank robbery suspect McArthur Wheeler isn't the type of person who fades into the woodwork.

So it was no surprise that he was recognized by informants, who tipped detectives to his whereabouts after his picture was telecast Wednesday night during the Pittsburgh Crime Stoppers Inc. segment of the 11 o'clock news.

At 12:10 a.m. yesterday, less than an hour after the broadcast, he was arrested at 202 S. Fairmont St., Lincoln-Lemington. Wheeler, 45, of Versailles Street, McKeesport, was wanted in [connection with] bank robberies on Jan. 6 at the Fidelity Savings Bank in Brighton Heights and at the Mellon Bank in Swissvale. In both robberies, police said, Wheeler was accompanied by Clifton Earl Johnson, 43, who was arrested Jan. 12.[1]

Wheeler had walked into two Pittsburgh banks and attempted to rob them in broad daylight. What made the case peculiar is that he made no visible attempt at disguise. The surveillance tapes were key to his arrest. There he is with a gun, standing in front of a teller demanding money. Yet, when arrested, Wheeler was completely disbelieving. "But I wore the juice," he said. Apparently, he was under the deeply misguided impression that rubbing one's face with lemon juice rendered it invisible to video cameras.

In a follow-up article, Fuoco spoke to several Pittsburgh police detectives who had been involved in Wheeler's arrest. Commander Ronald Freeman assured Fuoco that Wheeler had not gone into "this thing" blindly but had performed a variety of tests prior to the robbery. Sergeant Wally Long provided additional details — "although Wheeler reported the lemon juice was burning his face and his eyes, and he was having trouble (seeing) and had to squint, he had tested the theory, and it seemed to work." He had snapped a Polaroid picture of himself and wasn't anywhere to be found in the image. It was like a version of Where's Waldo with no Waldo. Long tried to come up with an explanation of why there was no image on the Polaroid. He came up with three possibilities:

- (a) the film was bad;
- (b) Wheeler hadn't adjusted the camera correctly; or
- (c) Wheeler had pointed the camera away from his face at the critical moment

when he snapped the photo.[2]

As Dunning read through the article, a thought washed over him, an epiphany. If Wheeler was too stupid to be a bank robber, perhaps he was also too stupid to know that he was too stupid to be a bank robber — that is, his stupidity protected him from an awareness of his own stupidity.

Dunning wondered whether it was possible to measure one's self-assessed level of competence against something a little more objective — say, actual competence. Within weeks, he and his graduate student, Justin Kruger, had organized a program of research. Their paper, “Unskilled and Unaware of It: How Difficulties of Recognizing One's Own Incompetence Lead to Inflated Self-assessments,” was published in 1999.[3]

Dunning and Kruger argued in their paper, “When people are incompetent in the strategies they adopt to achieve success and satisfaction, they suffer a dual burden: Not only do they reach erroneous conclusions and make unfortunate choices, but their incompetence robs them of the ability to realize it. Instead, like Mr. Wheeler, they are left with the erroneous impression they are doing just fine.”

It became known as the Dunning-Kruger Effect — our incompetence masks our ability to recognize our incompetence. But just how prevalent is this effect? In search of more details, I called David Dunning at his offices at Cornell:

DAVID DUNNING: Well, my specialty is decision-making. How well do people make the decisions they have to make in life? And I became very interested in judgments about the self, simply because, well, people tend to say things, whether it be in everyday life or in the lab, that just couldn't possibly be true. And I became fascinated with that. Not just that people said these positive things about themselves, but they really, really believed them. Which led to my observation: if you're incompetent, you can't know you're incompetent.

ERROL MORRIS: Why not?

DAVID DUNNING: If you knew it, you'd say, “Wait a minute. The decision I just made does not make much sense. I had better go and get some independent

advice.” But when you’re incompetent, the skills you need to produce a right answer are exactly the skills you need to recognize what a right answer is. In logical reasoning, in parenting, in management, problem solving, the skills you use to produce the right answer are exactly the same skills you use to evaluate the answer. And so we went on to see if this could possibly be true in many other areas. And to our astonishment, it was very, very true.

ERROL MORRIS: Many other areas?

DAVID DUNNING: If you look at our 1999 article, we measured skills where we had the right answers. Grammar, logic. And our test-subjects were all college students doing college student-type things. Presumably, they also should know whether or not they’re getting the right answers. And yet, we had these students who were doing badly in grammar, who didn’t know they were doing badly in grammar. We believed that they should know they were doing badly, and when they didn’t, that really surprised us.

ERROL MORRIS: The students that were unaware they were doing badly — in what sense? Were they truly oblivious? Were they self-deceived? Were they in denial? How would you describe it?

DAVID DUNNING: There have been many psychological studies that tell us what we see and what we hear is shaped by our preferences, our wishes, our fears, our desires and so forth. We literally see the world the way we want to see it. But the Dunning-Kruger effect suggests that there is a problem beyond that. Even if you are just the most honest, impartial person that you could be, you would still have a problem — namely, when your knowledge or expertise is imperfect, you really don’t know it. Left to your own devices, you just don’t know it. We’re not very good at knowing what we don’t know.

ERROL MORRIS: Knowing what you don’t know? Is this supposedly the hallmark of an intelligent person?

DAVID DUNNING: That’s absolutely right. It’s knowing that there are things you don’t know that you don’t know. [4] Donald Rumsfeld gave this speech about “unknown unknowns.” It goes something like this: “There are things we know we

know about terrorism. There are things we know we don't know. And there are things that are unknown unknowns. We don't know that we don't know." He got a lot of grief for that. And I thought, "That's the smartest and most modest thing I've heard in a year."

Rumsfeld's famous "unknown unknowns" quote occurred in a Q&A session at the end of a NATO press conference.[5] A reporter asked him, "Regarding terrorism and weapons of mass destruction, you said something to the effect that the real situation is worse than the facts show..." Rumsfeld replied, "Sure. All of us in this business read intelligence information. And we read it daily and we think about it, and it becomes in our minds essentially what exists. And that's wrong. It is not what exists." But what is Rumsfeld saying here? That he can be wrong? That "intelligence information" is not complete? That it has to be viewed critically? Who would argue? Rumsfeld's "known unknowns" and "unknown unknowns" seem even less auspicious. Of course, there are known unknowns. I don't know the melting point of beryllium.

And I know that I don't know it. There are a zillion things I don't know. And I know that I don't know them. But what about the unknown unknowns? Are they like a scotoma, a blind spot in our field of vision that we are unaware of? I kept wondering if Rumsfeld's real problem was with the unknown unknowns; or was it instead some variant of self-deception, thinking that you know something that you don't know. A problem of hubris, not epistemology. [6]

And yet there was something in Rumsfeld's unknown unknowns that had captured Dunning's imagination. I wanted to know more, and so I e-mailed him: why are you so obsessed with Rumsfeld's "unknown unknowns?" Here is his answer:

The notion of unknown unknowns really does resonate with me, and perhaps the idea would resonate with other people if they knew that it originally came from the world of design and engineering rather than Rumsfeld.

If I were given carte blanche to write about any topic I could, it would

be about how much our ignorance, in general, shapes our lives in ways we do not know about. Put simply, people tend to do what they know and fail to do that which they have no conception of. In that way, ignorance profoundly channels the course we take in life. And unknown unknowns constitute a grand swath of everybody's field of ignorance.

To me, unknown unknowns enter at two different levels. The first is at the level of risk and problem. Many tasks in life contain uncertainties that are known — so-called “known unknowns.” These are potential problems for any venture, but they at least are problems that people can be vigilant about, prepare for, take insurance on, and often head off at the pass. Unknown unknown risks, on the other hand, are problems that people do not know they are vulnerable to.

Unknown unknowns also exist at the level of solutions. People often come up with answers to problems that are o.k., but are not the best solutions. The reason they don't come up with those solutions is that they are simply not aware of them. Stefan Fatsis, in his book “Word Freak,” talks about this when comparing everyday Scrabble players to professional ones. As he says: “In a way, the living-room player is lucky . . . He has no idea how miserably he fails with almost every turn, how many possible words or optimal plays slip by unnoticed. The idea of Scrabble greatness doesn't exist for him.” (p. 128)

Unknown unknown solutions haunt the mediocre without their knowledge. The average detective does not realize the clues he or she neglects. The mediocre doctor is not aware of the diagnostic possibilities or treatments never considered. The run-of-the-mill lawyer fails to recognize the winning legal argument that is out there. People fail to reach their potential as professionals, lovers, parents and people simply because they are not aware of the possible. This is one of the reasons I often urge my student advisees to find out who the smart professors are, and to get themselves in front of those professors so they can see what smart looks like.

So, yes, the idea resonates. I would write more, and there's probably a lot more to write about, but I haven't a clue what that all is.

I can readily admit that the “everyday Scrabble player” has no idea how incompetent he is, but I don't think that Scrabble provides an example of the unknown unknowns. An unknown unknown is not something like the word “ctenoid,” a difficult word by most accounts, or any other obscure, difficult word.[7] [8] Surely, the everyday Scrabble player knows that there are words he doesn't know. Rumsfeld could have known about the gaps in his intelligence information. How are his unknown unknowns different from plain-old-vanilla unknowns? The fact that we don't know something, or don't bother to ask questions in an attempt to understand things better, does that constitute anything more than laziness on our part? A symptom of an underlying complacency rather than a confrontation with an unfathomable mystery?

I found myself still puzzled by the unknown unknowns. Finally, I came up with an explanation. Using the expressions “known unknowns” and “unknown unknowns” is just a fancy — even pretentious — way of talking about questions and answers. A “known unknown” is a known question with an unknown answer. I can ask the question: what is the melting point of beryllium? I may not know the answer, but I can look it up. I can do some research. It may even be a question which no one knows the answer to. With an “unknown unknown,” I don't even know what questions to ask, let alone how to answer those questions.

But there is the deeper question. And I believe that Dunning and Kruger's work speaks to this. Is an “unknown unknown” beyond anything I can imagine? Or am I confusing the “unknown unknowns” with the “unknowable unknowns?” Are we constituted in such a way that there are things we cannot know? Perhaps because we cannot even frame the questions we need to ask?

DAVID DUNNING: People will often make the case, “We can't be that stupid, or we would have been evolutionarily wiped out as a species a long time ago.” I don't agree. I find myself saying, “Well, no. Gee, all you need to do is be far enough along to be able to get three square meals or to solve the calorie problem long enough so that you can reproduce. And then, that's it. You don't need a lot of

smarts. You don't have to do tensor calculus. You don't have to do quantum physics to be able to survive to the point where you can reproduce." One could argue that evolution suggests we're not idiots, but I would say, "Well, no. Evolution just makes sure we're not blithering idiots. But, we could be idiots in a lot of different ways and still make it through the day."

ERROL MORRIS: Years ago, I made a short film ("I Dismember Mama") about cryonics, the freezing of people for future resuscitation. [9]

DAVID DUNNING: Oh, wow.

ERROL MORRIS: And I have an interview with the president of the Alcor Life Extension Foundation, a cryonics organization, on the 6 o'clock news in Riverside, California. One of the executives of the company had frozen his mother's head for future resuscitation. (It's called a "neuro," as opposed to a "full-body" freezing.) The prosecutor claimed that they may not have waited for her to die. In answer to a reporter's question, the president of the Alcor Life Extension Foundation said, "You know, we're not stupid . . ." And then corrected himself almost immediately, "We're not that stupid that we would do something like that."

DAVID DUNNING: That's pretty good.

ERROL MORRIS: "Yes. We're stupid, but we're not that stupid."

DAVID DUNNING: And in some sense we apply that to the human race. There's some comfort in that. We may be stupid, but we're not that stupid.

ERROL MORRIS: Something I have wondered about: Is there a socio-biological account of what forces in evolution selected for stupidity and why?

DAVID DUNNING: Well, there's no way we could be evolutionarily prepared for doing physics and doing our taxes at the end of the year. These are rather new in our evolutionary history. But solving social problems, getting along with other people, is something intrinsic to our survival as a species. You'd think we would know where our inabilities lie. But if we believe our data, we're not necessarily very good at knowing what we're lousy at with other people.

ERROL MORRIS: Yes. Maybe it's an effective strategy for dealing with life. Not dealing with it.

David Dunning, in his book "Self-Insight," calls the Dunning-Kruger Effect "the anosognosia of everyday life." [10] When I first heard the word "anosognosia," I had to look it up. Here's one definition:

Anosognosia is a condition in which a person who suffers from a disability seems unaware of or denies the existence of his or her disability. [11]

Dunning's juxtaposition of anosognosia with everyday life is a surprising and suggestive turn of phrase. After all, anosognosia comes originally from the world of neurology and is the name of a specific neurological disorder.

DAVID DUNNING: An anosognosic patient who is paralyzed simply does not know that he is paralyzed. If you put a pencil in front of them and ask them to pick up the pencil in front of their left hand they won't do it. And you ask them why, and they'll say, "Well, I'm tired," or "I don't need a pencil." They literally aren't alerted to their own paralysis. There is some monitoring system on the right side of the brain that has been damaged, as well as the damage that's related to the paralysis on the left side. There is also something similar called "hemispatial neglect." It has to do with a kind of brain damage where people literally cannot see or they can't pay attention to one side of their environment. If they're men, they literally only shave one half of their face. And they're not aware about the other half. If you put food in front of them, they'll eat half of what's on the plate and then complain that there's too little food. You could think of the Dunning-Kruger Effect as a psychological version of this physiological problem. If you have, for lack of a better term, damage to your expertise or imperfection in your knowledge or skill, you're left literally not knowing that you have that damage. It was an analogy for us. [12]

This brings us in this next section to Joseph Babinski (1857-1932), the neurologist who gave anosognosia its name.

(This is the first of a five-part series.)

FOOTNOTES:

1. Michael A. Fuoco, "Arrest in Bank Robbery, Suspect's Picture Spurs Tips," Pittsburgh Post-Gazette, April 21, 1995.
2. Michael A. Fuoco, "Trial and Error: They had Larceny in their Hearts, but little in their Heads," Pittsburgh Post-Gazette, March 21, 1996. The article also includes several other impossibly stupid crimes, e.g., the criminal-to-be who filled out an employment application at a fast-food restaurant providing his correct name, address and social security number. A couple of minutes later he decided to rob the place.
3. Justin Kruger and David Dunning, "Unskilled and Unaware of It: How Difficulties of Recognizing One's Own Incompetence Lead to Inflated Self-assessments," Journal of Personality and Social Psychology, 1999, vol. 77, no. 6, pp. 1121-1134.
4. David Dunning may be channeling Socrates. "The only true wisdom is to know that you know nothing." That's too bad; Socrates gives me a headache.
5. NATO HQ, Brussels, Press Conference by U.S. Secretary of Defense Donald Rumsfeld, June 6, 2002. The exact quote: "There are known unknowns. That is to say, there are things we now know we don't know. But there are also unknown unknowns. These are the things we do not know we don't know."
6. O.K. I looked it up on Wikipedia. The melting point of beryllium, the fourth element, is 1278 °C.
7. "Ctenoid" comes from one of my favorite books, "Jarrold's Dictionary of Difficult Words." I challenged a member of the Mega Society [a society whose members have ultra-high I.Q.s], who claimed he could spell anything, to spell "ctenoid." He failed. It's that silent "c" that gets them every time. "Ctenoid" means "having an edge with projections like the teeth of a comb." It could refer to rooster combs or the scales of certain fish.
8. For the inner logoleptic in all of us, allow me to recommend the Web site:

<http://www.kokogiak.com/logolepsy/>

One of the site's recommended words is "epicaricacy." I read somewhere that the German word "schadenfreude" has no equivalent in English. I am now greatly relieved.

9. Errol Morris, "First Person: I Dismember Mama."

10. Dunning, David, "Self-Insight: Roadblocks and Detours on the Path to Knowing Thyself (Essays in Social Psychology)," Psychology Press: 2005, p. 14-15.

11. <http://en.wikipedia.org/wiki/Anosognosia>.

12. A purist would no doubt complain that anosognosia has been taken out of context, that it has been removed from the world of neurology and placed in an inappropriate and anachronistic social science setting. But something does remain in translation, the idea of an invisible deficit, the infirmity that cannot be known nor perceived. I can even imagine a cognitive and psychological version of anosodiaphoria. The idea of an infirmity that people neglect, that they do not pay any attention to.

Continue to Part 2.