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# Aphantasia: How It Feels To Be Blind In Your Mind

 BLAKE ROSS · FRIDAY, APRIL 22, 2016

I just learned something about you and it is blowing my goddamned mind.

This is not a joke. It is not “blowing my mind” a la BuzzFeed’s “8 Things You Won’t Believe About Tarantulas.” It is, I think, as close to an honest-to-goodness revelation as I will ever live in the flesh.

Here it is: **You can visualize things in your mind.**

If I tell you to imagine a beach, you can picture the golden sand and turquoise waves. If I ask for a red triangle, your mind gets to drawing. And mom’s face? Of course.

You experience this differently, sure. Some of you see a photorealistic beach, others a shadowy cartoon. Some of you can make it up, others only “see” a beach they’ve visited. Some of you have to work harder to paint the canvas. Some of you can’t hang onto the canvas for long. But nearly all of you have a canvas.

I don't. I have never visualized anything in my entire life. I can't "see" my father's face or a bouncing blue ball, my childhood bedroom or the run I went on ten minutes ago. I thought "counting sheep" was a metaphor. I'm 30 years old and I never knew a human could do any of this. And it is blowing my goddamned mind.



If you tell me to imagine a beach, I ruminate on the "concept" of a beach. I know there's sand. I know there's water. I know there's a sun, maybe a lifeguard. I know *facts* about beaches. I know a beach when I see it, and I can do verbal gymnastics with the word itself.

But I cannot flash to beaches I've visited. I have no visual, audio, emotional or otherwise sensory experience. I have no capacity to create any kind of mental image of a beach, whether I close my eyes or open them, whether I'm reading the word in a book or concentrating on the idea for hours at a time—or whether I'm standing on the beach itself.

And I grew up in Miami.

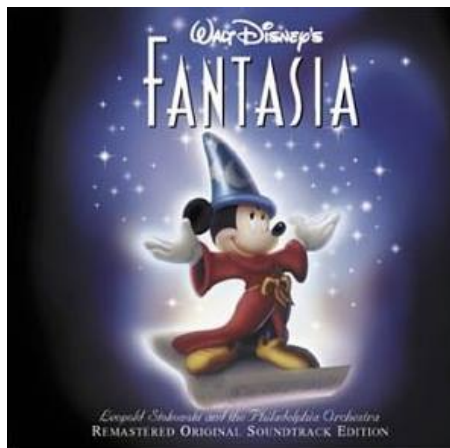
This is how it's always been for me, and this is how I thought it was for you. Then a "Related Article" link on Facebook led me to [this bombshell in The New York Times](#). The piece unearths, with great curiosity, the mystery of a 65 year-old man who lost his ability to form mental images after a surgery.

*What do you mean "lost" his ability? I thought. Shouldn't we be amazed he ever had that ability?*

Neurologists at the University at Exeter in England showed the man a photo. Who is that? *Tony Blair, of course.* Brain scans showed the visual sectors of his brain lighting up.

Then they removed the photo and asked him to imagine Tony Blair. The man knew characteristics—his eye color, his hair—but he could not "see" the image in his mind's eye. Brain scans showed the visual sectors didn't activate this time. In fMRIs of other men, many of the same sectors activated whether the subjects were looking at a photo or simply imagining one.

The researchers gave the phenomenon a name. They combined the prefix "a," meaning "absence of," and "phantasia," a Greek word you will recognize from childhood:



Aphantasia. The absence of fantasy.

Reading this article was extraterrestrial puberty. I walked in a doe-eyed human; at Tony Blair, the pustules sprouted; by the end, my voice had cracked and I breathed fire. Because as mystified as the reporter was with his patient, so I was with the reporter. Imagine your phone buzzes with breaking news: WASHINGTON SCIENTISTS DISCOVER TAIL-LESS MAN. *Well then what are you?*

I opened my Facebook chat list and hunted green dots like Pac-Man. Any friend who happened to be online received what must've sounded like a hideous pick-up line at 2 o'clock in the morning:

—If I ask you to imagine a beach, how would you describe what happens in your mind?

—Uhh, I imagine a beach. What?

—Like, the idea of a beach. Right?

—Well, there are waves, sand. Umbrellas. It's a relaxing picture. You okay?

—But it's not actually a *picture*? There's no visual component?

—Yes there is, in my mind. What the hell are you talking about?

—Is it in color?

—Yes.....

—How often do your thoughts have a visual element?

—A thousand times a day?

—Oh my God.

I texted friend after friend that night, and together we eloped on journeys of the mind. It is not an easy thing to compare thought processes. It's like trying to teach your dog to sit using nothing but a bowl of strawberries. But, often, it was a hell of a lot of fun.



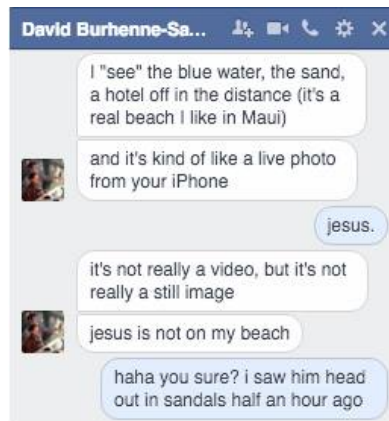
Even after the Exeter study, I was certain that what we had here was a failure to communicate. You say potato, I say potato. Let me be clear: I know nobody can *see* fantastical images through their actual eyes. But I was equally sure nobody could “see” them with some fanciful “mind’s eye,” either. That was just a colorful figure of speech, like “the bee’s knees” or “the cat’s pajamas.”

Or “counting sheep.”

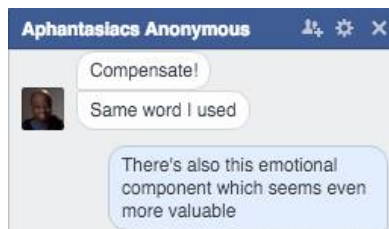
But I have now taken this journey with 74 friends and relatives, and I am certain the difference transcends language. Fully 71 of them described—in terms quite similar to one another—the experience of creating a mental image in their mind. (One friend, [Chris Pan](#), told me he didn’t have time to imagine a beach but that he’d do it later. I have never heard a better sign of the times.)



Nearly every friend volunteered the words “picture” or “image” without prompting, a vernacular I would never think to use in describing my own experience. And is this “mental picture” in color? *Of course it is—because the beach I visited was in color.* But the very foundation of the question does not compute in my brain. It’s like asking me if the number seven has any stubble, or if the puppy is on a leash. *What puppy?*



I found three other people who shared my experience. Two are fellow Facebook engineers, [Ben Maurer](#) and [Olaoluwa Okelola](#), both of whom shared some sense of lifelong “otherness” they could never pinpoint. We started a thread to compare our tics and quirks—it’s a lot of “YES!” and “exactly!!” and “wow you too?”—and I felt that transcendent warmth I’ve only known once before, when a dorky high school outcast in Florida stumbled on a group of California programmers who just seemed to “get him.”



It’s the feeling of finding your people.



Here are the top 20 questions I’ve gotten from friends and family.

### 1. Can you picture my face?

No. But it’s not personal.

### 2. So you don’t know what I look like?

I know facts about the characteristics of your face. If you have radiant blue eyes, I may have stored that information. I know the “essence” of your face, but I’m unable to project it visually in my mind because there’s no screen.

### 3. So you don't recognize me when you see me?

I do. Exeter's MRI results suggest that the process of [putting a name to a face](#) can be separated from the process of mentally generating a face from a name. In programming parlance, I have a hash table.



### 4. How about picturing something simpler, like a red triangle, or the table right in front of you?

I can't even understand the question. I can think about the *idea* of a red triangle. But it's blackness behind my eyes. Blackness next to my ears. Blackness in every nook and kindle of my brain.

### 5. You're just assuming that others can actually SEE things with their eyes. NOBODY can do that, you hypochondriac.

I get it. It's a "mind's eye." I don't have it.

### 6. Does this apply to other senses?

This is another question that doesn't quite make sense to me. It didn't even occur to me until people kept asking.

I can't read this in Morgan Freeman's voice, nor can I "hear" the theme song to Star Wars in any sort of "mind's ear."

I do have the 'milk voice'—that flat, inner monologue that has no texture or sound, which we use to tell ourselves: "Remember to pick up milk." I can "doo doo doo" in my milk voice and tell myself I'm singing the theme song to Star Wars. However, most of my friends and family describe what they "hear" as music—not as vivid as the real thing, to be sure, and not as many instruments—but "music" nonetheless. I would never describe my experience as such; it's just the flavorless narrator, struggling to beatbox. And I've never had a song "stuck" in my head.

More generally, I have no sensory experience in my mind of any discernible nature. Thinking about a beach doesn't make me feel calm; thinking about a tarantula doesn't give me goosebumps. I can't "recall" the taste of pizza, the feel of velcro, or the smell of Ghirardelli Square. But it's unclear how many other people can. In my surveys,



Virtual reality also seems redundant now.

mental imagery and audio were most common, followed by the ability to trigger a feeling in response (the *joie de vivre* of the beach, or spider shivers). Taste, touch, and smell trailed.

## 7. What is going through your mind all day, if not sights and sounds?

All narration, all the time. An infinite script of milk voice dialogue. When you read a sarcastic essay from me, it is a transcript of this voice.

## 8. Do you dream?

No, or I don't recall them. I've had a couple dreams but there was no visual or sensory component to them. When I woke up, I just knew a list of "plot points" about things that happened. This is also how I digest fiction.

## 9. How do you imagine things?

First I think of a noun in my milk voice: cupcake. Then I think of a verb: cough. Finally an adjective:

hairy. What if there was a hairy monster that coughs out cupcakes? Now I wonder how he feels about that. Does he wish he was scarier? Is he regulated by the FDA? Does he get to subtract Weight Watchers points whenever he coughs? Are his sneezes savory or sweet? Is the flu delicious?

If I don't like the combination of words I've picked, I keep Mad Libbing until the concept piques my interest.

This has always struck me as an incredibly inefficient way to imagine things, because I can't hold the scene in my mind. I have to keep reminding myself, "the monster is hairy" and "the sneeze-saltines are sitting on a teal counter." But I thought, maybe that's just how it is.

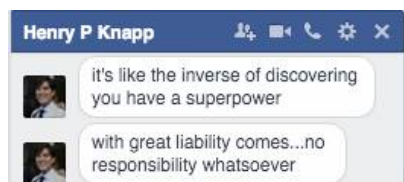
## 10. How do you masturbate?

Welp, I just learned a lot about how *you* masturbate.

## 11. Did you ever have surgery or an injury?

When I was a boy, my camp counselor in North Carolina chased me around the edges of the pool (he would've made a great counselor at Camp Tort-a-Lawsuit). I slipped, hit my head and blacked out. My 10th birthday was spent in the hospital watching O.J. Simpson speed away innocently in a white Ford Bronco. I don't remember if I could visualize before this, but then, I don't remember much in general.

## 12. How many people have this experience?



It's hard to know. A psychology professor's [survey of 2,500 people in 2009](#) suggested it affects 2%, but there haven't been enough rigorous studies. Take an abridged survey in [this BBC article](#). If you think you're affected, email the head of the Exeter research team, [Professor Adam Zeman](#), to join his effort. I've done so as well, and I'm looking forward to getting MRI results and funding future research.

Apparently geneticist [Craig Venter is aphantasiac](#). Also check out Penn (of [Penn and Teller](#)) discussing his experience on [his podcast](#) (75:15) last year. His experience matches mine perfectly.

### 13. How do you write fiction if you can't visualize scenes?

It is somewhat amazing to learn that I have given people an experience I myself have never accessed:



I “imagine” scripts conceptually as described earlier. It's easier to write for characters that have already been realized on the screen, especially when so many of them share my dry, sarcastic personality. If you reread the [Silicon Valley script](#), you'll find it's heavy on ideas (what if a lawyer had a clock that counted money not time? what if Erlich compiled interview questions while stoned?) and light on descriptive language. Same with the [Theranos parody](#).

Overall, I find writing fiction torturous. All writers say this, obviously, but I've come to realize that they usually mean the “writing” part: They can't stop daydreaming long enough to put it on the page. I love the writing and hate the imagining, which is why I churn out 50 dry essays for every nugget of fiction.

### 14. How do you design product interfaces if you can't visualize them?

I'm strong at the conceptual aspect: Figure out how a function fits into the overall system; figure out the minimum set of features it requires; strip every other whisker. I'm weak at designing the aesthetics.

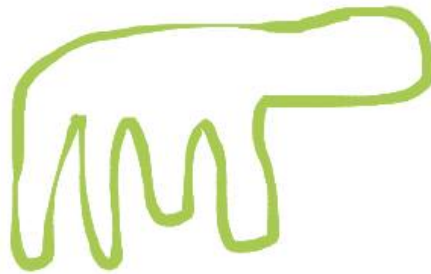
### 15. How do you play the piano?



I can identify notes in sheet music as well as I can identify your face. Once I've played a song enough, my fingers can find the keys without looking as well as yours can find F and J on a laptop. Obviously I don't have perfect pitch, but most people don't.

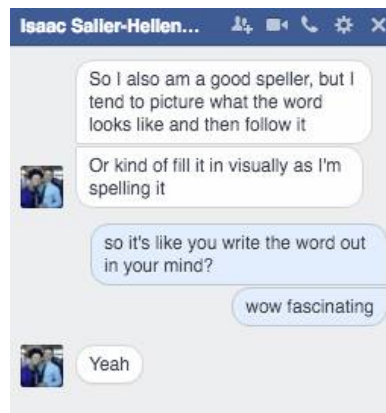
### 16. Can you draw?

No. This has been my rendition of a cat/dog/bird/Hugh Jackman/cupcake monster since I was 3:



### 17. Can you spell?

Yes, very well. But I don't process it like this:



It feels more like muscle memory to me.

### 18. How do you navigate directions?

Barely, which has been a running joke in my family. I recall directions as a list of facts, [like this](#).

### 19. How could you go your whole life not knowing that I “see” mental images?

How could you go your whole life not knowing that I don't?

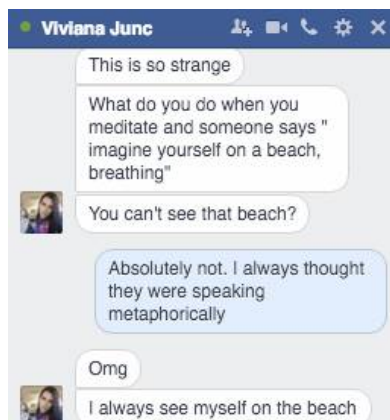
## 20. I don't believe you.

I don't believe you either, frankly. No matter how many asses I inspect, I still can't believe you've all got tails.



Now that I've seen this *Sixth Sense*-style twist ending, friends and I have been "rewatching" the world to spot the hints I missed. So Tony Robbins really does want you to "picture" your six pack to get fired up, Brock? You really *can* visualize a future with your partner, Morin? When you daydreamed in class, Stephen, you really saw that frog in the tuxedo? Wait... THAT'S why it's called "daydreaming"?!

*He's been dead the whole time.*



An ex says I often complained that "it's like my brain just doesn't work this way" while trying to compose fictional scenes, a bizarre framing compared to other admissions that I was simply "bad at baseball" or "not street smart." The dialogue is so on the nose that, if I read it in a script, I'd ding the writer for her assault on subtlety.

And, suddenly, fiction clicks. Paty says I used to worry that "I feel like I'm doing reading wrong." Descriptive language in novels was important to her but impotent to me; I skip it as reflexively as you skip the iTunes Terms of Service. Instead, I scour fiction like an archaeologist: Find the bones.

*The slender, olive-skinned man brushed the golden locks out of his hazel eyes. He was so focused on preparing for the assassination that he burned his tongue on the scalding cuppa joe (hazelnut, light cream).*

That becomes: *There's an assassin.*

I hurdle over paragraphs and pages, mowing down novels in one night because—while others make love to the olive-skinned assassin—I'm just fucking his skeleton. Some books are so fleshy they're opaque: *Lord of the Rings* numbs. But *Lord of the Flies* gnaws, because I could meditate on the idea of society-gone-wild forever. *Animal Farm* is awesome. 1984. The splendor of Hogwarts is lost, but the idea of a dementor is brain fuel. And  $2 + 2 = 5$ .

Nobody likes an author who shows off, of course. But friends tell me it is the written imagery—when done well—that delivers the very joy of reading. I can't understand that, but I finally understand this: You really *are* annoyed with the actor in *50 Shades of Grey*. It's really *not* how you pictured him in the book.



Exploring this with friends has been hilarious and maddening and surreal. When I gave the beach test to Brit, she replied: *Umm, have you seen my Facebook cover photo?*



Brit Fisher

I had not.

But above all, strangely, I feel relief. It is vindication in some lifelong battle against an enemy I could never find.

I've always felt an incomprehensible combination of stupid-smart. I missed a single question on the SATs, yet the easiest conceivable question stumps me: What was it like growing up in Miami?

*I don't know.*

What were some of your favorite experiences at Facebook?

*I don't know.*

What did you do today?

*I don't know. I don't know what I did today.*

Answering questions like this requires me to “do mental work,” the way you might if you're struggling to recall what happened in the Battle of Trafalgar. If I haven't prepared, I can't begin to answer. But chitchat is the lubricant of everyday life. I learned early that you can't excuse yourself from the party to focus on recalling what you did 2 hours ago.

So I compensate. Ask about Miami and I'll tell you, almost to a syllable:

I didn't love it. It's very hot, the people there aren't ambitious at all. Also everyone is kind of angry, there's like a lot of road rage. It's fun to visit but I basically went as far away as I could for college, ha ha.

Facebook?

It was awesome getting to be there in the early days. I remember I would practically run to work in the mornings because I was so excited to share ideas with the team. There's really no better feeling than seeing someone in a coffee shop using your work.

These lines are practiced. They are composites of facts I know and things I've read. I perform them out of body, with the same spiritual deadness that you might recount the Battle of Trafalgar.

And if you ask about my day, there's a good chance that—having had no time to prepare—I'll lie to you.

It is hard not to feel like a sociopath when you're lying about how you spent your Monday and you don't even know why. And there is a sadness, an unflagging detachment that comes from forgetting your own existence. My college girlfriend passed away. Now I cannot "see" So-Youn's face or any of the times we shared together.

I have, in fact, no memories of college.

I once proposed to Paty that, since we were visiting my brother in DC anyway, let's train over to the Big Apple and see *Les Misérables*. She said, we did that last year—for my birthday.

Often I ask my oldest friend to tell me about my childhood. Stephen and I joke that we're the couple in *The Notebook*, but there's an undercurrent of: Am I an idiot?

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*It is hard not to feel like a sociopath  
when you're lying about how you spent  
your Monday and you don't even know  
why.*

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I've always chalked this up to having "bad experiential memory," a notion I pulled out of thin air because "bad memory" doesn't fit: I can recite the full to-do list of software I'm building. On a childhood IQ test, my best performances were on Coding and Digit Span, both memory-driven. Given an increasingly long string of random numbers, I hit the test ceiling by repeating and then reversing 20 digits from memory on the fly. My three worst performances were on Picture Completion, Picture Arrangement, and Object Assembly. I couldn't put the damn images in order to save my life.

**Behavioral Observations:** Blake is a nice-looking 12-year old boy, with black hair & brown eyes & freckles, who was highly motivated to do well and was self-deprecating whenever he thought his response was not correct (e.g., on Picture Completion if could not see what was missing would say "I feel bad" or "Is it really obvious?").

My IQ test, the Wechsler-III. It is unclear if we can trust an IQ examiner who misspells "deprecated." Also, is it normal for them to comment on a little boy's looks? Mom, I feel bad.

Perhaps none of this is aphantasia. But when I ask a friend *how* he how-was-your-days, he gives me a tour of the visualizations in his mind. The spaghetti bolognese; the bike ride through the marsh; the argument with the boss, and the boss's shit-eating grin, and gosh how I'd love to punch him in the mouth, and can't you just see it now? He says that looking back on his life is like paging through a Google Image search sorted by "most engaging." He tells me that when he's on the road, and loneliness knocks, and the damn Doubletree bed is a little

more wooden than usual, he replays the time they tried to make sushi together—but the rice kept falling apart!—and we couldn't stop laughing!—and did you know it burns when sake spews out your nose?—and that's when she feels closer.

I wonder if it's why I have such an easy time letting go of people.

## Is It Really Obvious?

I learned what it means to count sheep from a friend who was also teaching his daughter.

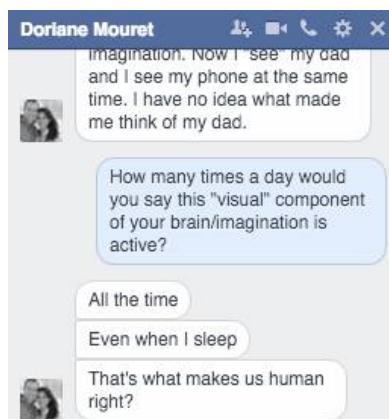
That is ethereal. Musical. Hysterical. Eye-rollable rom-com mix-up stretched past the point of plausible. *Oh but when you said—oh I thought you meant that—Ohhhh! Haha!* How could you not know? What did you do when mom told you to tend the flock at midnight?

Well, here's a little *Sixth Sense* ending of your own: The final member of Aphantasiacs Anonymous turned out to be my mother.

Imagine that.

Some people don't find out until they're 50. Some never do. How close did I come to asking the right question all these years, only to stumble on a Facebook article? Brand new writer has no imagination! Oculus on the eyes, blind in the mind! The clickbait headlines write themselves, and maybe next time your jaded ass should bite. You never know.

Before I told her what was going on, [Doriane](#) offered this:



I think what makes us human is that we know we're the galactic punchline, but we can still laugh at the setup. The cosmos got me good on this one. How beautiful that such electrical epiphany is not just the province of the child. And were the bee's knees real, too? And have the cats worn pajamas all along?

I don't *think* so.

But if I see it, I'll be sure to tell my people. 🐼

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**Blake Ross** is a writer and programmer. He was a Director of Product at Facebook, and the cofounder of Firefox. Read more of his writing on [Facebook](#), [Medium](#) and [Twitter](#).

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