Just can't place the face:

The rare condition of face-blindness can lead to awkward, sometimes hilarious, situations

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Perhaps the strangest thing about the fact Jeff Wasserman, photo editor of the National Post, has a genetic inability to recognize human faces is that his colleagues in the photo department have never played practical jokes on him.

The sports guys would.

With thousands of photos passing across his computer screen each day, most of which are never published, the opportunities for pranksterism seem endless. Change the caption so that actor Harvey Keitel is identified as former Groupaction president Jean Brault, for example, and the boss might never notice.

After all, this is the same man who, while watching the movie Adaptation, starring Nicolas Cage in the roles of identical twin brothers, whispered perplexedly to his wife: "Isn't it uncanny that they found a guy who looks just like Nicolas Cage?"

The problem was he had never really recognized Nicolas Cage in the first place. Jeff has congenital prosopagnosia, an extremely rare and poorly understood cognitive impairment commonly known as face-blindness, but his case is mild, and he has several tricks to get around it.

"I think it's easier identifying people in a photograph, for me, than in three dimensions," he says.

He became a successful news photographer partly by watching other shooters, making sure he saw -- and recognized -- everyone they did.

Today, as the results of groundbreaking psychological experiments on him and 12 other confirmed North American cases are newly published in the scientific press, most of his colleagues would never know he was so special.

And so, as long as he never witnesses a murder, Jeff's perceptual quirk will be just as his wife, Fiona, describes it: not really a disability, just a source of mild amusement and occasional embarrassment.
It would also have been nobody else's business had his younger brother, Larry, never met Professor Marlene Behrmann, a cognitive neuroscientist at Carnegie Mellon University in Pittsburgh, Pa.

Larry Wasserman, a professor of statistics whose office is just a few floors below Prof. Behrmann's, also has congenital prosopagnosia. They were introduced by faculty members who knew she would be curious about his frequent befuddlement over faces.

He was an insightful subject, she recalls. He told her about photographs of actresses in The New York Times -- and how he was "absolutely shocked" to read in the captions that they were not all shots of Winona Ryder.

"I tried to go back and find those exact images. I wanted to see what his confusability looked like but I couldn't lay my hands on it," she says.

Within days she put him through her full repertoire of face-recognition tests. He thought he had "aced" the famous-faces test, but in truth his performance was dismal -- 80% wrong. Prof. Behrmann was elated.

(Jeff would later say, after he did the same tests and scored better than Larry: "They all looked alike to me -- like old guys with beards.")

Larry mentioned that their late father, an eye doctor in Windsor, Ont., was also terrible with names. Prof. Behrmann's eyes widened. Two sons and maybe a father meant their prosopagnosia was almost certainly congenital. Neither Jeff nor Larry has suffered a head injury or a stroke, which are nearly always the causes of face-blindness.

By this time, about two years ago, Prof. Behrmann had found only a half-dozen other people who had been face-blind from birth. Nearly all were worse than the Wassermans, some significantly. For example, there was the man who, although he knew and loved his children, had to wait each day at preschool for the teacher to bring them to him.

But three people in one family? There were only anecdotal reports of that in the literature, and Prof. Behrmann knew only of a mother and son. This was serendipity.

Like many prosopagnosics -- named after the Greek words for "face" and "not knowing" -- Jeff and Larry have the hardest time at the movies, where you have to recognize the characters to follow the plot.

"The Big Chill [in which a group of college friends reunite for a funeral] I had to see about five times before I could figure out who everybody is," Larry says. "And it's not that I literally can't recognize people, it's just
that I tend to, in my mind, blur the distinctions between people's faces."

In fact, confusion while watching television and movies is one of the more common ways prosopagnosics realize they are different.

But for sheer social awkwardness, nothing beats the bar.

One night this winter, Jeff was out with friends from the office when some of them spotted Financial Post reporter Kevin Restivo, whom Jeff knows well from the newsroom. Not that night, though. Other people seemed to know him and chatted about journalism, which would suggest a workplace connection, but Jeff was left grasping for clues to the identity of this total stranger.

"I had no idea who he was. I just didn't have a clue," he says.

He thinks there were two reasons: He had seen the reporter out of the normal newsroom context, and Mr. Restivo, a young man with dark hair cut short, has a familiar look about him.

"I tend to categorize," Jeff reflects. "They're bald, totally shaved head, you know, they've got a big head, they've got a little head, you know, skinny head people ... There's only so many faces in the world. Like there's 20 kinds of faces, and I immediately slot people into that category."

He calls it a "sorting bin." (Larry, the academic, prefers "equivalence classes," which he says are "dictated by celebrities ... because those stand out as natural icons.")

After the sorting, Jeff says he attaches "tags" to people, little clues like hair or dress or mannerisms, that he will remember the next time. Just last week, a colleague changed her hair. The next day, she was a stranger to him until she sat at her own desk.

"It's like my cheat notes have been taken away," he says.

He says he cannot imagine what it would be like to recognize familiar faces as most people do -- in an instantaneous flash, without logic or deduction or clues.

A lot of the time, of course, recognition begins as a creeping suspicion that we know a person, and we rack our brains to figure it out. The moment of success feels something like illumination.

Jeff and Larry don't get that. They have to figure everybody out.

In this, they are like the prosopagnosic test subject who was shown his own wedding photo and asked to identify the man. He could not. The scientists
told him the woman was his wife and asked him again, "Who is the man?" Only then did he realize the groom had to be himself.

Jeff and Larry are nothing close to that, but they are on the same spectrum. The possibilities for error are endless and often hilarious. In university, Jeff went for months thinking two of his buddies were the same guy. Larry did this last term with two grad students.

"They still look pretty much alike to me," Larry says. "I would say objectively, although that's what I always think. I'm always amazed that people don't think so-and-so doesn't look like so-and-so."

Look at it another way and this need to figure out faces has some strange advantages. Growing up in Windsor, twin boys lived next door to the Wassermans. Greg and Jerry looked so much alike that people referred to both of them as "Twin" -- even their mother at times. But Jeff, with his deductive prowess, saw what most people could not.

"No one could tell them apart except me. To me, even when I saw them as adults, they looked nothing like each other," he says.

It was a matter of face shape: Jerry's face seemed angular, whereas Greg's was round. "They always looked completely different."

Years later, in high school, Jeff dated an identical twin. Her sister's personality was different, though, and the deciding factor was often the freckle on her nose. "I probably could have been tricked," he says.

Why does it seem that faces -- Prof. Behrmann calls them "the most biologically important class of stimuli" -- are so special to the brain? And why do experiments suggest that eyes and mouths are far more important to recognition than cheeks, noses or chins?

Some scientists believe the brain has a system of nerves that is specialized, if not dedicated, to recognizing faces.

In acquired prosopagnosia -- from a car accident, for example -- some part of this system has obviously been damaged. But inherited face-blindness is less easily explained. The Wasserman's brains are in no way deficient or even significantly different from the norm. In fact, an fMRI scan showed Larry's brain activity to be indistinguishable from controls during face-recognition tasks.

But something is obviously wrong, and it appears to run in the family.

Jeff thinks his older sister in Vancouver has prosopagnosia, too, which
would support a new theory by German geneticist Thomas Gruter that the condition is passed on through a dominant gene, so if a child received a copy from just one affected parent, he or she would be face-blind.

Luckily, Jeff thinks his own son and daughter show no symptoms, and his wife, who would probably know better, agrees.

Experiments show that most people take longer to recognize a face when it is upside down. Somehow, inversion interferes with that experience of the whole face, not just the individual parts -- what psychologists call the gestalt.

This suggests that when we look at an upside-down face, our brains might use a different strategy to identify it. Prof. Behrmann believes we might be doing something similar to what Jeff and Larry do, looking for clues instead of seeing the entire face.

Upside down or right side up, prosopagnosics usually take longer than controls to recognize faces, but neither Jeff nor Larry "shows a difference in their speed of performance for faces when the faces are upright compared to when they are inverted," Prof. Behrmann says.

For that reason, it is no wonder Jeff says he is cautious about saying hello to people on the street, even when he thinks he knows them. The risk of error is just too high.

But Larry perks up at the suggestion that his prosopagnosia makes him more friendly and collegial.

"That is definitely something I do," he says, recalling all the times a vaguely familiar student has walked into his office unannounced and he greeted them as if they were his favourite teaching assistant. "Just in case."