

# THE GLOBE AND MAIL

## Calgary researcher helps people who constantly get lost

Those with developmental topographical disorientation have inability to navigate even daily trips from work to home

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If a man asked for directions to take Sharon Roseman home after the first date, she knew the relationship was over.

She'd have to admit she hadn't the faintest idea where she lived in relation to where they were, and couldn't give any hints at all on how to get there.

“That was pretty much the first and last date,” she laughs. “That became just my life, it was just, okay, won't see him again.”

It wasn't until decades later, when she met University of Calgary researcher Giuseppe Iaria, that she realized she wasn't the only one who struggled with navigating even simple trips from home and work, constantly getting confused in the most familiar places.

He concluded she has developmental topographical disorientation, a condition he documented for the first time last year in a Vancouver woman who had built up a carefully constructed routine to mask her inability to navigate even daily trips.

Her commute to work involved a bus ride, followed by a short walk along a straight path to her office. Her father had to walk her there for five years before she could do it on her own.

Most people with the condition are unable to form mental maps of the things around them, so while they know important landmarks, they have no idea how to move from one to another, said Prof. Iaria.

They recognize their bank, but despite travelling between it and their home countless times, can't visualize the route.

“This is not a very bad orientation, it's the lack of orientation skills,” he said.

Since publishing the first case, Prof. Iaria has found more than 400 people through a website that includes a test on the skills people with the condition lack.

They all get lost every day, but are free of any damage or lesions to their brain and have a normal memory. Their problems also persist from early childhood.

All small children have trouble finding their way from place to place, which indicates that drawing a mental map is a complex cognitive function that is learned over time, said Prof. Iaria. By age 10, most

children are pretty adept at navigating their own way.

“They usually realize it at school,” he said. “Grade 1, they get lost going from the washroom back to class.”

People are often scared of sharing the problem with others for fear of ridicule or looking stupid. When they try, they're told they're just not concentrating hard enough.

“It has nothing to do with attention, it has nothing to do with memory, these people are unable to do what is [effortless] to you,” said Prof. Iaria.

Many have come up with their own ways of coping, he said. Often they use GPS to navigate every path in their lives, and never go anywhere without a cellphone to call someone for help.

“It really shapes your life.”

He hopes to create exercises that will help strengthen the skills needed for mental navigation. He also hopes imaging tests of both the structure and function of the brains of those with the condition can help researchers understand why it happens.

Ms. Roseman, who lives near Denver, has an unusual presentation of the condition. She is capable of creating a mental map of her world, but it can suddenly shift without warning, causing her to lose track of the relationship between different parts.

In her case, it's a 90-degree turn, so north-south becomes east-west.

It happens when she travels along a path that's not straight, so any kind of curving or winding road can set it off. Her world also changes as she sleeps.

“So when I wake up in the morning, I'm not in my own bedroom any more, I'm in a different bedroom and everything in my sight is different,” she said.

Spinning in a circle makes things turn back to normal, but that's not always feasible in public places.

She didn't seek help until she was 29, telling no one how quickly her world could become incomprehensible. Now, through Prof. Iaria's website, [gettinglost.ca](http://gettinglost.ca), she's found others who see things the same way.

“There's nothing as satisfying and relieving to learn of other people who experience the same thing because I went through my life thinking I was the only one in the world,” she said.

“I was just always lost and nobody knew.”

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