

Seeing sounds and hearing colors

■ About 1 percent of the population has synesthesia, a merger of senses

By **PATRICK KURP**

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Erica Flor's first name begins in blue, shades into an amorphous yellow and ends boldly in red.

That's what it looks like when Flor reads her name letter by letter. Otherwise, when she's skimming, her first name, like most words, takes on the color of the first letter. Thus, "Erica" might be abbreviated as blue.

"I can hear a few colors, too, but mostly it's numbers and letters having their own colors. So do the days of the week and the months of the year. I can tell you that 'six' is always green. 'Nine,' I don't know why, doesn't have a color," said Flor, a 22-year-old chemistry major at Rice University.

Flor is not being poetic, nor does she use hallucinogens. She, like novelist Vladimir Nabokov, composer-pianist Franz Liszt and physicist Richard Feynman, is endowed with synesthesia, an artful and harmless merging of the senses.

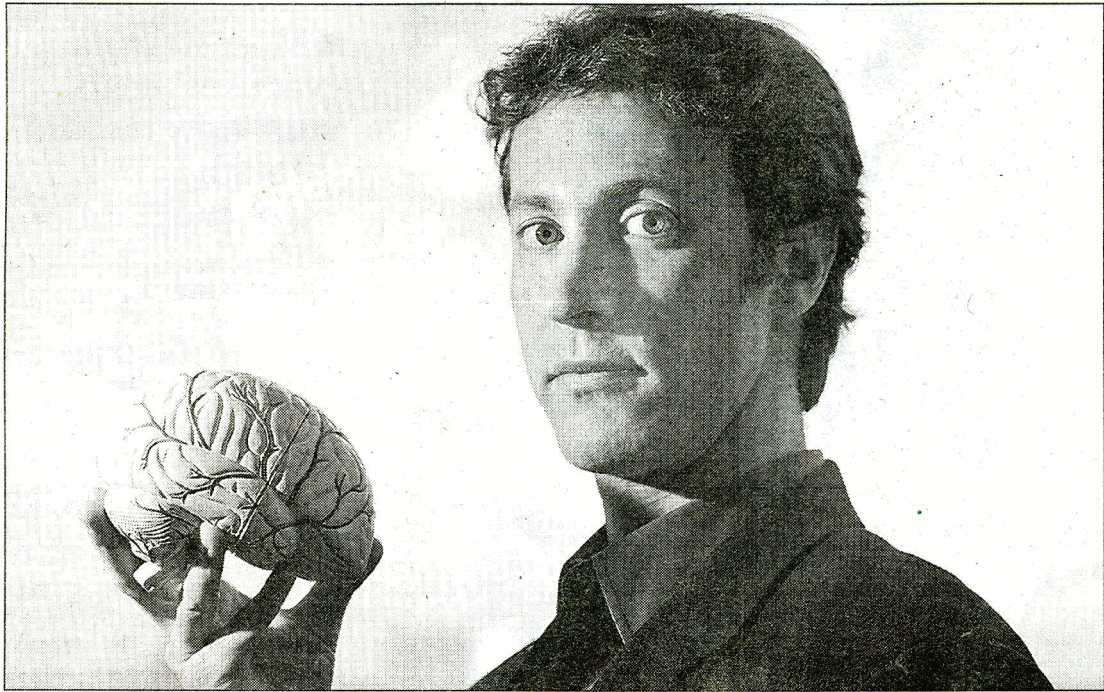
"It happens when neighboring brain areas talk to each other when normally they don't do that. Everything in the brain is hooked up to an associative network. In some people, the wiring is different," said David Eagleman, assistant professor of neurobiology and anatomy at the University of Texas Health Science Center at Houston.

Synesthetes may hear colors, see sounds and taste tactile sensations. These are not metaphors or even strong associations. They are involuntary sensations that tend to remain consistent over time.

In the past two years, Eagleman has recruited some 120 local synesthetes. He tests them, using computer programs of his own devising, to confirm their synesthesia, then takes blood or saliva samples and extracts DNA. He hopes to isolate the gene responsible for the condition.

Recent studies suggest that roughly 1 percent of the population is synesthetic, and that the condition runs in families, usually on the maternal side. Flor's mother also is synesthetic.

So are Molly Altobelli's



SHARÓN STEINMANN : CHRONICLE

RESEARCHER: David Eagleman, assistant professor of neurobiology and anatomy at the University of Texas Health Science Center at Houston, is hoping to isolate the gene responsible for synesthesia.

mother and two of her sisters. Altobelli has spatial-sequence synesthesia. She sees numbers, days of the week and months of the year in precise locations in relation to her body.

"When I think of '23,' I picture it in front of me and slightly to the left," said Altobelli, 24, a third-year student at the Baylor

College of Medicine.

Eagleman emphasizes that synesthesia should not be confused with mental illness.

"This is not a disorder," said Eagleman, who admits to some disappointment at not being synesthetic. "They see things layered more richly."

Flor confirmed that: "I al-

ways thought it was a huge advantage. It's helpful in remembering phone numbers, and I've always been extra good at spelling."

For questions or comments on the Environment, Science & Space page, contact matthew.schwartz@chron.com.