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Does Gender Affect the Way We Navigate?

What we can learn from Danes, Mexicans and Namibians



ILLUSTRATION: TOMASZ WALENTA

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It's a cliché that many couples recognize while driving: Men don't ask for directions while women do, and women navigate by local signposts ("go left at the 7-Eleven"), while men have big maps in their heads and rely on a bird's-eye view. Experimental psychologists have often confirmed that women and men think differently about moving through space.

For decades, the anthropologists Elizabeth Cashdan and Steven Gaulin have been studying this difference across cultures. Early last year they edited and contributed to a special issue of the journal *Human Nature* that extended their research to several new locations. The papers, including contributions by several other researchers, confirm long-standing evidence suggesting that gender and genes influence how we think as we travel through the world. The studies also found that specific human cultures have a powerful effect on how men and women compare to each other in this regard, sometimes largely erasing those differences.

The hypothesis they tested about genetic navigational differences goes something like this: Given the usual division of labor among our hunter-gatherer ancestors, men would have needed to range more widely than women in search of food or mates. Those who could, say, run through the bush triangulating their own position in relation to fast-moving prey would have had an advantage.

By contrast, evolution likely favored women who remembered specific spots—where, for instance, they might find a few succulent tubers underground. Since these precious sources of food might be visible above ground as only a thin brown vine clinging to a brown bush, wandering with a big map in mind and no sense of place simply wouldn't do.

Another explanation for the gender difference seems less benign but jibes with evolutionary theory. Dr. Gaulin has long wondered if the difference could be partly explained by males who range farther in search of multiple mates. In 2014, Dr. Cashdan and her student Layne Vashro found support for this theory in two cultures in northern Namibia, the Twa and the Tjimba.

But how much of the gender difference is genetically determined, and how much does environment play a role? Drs. Cashdan and Gaulin's opinion is that, whatever genetic and hormonal tendencies we have as evolution's legacy, specific environments and cultures matter a lot, and life experience shapes spatial thinking. Evolution can only move so fast, and the significant differences between observed cultures must reflect learned behavior as well.

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Studies from around the world, brought together in the special issue of Human Nature that they edited, confirmed the impact of cultural differences. One involved 148 Maya adults, who live on Mexico's Yucatán peninsula. They strongly value monogamy, unlike the

Twa and similar societies, with their wandering males. The researchers found, accordingly, that gender differences in spatial awareness were smaller among the Maya.

Other research suggested how environment matters. On Denmark's Faroe Islands, where people routinely take long ocean trips, questionnaires given to 99 women and 112 men showed differences in way-finding strategy. Both sexes tended to use big-picture orientation rather than local landmarks, but men did this even more than women.

Among 73 Tsimane foragers, who live in a tropical Amazonian forest, women range almost as widely as men in their murky world of dense vegetation. Asked to aim a device toward nearby villages that they can't see, they did about equally well. In this case, environment overcame gender differences.

Drs. Cashdan and Gaulin don't think that their work can "provide fodder for sexist, better-worse kinds of claims." They say, "Let's bury that notion."

As for me, I've learned to ask for directions, except when I'm with my wife—not because she asks but because she doesn't need to. Her local-landmarks navigation works much better than my big mental map.