I think step to the left, you think step to the east

December 14 2009

Even the way people remember dance moves depends on the culture they come from, according to a report in the December 14th issue of *Current Biology*. Whereas a German or other Westerner might think in terms of "step to the right, step to the left," a nomadic hunter-gatherer from Namibia might think something more like "step to the east, step to the west."

Those differences aren't just a matter of language; rather, they reflect differences in the way our minds encode and remember spatial relationships.

"The human mind varies more across cultures than we generally assume," said Daniel Haun of the Max Planck Research Group for Comparative Cognitive Anthropology. "Even everyday tasks that we would never think of doing any other way, like remembering body movements, are done differently in other places."

Researchers knew that cultures differ in the way that they represent the locations of objects in space. But, Haun and Christian Rapold explain, knowing where our own hands and feet are has a strongly "egocentric" organization in the brain. Therefore, you might expect all people to remember body movements in essentially the same manner.

Not so, the new study shows. The researchers conducted experiments in which they asked groups of German children and Hai||om (sometimes referred to as Haikom) children from Namibia to learn a dance. The

dance instructor (experimenter) stood by their side and demonstrated a simple move, shaking clasped hands from side to side in a right-left-right-right sequence. He then asked them to turn around to face the opposite direction and "dance again."

German children who successfully learned the dance almost always moved their hands to their right-left-right-right regardless of which direction they were facing. In contrast, the Hai||om children switched the direction of their movements, from right-left-right-right to left-right-left-left, depending on which way they were facing at the time.

The new findings highlight the extraordinary diversity and flexibility of the human mind, the researchers say.

"It's becoming more and more clear that we cannot simply extrapolate from investigations within our own population to others," Haun said. "To understand the human mind, we need to widen our perspective and assume diversity rather than universality of cognition until proven otherwise."

Source: Cell Press (news : web)