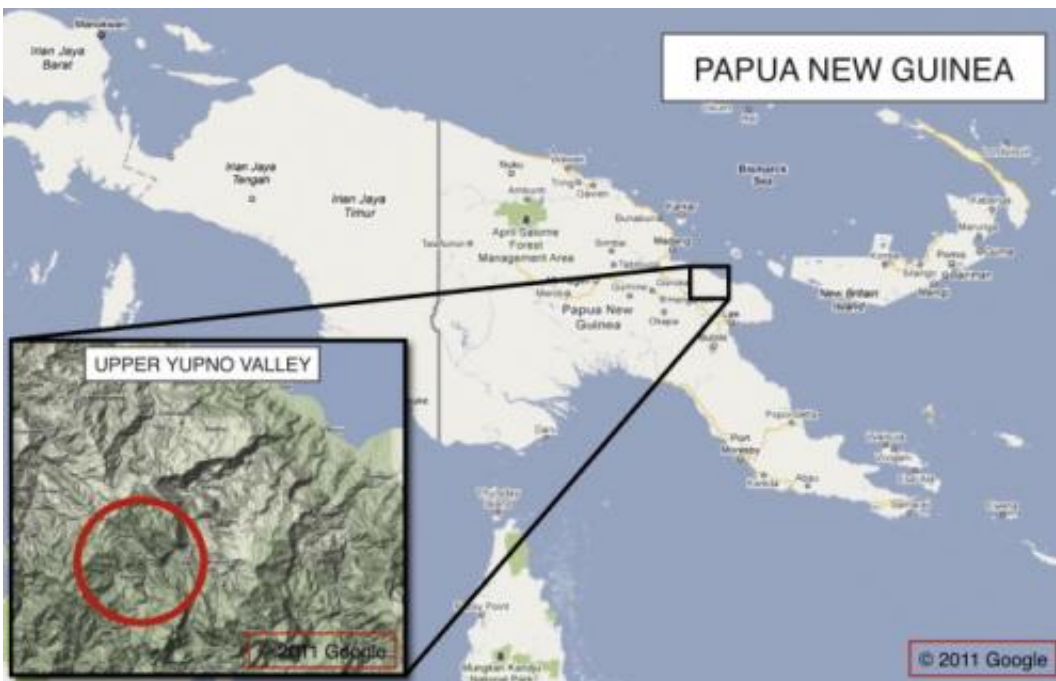


Time found to be fixed to terrain for Papua New Guinea tribe

June 4 2012, by Bob Yirka



(Phys.org) -- For most of western history, people have assumed that what is true of “us” in most cases, must be true for “them,” i.e. other groups about which we may actually know little. One example is the concept of time. In virtually all western societies, people envision time in the same abstract way; as a line moving from the past, through us, and on into the future. We speak of back in the past, or moving forward into the future. And because our way of thinking about time is so ingrained in us it’s

difficult to imagine that others might really see time in radically different ways. And yet, some do, as evidenced by a remote tribe of people currently living in Papua New Guinea. The Yupno, a team of researchers has found, relate time to the river that dominates their life. The past is water that has already flowed by, while the future is represented by its source, which for them, lies uphill. Rafael Núñez, Kensy Cooperrider, D Doana and Jürg Wassmann studied the Yupno and found, as they report in their paper published in *Cognition*, that some people living in circumstances far different than that seen in the western world, really do see time in a completely different way.

The Yupno people live in a village called Gua. There are no roads leading in or out and the only other people the villagers see are the occasional missionaries, researchers or governmental health workers. Thus, their way of life hasn't changed much, as most of the rest of the world marched into what we now perceive as a very modern society. And because of that, the Yupno people have retained their own interpretation of time, and for them, it's all about the river. And because of that, time for them can be construed as running straight, as it does for us westerners, but only where the river runs straight. Where it kinks, so too does time.



Future is uphill; past is downhill. Image (c) [i]Cognition[/i], DOI:10.1016/j.cognition.2012.03.007

In interviewing many of the people that live in Gua, the researchers found that when asked questions about the past or the future, their responses were almost always relative to their position along the river. The past was downriver, the future was upriver, regardless of which direction the river happened to be flowing.

Interestingly, the perspective of time changed for the villagers when inside their homes. There the past was represented by the doorway, and the future away from the door, which might seem counterintuitive until noting that for those that live in Gua, the doorway is always seen as downhill which is likely to promote drainage after rains; both water and [time](#), flowing away when viewed from the vantage point of those sitting safely inside their homes.

More information: Contours of time: Topographic construals of past, present, and future in the Yupno valley of Papua New Guinea, *Cognition*, [dx.doi.org/10.1016/j.cognition.2012.03.007](https://doi.org/10.1016/j.cognition.2012.03.007)

Abstract

Time, an everyday yet fundamentally abstract domain, is conceptualized in terms of space throughout the world's cultures. Linguists and psychologists have presented evidence of a widespread pattern in which deictic time—past, present, and future—is construed along the front/back axis, a construal that is linear and ego-based. To investigate the universality of this pattern, we studied the construal of deictic time among the Yupno, an indigenous group from the mountains of Papua New Guinea, whose language makes extensive use of allocentric topographic (uphill/downhill) terms for describing spatial relations. We measured the pointing direction of Yupno speakers' gestures—produced naturally and without prompting—as they explained common expressions related to the past, present, and future. Results show that the Yupno spontaneously construe deictic time spatially in terms of allocentric topography: the past is construed as downhill, the present as

co-located with the speaker, and the future as uphill. Moreover, the Yupno construal is not linear, but exhibits a particular geometry that appears to reflect the local terrain. The findings shed light on how, our universal human embodiment notwithstanding, linguistic, cultural, and environmental pressures come to shape abstract concepts.

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