'Time' not necessarily deeply rooted in our brains

May 20 2011

Researchers and villagers in Amondawa

(Medical Xpress) -- Hidden away in the Amazonian rainforest a small tribe have successfully managed what so many dream of being able to do – to ignore the pressures of time so successfully that they don't even have a word for it.

It is the first time scientists have been able to prove 'time' is not a deeply entrenched human universal concept as previously thought.

Researchers, led by Professor Chris Sinha from the University of Portsmouth Department of Psychology, studied the way in which time was talked about and thought about by the Amondawa people of Brazil. Their research is published in the journal *Language and Cognition*.

Professor Sinha said: "For the Amondawa, time does not exist in the same way as it does for us. We can now say without doubt that there is at least one language and culture which does not have a concept of time as something that can be measured, counted, or talked about in the abstract. This doesn't mean that the Amondawa are 'people outside time', but they live in a world of events, rather than seeing events as being embedded in time."

Team members including linguist Wany Sampaio and anthropologist Vera da Silva Sinha, spent eight weeks with the Amondawa researching how their language conveys concepts like 'next week' or 'last year'. There were no words for such concepts, only divisions of day and night and rainy and dry seasons. They also found nobody in the community has an age. Instead, they change their names to reflect their life stage and position within their society, so that for example a little child will give up their name to a newborn sibling, and take on a new one.

Professor Sinha said: "We have so many metaphors for time and its passing – we think of time as a 'thing' – we say 'the weekend is nearly gone'; 'she's coming up to her exams'; 'I haven't got the time', and so on, and we think such statements are objective, but they aren't. We've created these metaphors and they have become the way we think. The Amondawa don't talk like this and don't think like this, unless they learn another language.

"We didn't expect to find this – we had studied the same language earlier and were going back to further our understanding of its metaphors. We were surprised to find that space metaphors for time and the abstract concept of time are simply absent from the language and culture.

"For these fortunate people time isn't money, they aren't racing against the clock to complete anything, and nobody is discussing next week or next year; they don't even have words for 'week', 'month' or 'year'. You

could say they enjoy a certain freedom.

"It strikes us as strange that such 'time-free' cultures exist," says Professor Sinha, "but many Amazonian languages, including Amondawa, don't have numbers beyond four or five, and if you don't have the numbers, you don't have time as an abstract, measurable 'thing'.

"Time is more to do with experience than being inborn in us. The only real biological clock is the ageing of our bodies. All our complex concepts of time are cultural inventions, a kind of technology of the mind.

"The Babylonians invented the 24-hour day, and the convention of 60 seconds in a minute, 60 minutes in an hour, and we're so used to being ruled by the calendar and clock that we don't reflect on it. But our notion of time is a double-edged sword. We wouldn't have the benefits of our socially and technologically complex society without it. But it's also, as we know, a burden and a source of increasing stress in our modern 24/7 lifestyle."

Time catches up with us all in the end, though. First contacted by the outside world in 1986, the Amondawa continue their traditional way of life, hunting, fishing and growing crops. But along with health care, electricity and television has come the Portuguese language. Like many of the world's 7,000 or so languages, Amondawa is threatened with extinction.

"We are now aware of the great riches still to be discovered in the world's biodiversity, and we know we should preserve this for future generations," says Professor Sinha. "But linguistic and cultural diversity is also a treasure trove, not just for scientists, but for everyone's understanding of what it means to be human. We can't and shouldn't try to stop change, but we should help empower people like the Amondawa

to determine their own future and keep their language and traditions alive. That's why work like that of Wany and Vera, who helped the community set up a native-language based school, is so important."

Provided by University of Portsmouth