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PRESS RELEASE

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Chimpanzees: travel fosters tool use

Chimpanzees travelling far and for longer time periods use tools more frequently to obtain food. This conclusion results from an analysis of seven years of field experiments conducted at the Department of Comparative Cognition at the University of Neuchâtel and the Swiss Centre for Affective Sciences at the University of Geneva (UNIGE), Switzerland. In an article recently accepted for publication by the scientific journal *eLife*, researchers show that similar to how bipedalism developed during evolution, using tools can be seen as a compensation of energy costs undertaken when moving around.

It is a known fact that some primate species including chimpanzees use sticks and other basic tools such as leaf-sponges to obtain supposedly hard-to-reach food. In this study, researchers at the University of Neuchâtel and UNIGE aimed to determine what factors motivated primates to engage in this activity.

‘We analysed seven years of field experiments where chimpanzees had to try to extract honey enclosed in a wooden log (commonly called “honey-trap experiment”), explained Thibaud Gruber, the study’s first author. We wanted to understand what external factors explained their motivation to participate in this experiment.’

First, the researchers showed that chimpanzees only became really interested in the log under particular ecological pressures, specifically a lack of ripe fruits in the forest and more travel to find this food. ‘This effect was most pronounced when this situation of having few fruits and having significantly more travel had been going on for a long period of time. In situations when there was no lack of fruits, or when chimpanzees did not need to travel far to find them, they had little interest in the log.’

Second, the researchers wanted to understand what factors motivated them to use a tool such as a leaf-sponge or a stick to scrape the inside of the log. And here was the sur-



Kibale National Park
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prise as ‘We found that only longer trips, and not the lack of food, encouraged them to use a tool. In other words, the more chimpanzees travelled in the week prior to their interaction with the log, the more they were likely to use a tool when engaging with the log. This suggests that there is a genuine and immediate energy cost when chimpanzees travel around, which they can compensate by using tools.’

Using tools to compensate a travelling effort may have gone hand in hand with the rise of bipedalism in humans, which is believed to have evolved in a similar context. As Thibaud Gruber sums up, ‘These two solutions could have coevolved to accommodate the varying energy costs over time.’

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