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Playful Drumming by Immature Wild Chimpanzees at Mahale: Do They Enjoy Making Sounds?

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INTRODUCTION

Before the Mahale Mountains National Park was established in 1985, several villages of Tongwe people lived in the forest. Although many villages have passed since the people left, we can still sometimes find the remains of human artifacts on the forest floor while observing chimpanzees. Here, I report the rare cases where immature chimpanzees found and drummed on clay pots discarded by the former villagers and discuss their playful nature in relation to the origin of music.

OBSERVATIONS

(1) Case of an 11-Year-Old Adolescent Male, Cadmus (CD) (25 Nov. 2002)

While CD was playing with a 4-year-old male infant (OS) in a thicket, CD found at 10:13:59 a clay cooking pot (about 40-cm diameter, 30-cm high, with a 14-cm diameter hole at the bottom). He lifted it with his left hand and approached OS with a play-face. OS approached and touched CD, but soon returned to her mother to suckle.

At 10:15:29, an estrous adolescent female (QA) showed leaf-clipping courtship near CD, who did not respond. At 10:15:39, CD lifted the pot with both hands, put it on his head like a helmet, and tapped 31 times on its side with his right palm. Then he stamped on the ground four times and pounded the pot three times with his left fist. After stamping on the ground twice, he again tapped on the pot’s side with his right palm 14 times (Figure 1).

At 10:16:42, CD lowered his head, placed the pot on the ground, and kicked its rim twice with his right heel. Then he lowered one side of the rim with his right hand and kicked the rim with his right heel ten times. At 10:17:19, CD stood up, kicked backward, and pushed the pot with his right sole. The pot rolled off, and he left.

In total, CD drummed 60 times: 45 times with his right palm, three times with his left fist, and 12 times with his right heel. He calmly drummed with no pilo-erection. His face was not visible when he put the pot on his head, but he drummed on it on the ground with no facial expression. He generally tapped lightly and did not make loud sounds. Although he might have heard the pot’s large resonance from inside it, the sounds did not seem to attract others. No one approached CD during his drumming, even though six chimpanzees rested within 10 m: OS and his mother, a 1-year-old male infant (TD) and his mother, an adult male (DG), and an adolescent female (QA).

(2) Case of a 6-Year-Old Juvenile Male, Michio (MC) (14 Feb. 2003)

At 10:46:56, while MC was walking in a thicket, he found a large clay water pot that was about 50-cm high, with a 45-cm diameter, a narrow neck, and an 18-cm diameter mouth. He slapped the bottom of it three times with his left palm, rolled it, and slapped it once with his right palm. Then he stepped onto it with both feet, soon got off it, lowered the pot’s mouth to the ground, and slapped its bottom with his left palm. He then pushed and rolled it, slapped it simultaneously with both palms, and slapped it nine times with both hands in turns. At 10:47:19, he stopped but soon started playing again in various ways (Figure 2, Video 1: available online at mahale.main.jp/PAN/19_2/19(2)_05.html): slapped the pot with his palms, pushing and rolling it, stamping on it with his soles, kicking it with his heels, stepping up onto...

Figure 1. CD puts a pot on his head and taps it with his palm.
male infant, TD and his mother, and two adult males (AL, PM). Only TD came to the spot after the pot was finally smashed.

**DISCUSSION**

CD put the pot on his head like a helmet and tapped it with his palms and kicked it on the ground. He drummed 60 times in about two minutes. MC showed more varied behavioral patterns, including slapping, kicking, stepping up, and rolling. He drummed 199 times in about six minutes. These can be regarded as “object play” in which they experienced various types of object manipulation, and also as “sound play” in which they enjoyed making sounds. During drumming, they sometimes changed the pot’s orientation and position and drummed on various spots with different body parts. They seemed to enjoy modifying the sounds and hearing the unexpectedly large and resonant sounds from the pot.

Immature chimpanzees sometimes make sounds during play. They might slap a tree buttress or walk on branches in an exaggerated style to make pitapat sounds. They also make sounds when they play with dry leaves. Some immature chimpanzees (including CD and MC) occasionally slap their own bellies with their palms to make spanning sounds as solo play or play solicitation. They may also enjoy making sounds in these cases, but these cases generally last only for a few seconds. The cases observed in this study were exceptionally long. The relatively large and resonant sounds of the pot should have encouraged them to continue drumming.

Adult male chimpanzees often hit or kick a substratum to make banging sounds as an intimidation display, such as slapping the ground or slapping/kicking tree buttresses or metal walls. The clay pot drumming observed in this study featured several differences from such adult drumming. CD and MC were not very excited, unlike adult displays; they did not show pilo-erection or such tense facial expressions as compressed lips. They seemed relaxed and drummed for a much longer duration. They did not pay much attention to other chimpanzees and appeared absorbed in their solo activity. Others did not show much interest in their drumming, either.

An individual difference was found in the laterality. CD usually drummed with his right hand and leg, while MC used his left hand and right leg more often. When supporting the pot, MC mostly used his right hand. Thus, MC showed a tendency of role differentiation in using his hands for drumming and supporting. Individual differences of drumming patterns and laterality were also reported for intimidation drumming by adult males.

In summary, two immature chimpanzees engaged in long and variable solo play, suggesting that they enjoyed producing sounds. In discussion on the origin and evolution of music, much attention has focused on such social aspects as vocal communication and sexual selection. However, the individual capacity to enjoy manipulating sounds also seems essential for the origin of music. This study suggests that chimpanzees have the potential to enjoy making sounds and supports the notion that manual drumming in African great apes is homologous to human instrumental music.
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REFERENCES

<NOTE>
Comparison of the Longevity of Chimpanzee Beds between Two Areas in the Mahale Mountains National Park, Tanzania

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INTRODUCTION
Chimpanzee (*Pan troglodytes*) beds have been used as an indicator for the presence of chimpanzees, and the longevity of beds is one of the important variables for estimating chimpanzee population sizes2,4. The longevity of chimpanzee beds can differ due to location, vegetation, and season4–6. For example, beds in forested sites decay faster than those in woodlands5, and beds in the dry season decay faster than those in the rainy season4–6.

A previous study5 on the longevity of chimpanzee beds was conducted in the Mahale Mountains National Park, Tanzania. Because the study5 was conducted only in the forested area in the dry season, we studied chimpanzee beds both in forested and woodland sites during the rainy season.

<Figure 1. Locations of chimpanzee beds in Kasoje (closed circle) and Miyako (open circle) during period 1.>

Figure 1. Locations of chimpanzee beds in Kasoje (closed circle) and Miyako (open circle) during period 1.