

Who Ate Whom?

Big leg bones from the Indonesian island of Flores show that the meter-high “hobbit” people (*Homo floresiensis*) who once lived there shared the island with enormous flesh-eating storks, researchers say. Hanneke Meijer of the National Museum of Natural History in Leiden, the Netherlands, and Rokus Awe Due of the Indonesian Centre for Archaeology in Jakarta found the bones in Liang Bua cave in the same layers as the hobbits—dated to at least 18,000 years ago. They identified them as a new species of extinct giant marabou. The scientists say the 1.8-meter-tall bird was a carnivore and top predator on the island; whether hobbits were among its fare is open to speculation. They reported on the find this week at the meeting of the Society of Avian Paleontology and Evolution in Sydney, Australia.

Millennia later, paleontologist Paul Sereno of the University of Chicago in Illinois and his team were looking for dinosaurs when they discovered the trio’s remains. “It brought tears to our eyes,” Sereno said at a press event held last week at the National Geographic Society in Washington, D.C. Carbon dating revealed they were Tenerians, who lived in Gobero when the Sahara was a lush savanna. Further excavation revealed an entire cemetery—the Sahara’s largest. The team also found the remains of Kiffians, who lived in the area 5000 years earlier, Sereno said.

The Gobero site also contained pottery shards, flower pollen, jewelry, and fossils that should help scientists fill out the picture of both groups. For example, skull measurements show that Kiffians stood more than 2 meters tall. And marks left by muscle attachments reveal that the Tenerians and Kiffians were fairly healthy, said Christopher Stojanowski, a bioarchaeologist at Arizona State University in Tempe. Findings were reported last week in *PLoS ONE*.

Batterers’ Brains

Scientists have now turned their brain-imaging equipment on a particularly troublesome population: wife-beaters.

In a paper published last month in *Molecular Psychiatry*, criminologist Adrian Raine of the University of Pennsylvania and colleagues in Hong Kong report that spouse abusers’ brains have unusually strong reactions to emotional stimuli.

They studied 10 Chinese men referred by police or welfare agencies for repeatedly hitting, choking, pushing, or throwing things at their wives. The researchers compared them with 13 men who had never hit their wives, matched for age, level of education, and years of marriage. The subjects performed both cognitive and emotional tasks while their brains were being scanned.

The two groups showed no differences on the cognitive task, but emotionally it was a different story. In the test, which monitored reactions to either neutral words or aggressive words such as “kill,” the cognitive brain areas related to control over emotions reacted to aggressive words less in the wife-beaters than in the controls; at the same time, their emotional brain areas responded more. The researchers speculate that wife-beaters may have “insufficient prefrontal regulatory resources” to rein in their own violent reactions to negative situations.

The finding “makes sense,” says psychologist Nelly Alia-Klein of Brookhaven National Laboratory in Upton, New York, who also does brain-imaging studies of aggression. “It really brings attention to the study of domestic abuse from the disease-model perspective,” she says,

and may help spur research on drugs to target impairments in emotional regulation.

Secrets of a Green Sahara

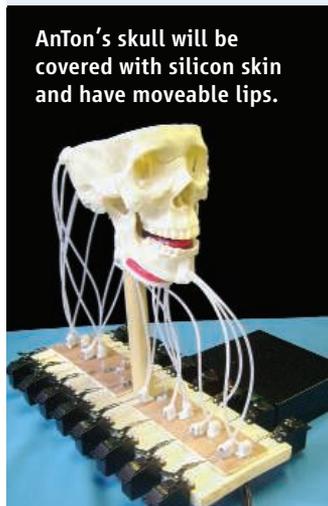
About 5300 years ago, near the center of modern-day Niger, a woman and two children died; how it happened is unclear. They were buried carefully, on a bed of flowers—the woman, the 8-year-old, and the 5-year-old cuddled in a last embrace.



MOTORMOUTH

Meet AnTon, so named for its animatronic tongue. Built by doctoral student Robin Hofe of the University of Sheffield, U.K., and his adviser Roger K. Moore, the device consists of a plastic skull and silicon tongue, both cast from human counterparts, and various filaments and motors that seek to duplicate the musculature and movement needed for speech.

AnTon’s skull will be covered with silicon skin and have moveable lips.



AnTon won’t be able to make any noise until Hofe closes up the back to create a vocal cavity. But the tongue, which is embedded with wire mesh to allow attachment of “muscles,” can already move and form shapes needed for speech sounds such as “oh.”

Hofe, who unveiled AnTon this month at the Artificial Life XI conference in Winchester, U.K., hopes to use the device to study the energetics and mechanics of speech production. He believes it can ultimately help improve voice-recognition programs. He may also deactivate selected muscles to replicate and test remedies for speech pathologies seen in stroke victims.

AnTon is “a very cool system,” says Matthias Scheutz, director of the Human Robot Interaction Laboratory at Indiana University, Bloomington. He notes that other teams have created robotic or artificial mouths with tongues but says he’s impressed by how closely this one mimics a human.

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