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Neanderthals Had Large Bite

What for?

The Neanderthals emerged in Europe 350,000 years ago and later on expanded into neighboring areas of western Asia. About 45,000 years ago, the Neanderthals began to be displaced by modern humans (*Homo sapiens*) coming from Africa and, 24,000 years ago, they became extinct. With the passing of time, we are getting increasingly more information about our extinct cousins, like this new research, presented during an April 2008 meeting of the Paleoanthropology Society in Vancouver, Canada: Neanderthals, aside from having mouths larger than ours, could also open them unusually wide. This was possible due to a combination of factors, like facial structure, forward-positioned molars, and an extremely large gap between the vertical parts of the back of the jaw, as found by the team made of Yoel Rak, a professor of anatomy at the Tel Aviv University's Sackler Faculty of Medicine, and William Hylander, an expert on jaw biomechanics at Duke University. The *Homo sapiens* and its direct lineage do not display these characters. Still, the researchers did not make a precise measurement of how wide Neanderthals could open their mouths. "This ability is connected to the length of the muscle fibers, which, of course, we don't have," said Rak. It was the increased space behind the Neanderthals' molars in particular that permitted them to have the huge bites. The authors of the research just took a guess at how this could also be connected to the size of the food consumed by Neanderthals, but this is just a speculation at this point. Neanderthals consumed anything, from plant food to large preys, and they also butchered and cooked meat. "They didn't have to put a whole [animal] leg in their mouths. I would suspect that the Neanderthals were probably as adept as we are in cutting their food into manageable sizes," Alan Mann, a physical anthropologist at Princeton University, told National Geographic News. "A large mouth structure may not have been exclusive to Neanderthals but was also present in earlier human species. Instead of eating habits, the change in gape size may be due more to the evolution of the skull: as the braincase expanded, the face moved under it. What has changed is the architecture that we begin to see in modern humans, where the face and the braincase have different kinds of structural relationships. This has produced a change in our ability to open our mouths," Mann explained.