ARCHAEOLOGY

# Eating people is wrong

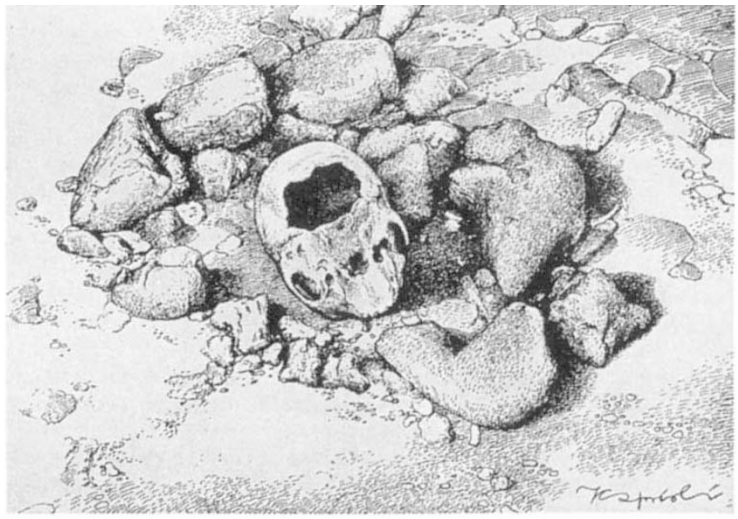
*Paul G. Bahn*

THE notion that early humans were cannibalistic may at last have been laid to rest following a re-evaluation of the famous Neanderthal skull from Monte Circeo, Italy. Once thought to be firm evidence of ritual cannibalism, new studies show that the skull was in fact gnawed by hyaenas[1,2]. The work comes at a time when much evidence for prehistoric cannibalism is being revealed as the result of wishful thinking imposed on bone assemblages of usually rather more mundane provenance[3-7].

The skull (of a male, about 45 years old) was discovered in 1939 in a cave in the Monte Circeo, 100 km south of Rome. Hours after its initial discovery, the prehistorian Alberto Blanc took it to Rome without having taken any photographs of the skull *in situ*. He later produced a drawing (see figure) showing the skull, base-upwards, in a 'crown of stones', a feature subsequently revealed as spurious. The picture disguises the fact that the discoverer had picked the skull up and replaced it on the floor before Blanc ever saw it, and that Blanc was unsure about the original position of the skull.

A blow to the right temple was thought to have been the cause of death, and the enlarged hole in the base was taken to be evidence for the extraction of the brain for consumption. This diagnosis, together with the cranium's position in a ring of stones, strongly suggested ritual cannibalism. Innumerable popular works have since accepted this thesis without question, and there has even been speculation, because of its position, that the skull was used as a drinking vessel. But the pattern of colouring and concretions on the cranium indicate that it originally lay on its left side on the floor[2].

Moreover, the skull was just one of many bones scattered all over the cave, representing a wide variety of species, with a high ratio of carnivores to herbivores and low degree of fragmentation. Juveniles are rare, as are vertebrae and ribs, whereas limb bones are abundant. All of these factors have since been identified as characteristic of hyaena den assemblages, as are diagnostic impressions left by hyaena teeth on gnawed bone[8,9]. Blanc himself identified carnivore toothmarks on some of the bones[10], and the presence of hyaena bones and coprolites (fossil faeces) led him to conclude that tenancy of the cave alternated between hyaenas and humans. The skull itself shows no sign of being modified by human agency[1,2]: the temporal fractures are consistent with hyaena toothmarks, and the enlarged hole at the base has been gnawed round the edges. The only other human bone found at the site, a jawbone, is almost certainly from the same individual[2] and has also been gnawed by hyaenas. Dating of bones from the cave floor shows that the hyaenas were present about 52,000 years ago.



Misleading records: the picture of the Monte Circeo skull, drawn from memory.

Cannibalism has been a favourite theme in archaeology for a long time, and is a preoccupation that recurs up to the present day. For example, the bones of several dozen human individuals from a 6,000-year-old neolithic cave site at Fontbrégoua in France were recovered from disposal pits that also contained animal bones. They bore cut marks and breakage patterns identical to those on animal remains, and were interpreted as the left-overs from cannibalistic defleshing of fresh bones[11]. But mortuary rituals among some Australian Aborigines can produce precisely this pattern[4] after bodies have been left exposed for a while to decompose, and have then been defleshed for secondary disposal. So for the time being, at least, the case for cannibalism at Fontbrégoua, and other sites where it has been invoked (such as the recently reassessed 'cannibal feast' of Neanderthal bones at Krapina, Yugoslavia[5-7]) must now be judged 'not proven'. Interestingly, the only concrete proof of cannibalism — the presence of human remains in human coprolites — has never been found anywhere. □

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1. Piperno, M. & Giacobia, G. *Quaternaria Nova* (in the press).
2. Giacobia, G. & Piperno, M. in *The Circeo 1 Neanderthal Skull. Studies and documentation*, 316–322 (Museo Nazionale Preistorico Etnografico L. Pignorini, Rome, 1990).
3. Arens, W. *The Man-Eating Myth: Anthropology and Anthropophagy* (Oxford University Press, 1979).
4. Pickering, M. P. *Aust. Archaeol.* **28**, 35–39 (1989).
5. Trinkaus, E. *J. hum. Evol.* **14**, 203–216 (1985).
6. Russell, M.D. *Am. J. phys. Anthrop.* **72**, 373 (1987).
7. Russell, M.D. *Am. J. phys. Anthrop.* **72**, 381–397 (1987).
8. Sutcliffe, A.J. *Nature* **227**, 1110–1113 (1970).
9. Brain, C.K. *The Hunters or the Hunted? An Introduction to African Cave Taphonomy* (Chicago Univ. Press, 1981).
10. Blanc, A.C. *Materie Prime d'Italia e dell'Impero* **7–8**, 3–23 (1939).
11. Villa, P. *et al. Science* **233**, 431–437 (1986).

ASTRONOMY

# The Galaxy's turbulent youth

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VIOLENT periods in history always make for more interesting reading than the quiet years. For this reason, recent investigations[1-4] of the early history of our Galaxy suggesting that its formative years may have been longer and more chaotic than previously realized, make a welcome change.

A conventional view of the evolution of the Galaxy supposes the fairly rapid formation of a non-rotating (or at least, only slightly rotating) roughly spherical distribution of stars — the halo — followed by collapse of the bulk of the primordial gas to a thin disk in which stars continue to form to this day. It was long believed that the formation of the halo was sufficiently fast, perhaps less than a billion years out of the Galaxy's total age of 12–15 billion, that the disk essentially evolved as a separate system. During the 1980s deep star-count surveys began to indicate that there might be an intermediate thick disk, presumably formed both in space and time between the halo and the thin disk. And now it may be necessary to abandon even this simple sequential picture, halo → thick disk → thin disk.

One line of evidence comes from a comparison of the ages of globular clusters. Because these star clusters seem to have the same kinematics and range of chemical abundances as the halo stars, it is reasonable to assume that they are a part of the halo. Despite prodigious effort, it has proved very difficult to obtain