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A Neglected Anatomical Feature of the Foxhall Jaw

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The find, in 1937, of a human occipital and parietal bone in a stratum at Swanscombe, England assignable to the Mindel-Riss interglacial, has aroused debate once more as to the antiquity of men of the *sapiens* type. (1) Similarly the Mount Carmel finds regarded by McCown and Keith as transitional to *sapiens* have been just as reasonably interpreted by others (2) as indicative merely of cross-breeding between *neanderthalensis* and *sapiens,* thus suggesting again, a greater antiquity for the latter.

The Swanscombe fossil lacks the mandible and face as well as the frontal, hence in spite of its suspected *sapiens* affinities, it must remain something of an enigma until more material is recovered. Nevertheless these discoveries serve once more to keep open the problem of our own descent. (3) They justify our keeping at least a casual eye upon certain anthropological "bric-a-brac" from the earlier years which, though never disproved cannot be verified either, and which have been viewed with justifiable suspicion in the past because of a failure to fit into the scheme of human evolution as then conceived.

Such a specimen is the Foxhall mandible from Suffolk, England, a fossil now unfortunately lost, but which, described and illustrated in 1867 (4), was resurrected from oblivion by Reid Moir (5) because of its suspected association with an early Pleistocene cultural horizon in Suffolk. Thereafter it was given some attention by Keith (6), searched for here in America unavailingly by Osborn (7), discussed in the pages of the *American Journal of Physical Anthropology* (8), and dismissed by Hrdlicka (9). Although Thomas Huxley commented that the jaw had "some peculiar characters" (10), he did not, so far as is known, elucidate this comment further.

Nor were any such comments made by following anatomists. Because of the *sapiens* nature of the find, the sharp and pronounced character of the mental eminence (accentuated, however, by the age of the individual and loss of the lower incisors in life), the specimen is generally regarded as being intrusive in the cultural horizon from which it is reputed to have been derived. It was, however, well fossilized. Although the age of the specimen is unproved, it must be remembered that if the present Swanscombe cranium had descended to us through such a curious set of circumstances it, too, would long since have been discarded. Under these circumstances, and so long as the mandibular portion of even the Swanscombe fossil is unknown, a passing comment upon one feature of the vanished Foxhall specimen may do no harm even though admittedly such comment is not advanced with any idea that the authenticity of the fossil can now be established through this means.

The mental foramen, that opening through which the inferior alveolar artery and nerve are permitted to pass mental branches from the mandible to the fleshy portions of the chin, had received comparatively little attention until the time that Weidenreich began his classical description of the mandibles

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of *Sinanthropus* (11). Gregory had recorded a multiplicity of the foramina in the lower primates (12). Simonton had noticed a tendency toward multiple foramina in the higher anthropoids, though the condition was variable (13). In *Homo sapiens,* as is well known, a single foramen is the rule, the opening ordinarily lying just beneath Pm_2. The condition varies, however, quite a number of *sapiens* mandibles showing two foraminal openings, at least on one side. In such cases the association of the two openings is often close. Sometimes there is little more than a dividing sliver of bone across what would otherwise be a single opening. Three openings were noted by Simonton to be markedly rare. In fact in the Caucasian material which he examined he found no instances of three foramina at all, though he found a single instance each amongst his American Indian and negroid material.

It was the attention paid to the incidence of multiple mental foramina by Weidenreich in his study of *Sinanthropus* which stimulated attention to this feature. He succeeded in showing that in *Sinanthropus* the opening was consistently multiple, ranging from two to as high as five foramina. Among other fossil men the Heidelberg jaw is marked by three foramina on the right side, two on the left, while the Neanderthal specimens, including the Mount Carmel Tabun material generally are characterized by two foramina. The Mount Carmel Skhūl types, on the other hand, which approach *sapiens* in many diagnostic features, are characterized by the single foramen marking the typical condition in *sapiens* (14). It would seem, surveying these various studies, that the single foramen to a side is eminently characteristic of *sapiens* and that a possible evolutionary flow has taken place in this direction, markedly reducing and inhibiting the incidence of multiple foramina in modern man.

Now we have previously referred to the somewhat obscure statement of Huxley that the lost Foxhall jaw had "some peculiar characters." In studying the careful line engraving which constitutes our sole information as to the appearance of the missing specimen, the present writer was immediately struck by the fact that the left side of the mandible is clearly featured as carrying *three* foraminal openings several millimeters apart, and arranged in a sort of triangle; two large opening located respectively under Pm_1 and Pm_2 and the third, somewhat smaller and, unlike the other two, directed forward. Intrigued

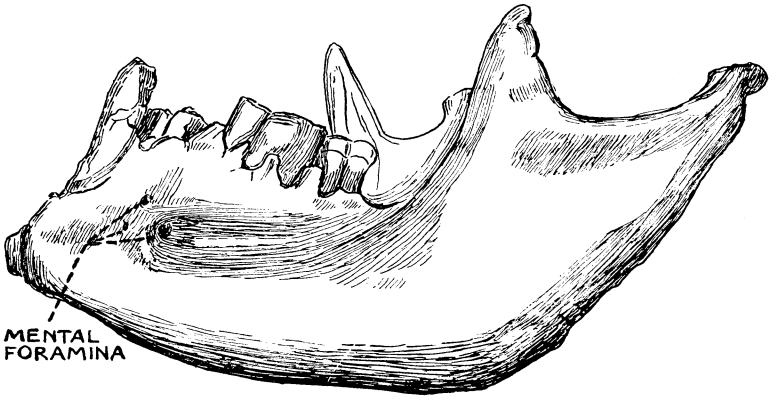

FIGURE I. The Foxhall Mandible. Redrawn after Collyer.

by this curious feature, the writer consulted the various commentaries upon this specimen but could find no reference at all to the triple foramina which may very well have attracted the attention of the observant Huxley. Seemingly the characteristic has been completely ignored.

It has been indicated above that triple foramina have been noted, albeit as extremely rare, in modern man. We are not justified, therefore, in claiming Pleistocene antiquity for the Foxhall specimen on this basis. We can, however, noting the typical single foramen of the Riss-Wurm Skhūl folk, marvel at the statistical chances involved in the discovery of an individual with triple mental foramina at Foxhall*.

Even if this individual was no more than the product of a Roman burial, as some have insinuated, it carried a physical trait of very sparse occurrence in modern man. One wishes that both sides of the jaw had been illustrated so that there would have been the possibility of comparison.

It may be urged, after this brief review, that more attention be devoted to the mental foramen in reports upon modern and ancient physical remains than has hitherto been the case. The Ice Age antiquity of the lost Foxhall relic is not confirmable. Tantalizing though it is, we must, like Huxley, speak of the mandible's peculiar characters as "not adequate to . . . ascribe the bone to an extinct race" (16). Nevertheless the writer believes that he has demonstrated the genuine existence of one, at least, of those aberrant features which Huxley made bold to mention but never commented upon in print. The Foxhall jaw, whether or not it was of Pleistocene origin, is, in this one visible character, markedly anomalous and rare.

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*Three foraminal openings have an incidence of 0.19 per cent. More than three openings have never been observed in modern man.