K electrode in the pair, changes in Na^+ and K^+, as distinct from absolute values, can be monitored directly and continuously in biological fluids by taking advantage of their differing concentration ranges. Thus, for example, in the presence of a sodium concentration of 140 meq/lit., changes in potassium concentration between 1 and 10 meq/lit. can be accurately read with our electrode at a 6-mv full-scale amplification without change in the Na electrode equilibrium potential. Conversely, the K electrode responds only to large changes in Na at this amplification and background.

While it is true that a highly selective Na electrode is not affected by low K^+ activity, this statement should be modified by adding "at equilibrium." There is, in fact, a transient response to K^+ which may be as great as an equivalent Na^+ change, followed by a return to the basal electrode equilibrium potential in less than 1 minute (Fig. 1*D*). The response may be positive on addition of K^+ or negative on withdrawal. This transient cation potential, which has not previously been noted, is of considerable theoretical interest but should not be difficult to deal with in ordinary biological work.

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Bregmatic Bones in North American Lynx

Abstract. Anomalous bregmatic fontanelle bones were present in 279 of 1790 skulls of *Lynx rufus* examined, but with no apparent correlation with age, sex, or place of origin of the specimens. Examination of 472 skulls of *Lynx canadensis* disclosed only one possessing bregmatic bones.

Among the anomalous bones found in the mammalian skull is the fontanelle bone occurring in the bregmatic or anterior fontanelle at the junction of the coronal and sagittal sutures. In the 16th century this bone was noted in the human skull by Paracelsus, who named it the "ossiculum anti-epilepticum" from its supposed value as a cure for epilepsy. The presence of this bregmatic bone in various mammals was reported by Schultz (*1*), who found it quite common in some forms—for example, *Castor, Erethizon, Erinaceus,* and *Procyon cancrivorus.* However, among felids, Schultz found it in none of 62 specimens examined; he reported it as present in only one of 49 felids examined earlier by von Jhering.

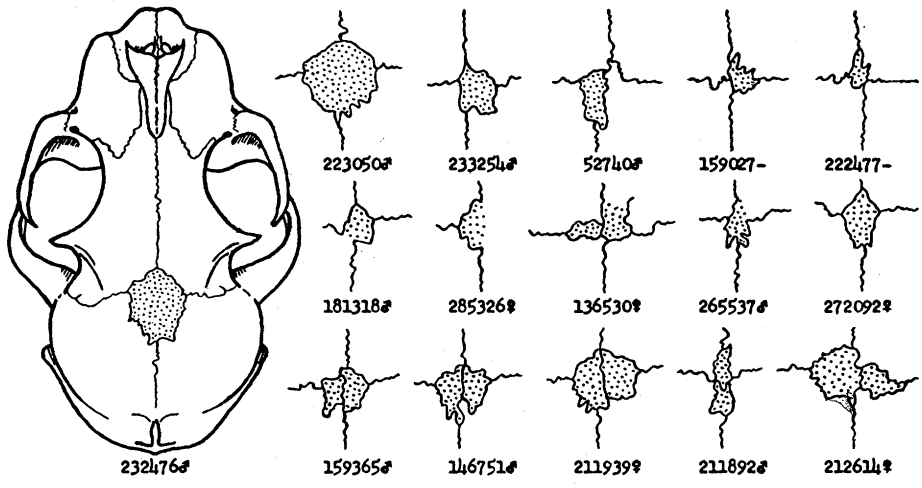

Fig. 1. Types of bregmatic bones observed in North American *Lynx* (No. 212614, *L. canadensis;* all others, *L. rufus*). All are similarly oriented and drawn to the same scale (about × ½).

In the course of examining a series of skulls of bobcats, *Lynx rufus,* from Oregon, bregmatic bones were found with surprising regularity—in 16.8 percent of 220 specimens. A further examination of all 1790 bobcat skulls in the U.S. National Museum (Biological Survey) collection disclosed bregmatic bones present as follows: in 141 of 957 adult males, in 116 of 653 adult females, in 17 of 155 adults of unknown sex, in 1 of 13 juvenile males, and in 4 of 12 juvenile females. Thus, bregmatic bones were present in 279 (15.5 percent) of the 1790 specimens examined. There was some geographic variation: the bone was present in 37.5 percent of 32 specimens from West Virginia and in 44.0 percent of 9 specimens from Mississippi, but in only 7.0 percent of 158 specimens from Texas and 14.6 percent of 123 specimens from Nevada. The bone was present in the southernmost of all specimens, a juvenile female from Amecameca, México, Mexico, but it was absent in all 11 specimens from British Columbia, New Brunswick, and Nova Scotia, as well as in 5 specimens from Alabama, 25 from Georgia, and 14 from South Dakota. It is probable that, as stated by Schultz, "it is never justifiable to ascribe any phylogenetic or atavistic significance" to these bones. They are present or absent with no regard to the age, sex, or geographic origin of the specimen.

These accessory, sutural bones, which form only in occasional cases, develop from one or more ossification centers in the membrane which closes the anterior fontanelle in fetal life. In the bobcat, they may be large or small in size, central or lateral in position, single or multiple in number, and they are almost always asymmetrical in shape. With advancing age, they coalesce with the frontal or parietal bones, and their original outlines may become obscured; this closure is only partially complete in many specimens. The variety of these bones is indicated in Fig. 1. In some forms (for example, *Homo*) it has been stated (*1, 2*) that they occur chiefly in males; this certainly is not the case in *Lynx rufus.*

Hall and Kelson (*3*), in their figures of skulls, indicate that this bone is present in *Lynx rufus* and absent in *L. canadensis.* In 472 specimens of the Canada lynx in the national collections, ranging from Alaska to Colorado and from Newfoundland to Oregon, readily identifiable bregmatic bones were present in only one specimen—an adult female (No. 212614) collected in 1916 in the Hoole Canyon of the Pelly River, Yukon Territory, Canada.

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