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Function-dependent human skull

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With 15 figures

**Summary:** Using the FEM-program in which the flow of forces is investigated. Forces are applied to a large volume is provided for the braincase, where bearings of morphological features are common which has a rounded, triangular shape. Loads (= bite forces) acting simultaneously and chewing forces, there occur stresses. The morphological characteristics of stresses correspond to Tolldt's model. Aside from these stress concentrations, the skull shows excavations: the vault of the skull, the superior and inferior orbital fissure, or the excavation of the posterior molars and the pterygoid fossa. The nasal cavity a maxillary hiatus is not at the exact position of the bone rearward and upward. In a really existing zygomatic arch, a resultant force that is created by the temporal fascia. This – biological reduction of the forces in the zygomatic arch and its isolation from the skull's base.

The similarity between the stress distribution indicate that the skull, like the mechanical dependence from the mechanics of experimental results, the position of the teeth deviate from those in the postcranial skeleton.

**Key words:** Skull morphology, functional morphology, causal morphogenesis.

**Zusammenfassung:** Mittels des FEM-Modells konstruiert, die funktionelle Abhängigkeit der morphologischen Vorgaben des Schädels von den Kieferkräften.