Linnaeus, 1758" has clarified essential parameters for partial sample grouping as far as was possible. Under these specifications 450 Primates-Crania - as representative as possible for the species and in taxonomical order - were tomographied completely (440 in "Parisian Horizontal" and 10-Crania in "Frankfurt Horizontal" - OAE) and the data - ordered in taxonomical groups - stored on CD-Rom (for Greifswald).
This supplies a material for exploration better than any other currently in existence. As the lifestyle of every species is known, the series can be used to conduct targeted research into functional aspects.
It is hoped, that after the inital project "Sinus maxilliaris" others will follow, which will contribute to a better understanding of the genesis of the face. Finally hope is expressed, that this will contribute - via practial research - to a better situation for practical applications (such as jaw and face operations).

Along comes Mr. Alligator, as quiet as can be . . . Case studies in suboptimal skull design
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Tetrapod crania house many different functional systems, suggesting that they are unlikely to be optimally designed for resisting feeding forces, but will instead compromise optimality in the feeding system when requirements of other functional systems demand it. If optimality in the bony skeleton is defined as maximum strength with minimum material, this hypothesis is supported by: estimates of the strength of the cranium in carnivores, opossums, primates, and crocodiles; FEA of stress gradients in the cranium of the dinosaur *Allosaurus;* and *in vivo* bone strain gradients in mammal and *Alligator* crania.
Here we present more evidence in favor of the hypothesis that the primate skull is not optimally designed for resisting forces generated during feeding. New *in vivo* bone strain data reveal strain gradients in the skull of *Eulemur fulvus* that are not predicted by the torsional loading regime to which they are subjected. We also present evidence of strain gradients in the skull of *Alligator mississippiensis* that are not predicted by their bending and torsional loading regimes. Additionally, the strain magnitudes in the *Alligator* skull are higher than those in primates.
The lack of optimality for feeding in the primate cranium has been attributed to selection on skeletal structures for other functions. Nonmammalian tetrapod crania also house many different functional systems but there are taxonomic differences in strain patterns associated with differences in skull design and these gradients are observed *in vivo*. Some tetrapod skulls are more optimally designed for resisting feeding forces than others.

Cranial sexual dimorphism, allometry and mating system among hominoids
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Hominoid social groups vary in size, in composition and in mating and residence patterns. Comparative analyses demonstrate that the extent of overall sexual dimorphism corresponds somewhat to the structure of these groups.
To explore this relationship in more detail, we investigate craniofacial sexual dimorphism in five hominoid species: *Homo sapiens*, *Pan paniscus*, *Pan troglodytes*, *Gorilla gorilla* and *Pongo pygmaeus*. 3D-coordinates of 35 traditional landmarks and 61 semilandmarks are measured for each of the 268 adult and sub-adult specimens and analyzed using geometric morphometric methods.
As expected, we find a stronger craniofacial sexual dimorphism in *P. pygmaeus* and *G. gorilla* than in the other three hominoid taxa, both in size and in shape. Allometry contributes to the development of sexual dimorphism in all five taxa, but to a varying extent: In absolute