

## Facing the past

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The skull of Lapa Vermelha IV, Lagoa Santa , MG, Brazil, known as "Luzia", is the most ancient American discovered, dated circa 11.500BP. Prior metric studies have suggested a non mongolized morphology, and the application of multivariate methods indicated similarity to negroid clusters. The use of new technologies opened new perspectives for its cranial reconstruction. "Luzia's" skull was submitted to CTscan in Centro de Diagnósticos Avançados, in Rio de Janeiro. It has been used the GE helicoidal tomography apparatus Pro-speed plus. Axial images were taken at 1.0mm pitch, 120kV, 160mAs, scanning time of 1s. 3D images of the skull were reconstructed in a proper workstation. A copy of the skull produced by stereolithography and the reconstruction of the head, based on data involving populational parameters, were done in Manchester. "Luzia's" facial reconstruction is being an opportunity to discuss the applicability of those techniques to paleontological and paleoanthropological studies. At this moment, the results are under discussion, and subsequent virtual processing of the images will be employed to realign anatomical distortions caused by the restoration of the skull. Computer advances accumulated in the last 20 years make possible to document, reproduce and restore fossils, certainly improving research in human evolution. Thanks to the use of non-invasive method, virtual replica can be explored without risk to original specimens. Facing us to the past, reconstructions show what the original might have looked like. Besides research, they constitute didactic museum specimens.