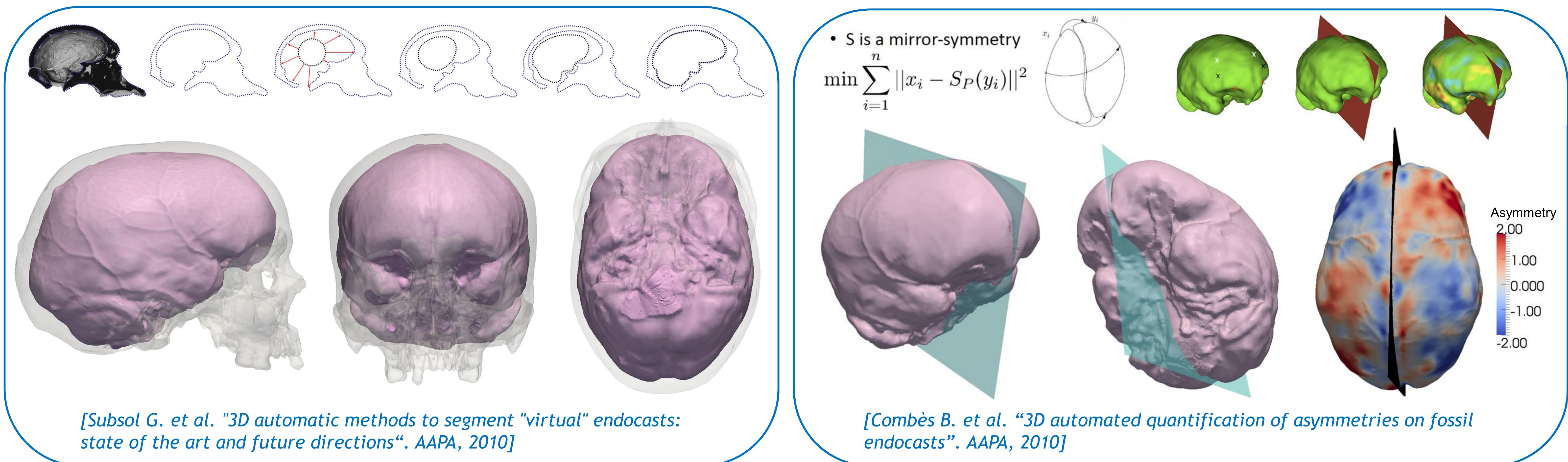


New 3D automatic methods for the analysis of the endocranial shape and its relationship with ectocranial structures: assessment and preliminary experiments

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1. 3D automatic endocast segmentation and 3D asymmetry map computation



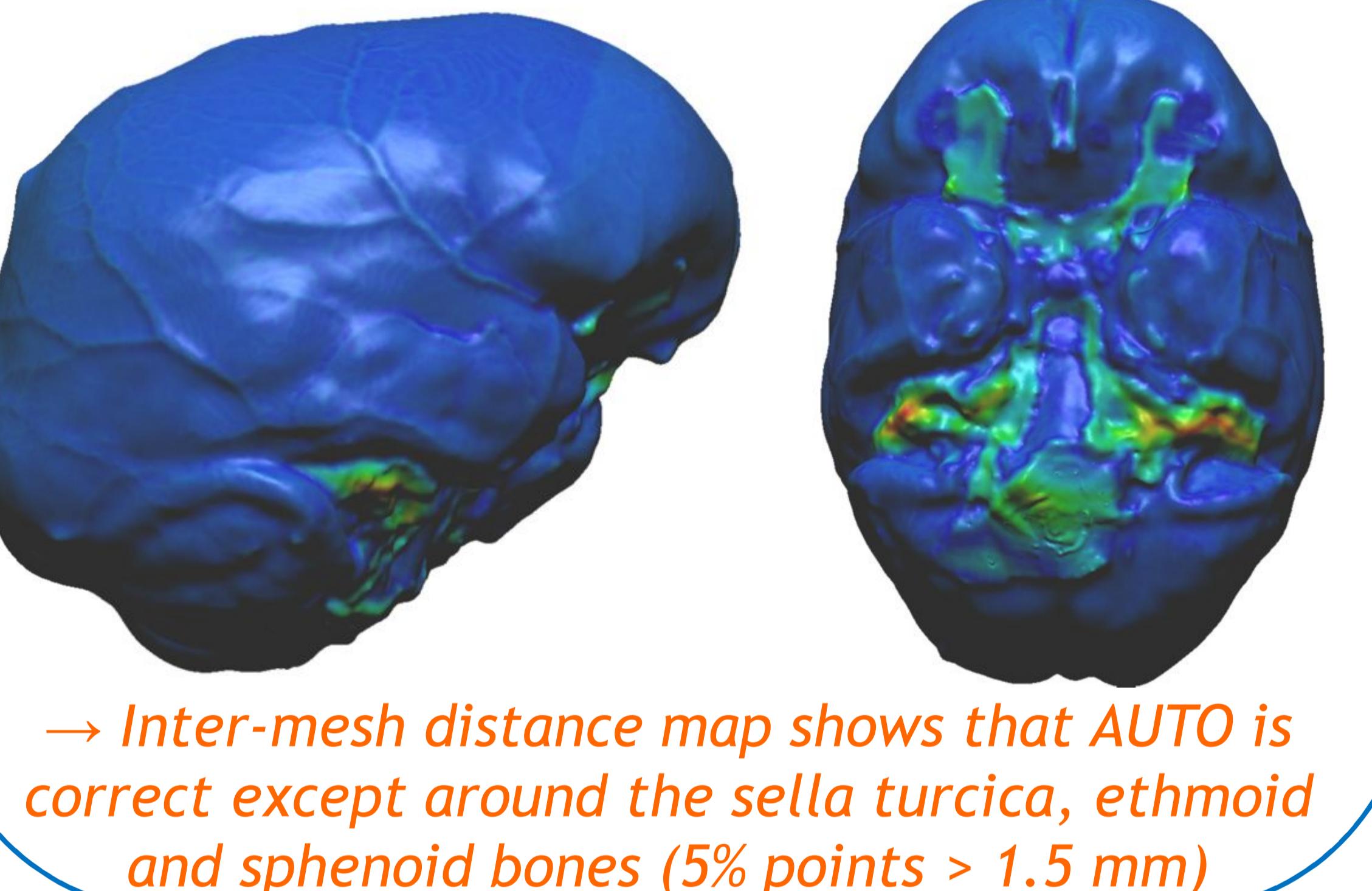
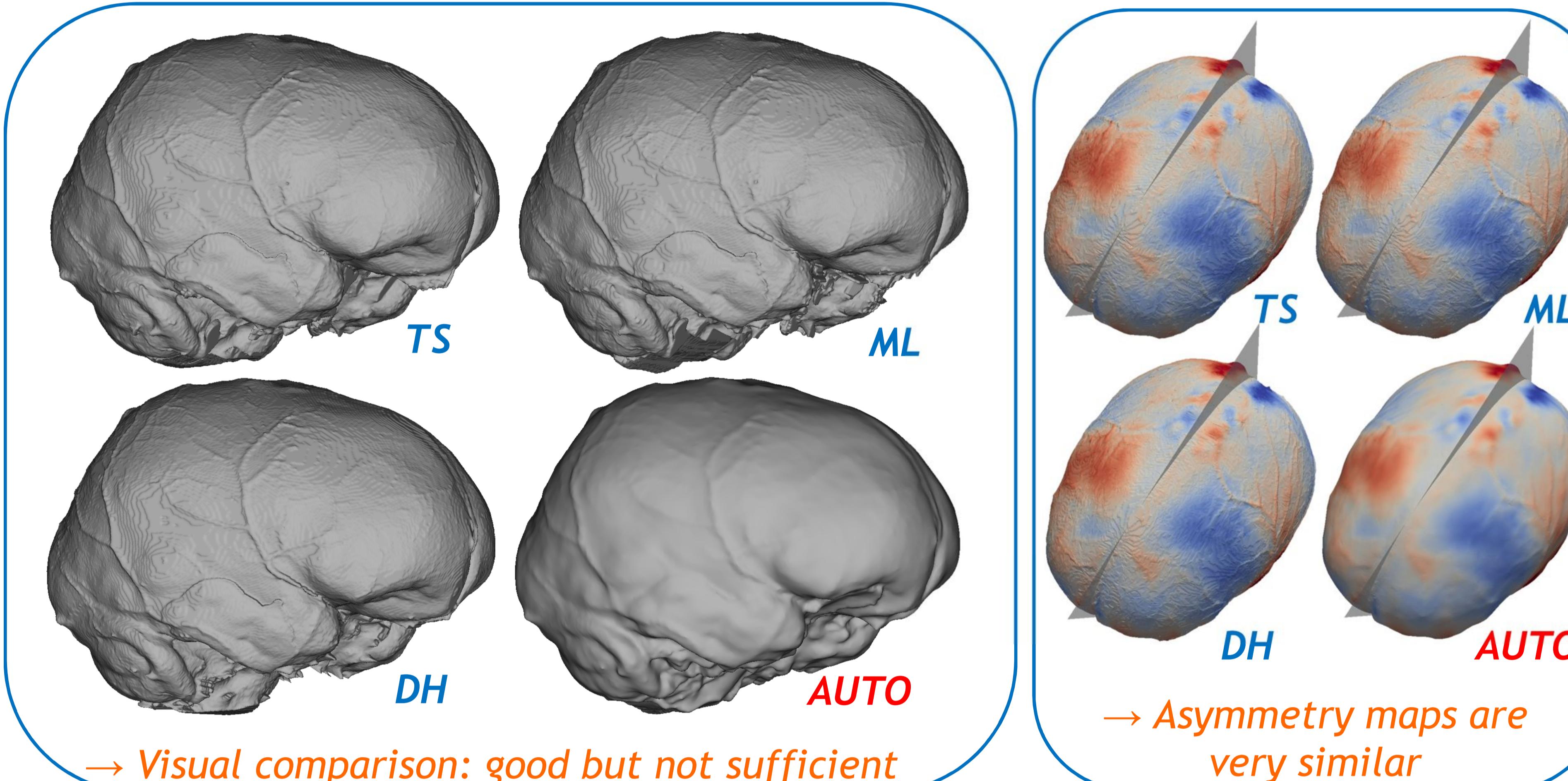
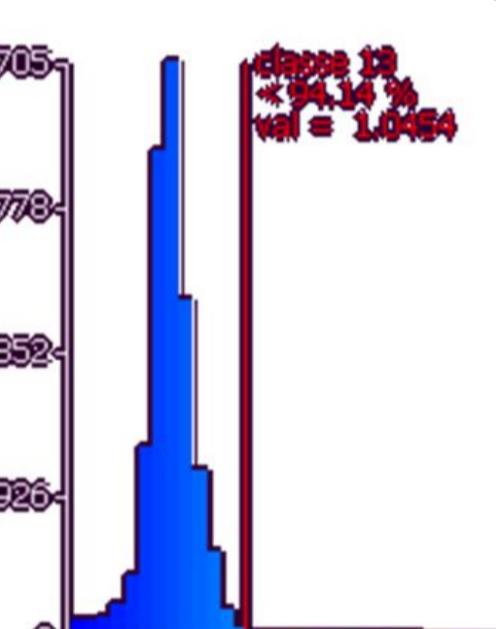
2. Assessment of the automatic results

- 5 samples of the Morton Collection (ex. Morton 0550)
- 3D CT images from the ORSA 3D digital database
- Manual segmentations by 3 experts (TS, ML, DH)

Volume (in cm ³)			
TS	DH	ML	AUTO
1,198.4	1,196.3	1,206.2	1,181.1
Mean = 1,200.3			

[Schoenemann P.T. et al. "Validation of Plaster Endocast Morphology Through 3D CT Image Analysis". AJPA, 2007]

Inter-mesh distance (in mm)				
	TS/DH	AUTO / TS	AUTO / DH	AUTO / ML
Mean	0.064	0.400	0.375	0.616
Max	5.883	7.437	9.028	9.461



3. Analysis of the endocranial shape and its relationship with ectocranial structures

[Schoenemann P.T. et al., "The open research CT scan archive". British Institute of Radiology Newsletter, 2008. <http://plum.museum.upenn.edu/~orsa/>]

[Renschler E. & Monge J. "The Samuel George Morton Cranial Collection". Expedition, 2008]

