

Interactive
Comment

Interactive comment on “Three-dimensional Magnetic Resonance Imaging of fossils across taxa” by D. Mietchen et al.

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It was a useful history to the use of MRI with fossils. I remember trying Neutron Tomography to look at dinosaur eggs in 1994, but never published on this technique because we saw absolutely nothing in the scans. We used a recently developed industrial scanner with Rolls Royce and the process was filmed for BBC television. The other piece of information that may interest you is that we scanned dinosaur eggs using MRI in 1993 (published in 1994) where we commented on some water held in the egg shell. At that time it was not considered that it could have been intracrystalline water, and it was suggested that it may have been due to loosely bound water (3.5ml for the entire eggshell which measures 12.4cm longest diameter, 6.3cm shortest diameter and has a shell thickness of 0.2cm). The reference for this is:

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McJury M, Clark ND, Liston J, Condon B. Dinosaur egg structure investigated by MRI. Proceedings of the Society of Magnetic Resonance, Second Meeting 1994;2:706.

The only other comment is a follow-up to your comment at the end of your article (section 2980, lines 6-11) where you suggest that the filling of cavities might impede future chemical analysis. In Clark et al. (2004), no impediment to chemical analysis will have resulted as the bone had already been completely removed by porewater diagenesis prior to the application of MRI enhancing fluids. Unless chemical analysis of the sediment is inferred from this, then the treatment will have no effect on future chemical analysis of the bone, because it did not exist at the time of scanning.

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