



ART BY JOHN GURCHE

PALEONTOLOGY

Heads Up on Dinosaurs

Did pachycephalosaurs really try to brain each other?

Remember the scene in *Jurassic Park: The Lost World* of a dome-headed pachycephalosaur wildly head butting a Jeep? Or maybe you recall dinosaur illustrations—like the one above from our January 1993 issue—of pachycephalosaurs ramming each other with their nine-inch-thick noggins.

Now paleontologists Mark Goodwin and Jack Horner are rethinking the head-butting concept. After comparing fossil pachycephalosaur skulls from three dinosaur-bone beds in Montana, the two paleontologists found that only young pachycephalosaur skulls have the porous, almost spongy bones that

scientists think could have cushioned the impact of head butting; in adults the bones had filled in and become denser, losing their cushioning effect. Goodwin and Horner now believe the spongy bone was a developmental feature that helped form the skull, not a kind of built-in helmet for head butting.

They also found no evidence of healed scars from skull crashing. “Bone is a dynamic tissue and responds to stress,” says Goodwin. “If the animals were impacted in any way, the bone would show it.” Pachycephalosaurs were “very gracile, lightly built,” says Horner. Crashing their rounded skulls into one another would probably

cause injury, twisting the head and harming the neck.

So why the big head? It may have helped in species recognition or in attracting a mate, the paleontologists speculate. In any case, Goodwin is convinced “the pachycephalosaur dome wasn’t a very good crash helmet.”

—Angela Botzler

Dinosaur Myths

Pterosaurs were flying dinosaurs. No. But like dinosaurs, they were reptiles.

All dinosaurs lived in swamps. Untrue. They lived in a variety of environments.

All dinosaurs died out at the same time, 65 million years ago. No. They died out over the course of about 160 million years, from the Triassic to the Cretaceous. But birds, who have dinosaurian origins, are still with us.

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