Close Up

OAKVILLE BUSINESS BUILT LARGEST DINOSAUR IN WORLD

FOSSIL "FOOLS"

By Jeff Mahoney
The Spectator

THERE ARE no skeletons in Peter May's closet.

They wouldn't fit. Not unless he hangs his clothes in a grain silo.

No, Peter keeps all his bones at work, in a 560-square-metre (6,000-square-foot) barn-size workshop – and even that's not always big enough.

Old barosaurus, for instance. When the whole great fuselage of her spine, from tip of tail to top of neck, was assembled, mounted and articulated in the posture of a rearing horse, it reached the height of a five storey-tall building. Not something you can squeeze into the trophy room – even with cathedral ceilings.

When Peter and his crew built their skeleton of the mother barosaurus, fending off an allosaurus's attack on her baby, it was so tall they had to do the final assembly outside, in the back lot of their Oakville facility.

It is one of those happy congruences of a perfectly ordered universe that the dinosaurs predated the first height zoning by-law officers by several million years. Their coexistence would have presented an insoluble evolutionary standoff.

The barosaurus display –featuring the huge mother, her baby cowering behind her and a carnivorous allosaurus lunging toward them – is now showing in the enormous rotunda of the famous American Museum of Natural History in New York City.

The representation of the giant, upright barosaurus is the tallest free-standing dinosaur mount in the world.

Made right here in Halton.

But for all we know about them, the colossal skeletons, practically spilling out of the cargo bays at Research Casting International in Oakville, might as well be kept in closets.

Peter May and the eight technicians who help him build dinosaurs (they have created some fully fleshed behemoths, though most of the work is skeletal models) toil away in happy obscurity in their facility on Invicta Drive, tucked off in an industrial park.

Like the villagers in a Frankenstein movie, Oakville's slumbering townfolk little suspect that, in their very midst, the great monsters who held dominion over this planet almost 200 million years ago are quietly multiplying just off the North Service Road, their massive shapes looming up like some primordial mirage out of the dust and dimness in the workshop's cavernous hangar area.

Giant rib cages curl out from spinal columns like the stripped hulls of sunken galleons. And the fantastic skulls of the great carnivores grin menacingly from shelves, their terrible jaws meshing like the toothed shovels of an excavator.

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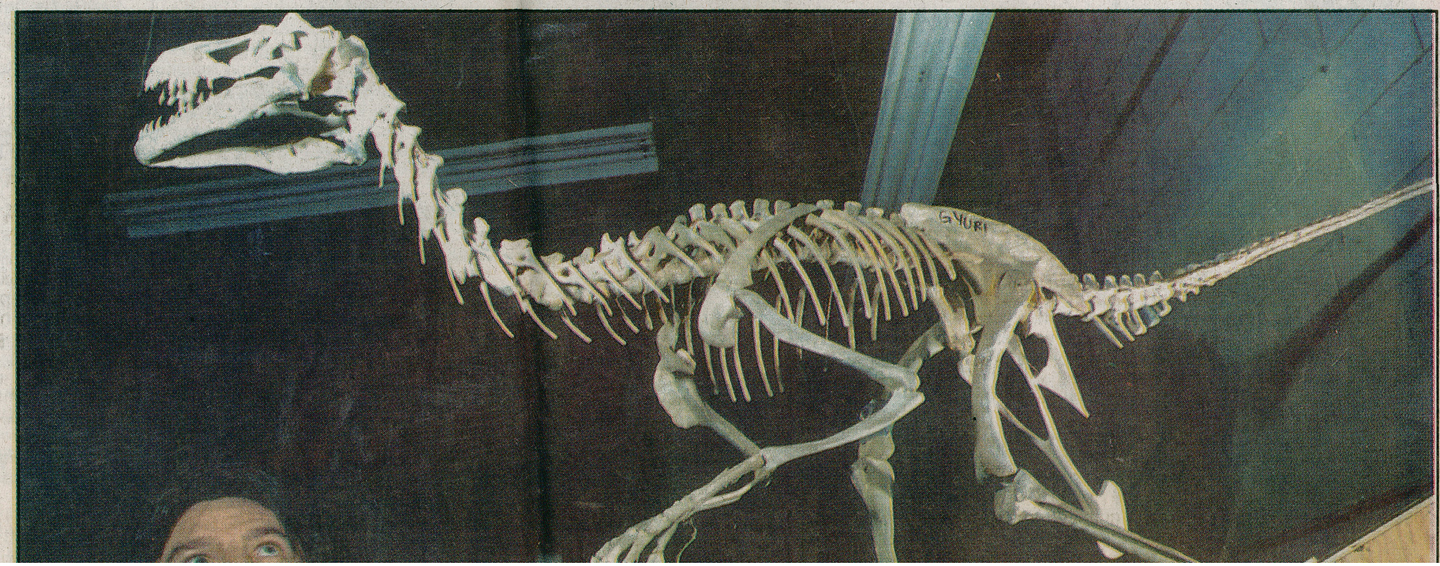
Seems like old times. Real old times.

Peter shows me one of the fossils in his storage area. It's a vertebra from which a mold was made for the barosaurus skeleton. The bone is from the Jurassic Period of the Mesozoic Era.

Is that old? You bet Jurassic it is – about 150

Above, Laslo Eger installs a toe on the foot of an Albertosaurus hind leg.
Left, Tibor Eger shows how the the skull and mandible of the Albertosaurus fits together.



race has been on this planet represents only a tiny fraction of its age.

When that bone was first formed the Rocky Mountains had not yet risen, birds were only beginning to appear on earth, there would be no mammals at all for another 100 million years (fur hadn't been invented), and flowering plants didn't exist.

Things have changed.

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Things have changed for Peter May also.

When he came to Canada from England at age 8, he scarcely knew or cared what a dinosaur was.

``I seem to have missed dinosaurs completely," he says, amused at the irony.

That early obliviousness to dinosaurs persisted throughout his adolescence in Hamilton and his studies as a sculptor at the University of Guelph.

After getting his degree, he went to work for Stelco at Nanticoke. But shortly after, in 1977, Peter saw an ad in the paper, for a job as junior technician at the ROM's paleontology department.

``I looked up dinosaurs in the Encyclopedia Britannica the night before my job interview," Peter recalls. ``I fell asleep after one paragraph."

But during the interview he discovered the ROM wasn't looking for a dinosaur expert so much as someone who could mold and cast (Peter's strengths in his sculpture studies) and who knew something about small motors, camping and driving a 4x4. Nothing could have suited him better. He might have known nothing about dinosaurs but he sure liked the outdoors and tinkering with machines.

His main duty was to cast simulacrums of dinosaur bones out of clay-like materials and assemble them into skeletons. This enables museums to fill in missing bones. And they can display completely artificial dinosaur skeletons if they have no bones or if the actual bones are needed for study rather than display.

But another part of his work was (and still is) making field trips to find and study new dinosaur bones. That's where the camping, the all-terrain vehicles and the small motor expertise came in.

His first expedition of this kind was in Kansas, where there is a rich vein of dinosaur fossils. ``We got down there and set up our tents and got heat stroke," Peter recalls.

That was the year of the big heat wave in the midwestern and southern U.S. Temperatures got up to 48C (120F).

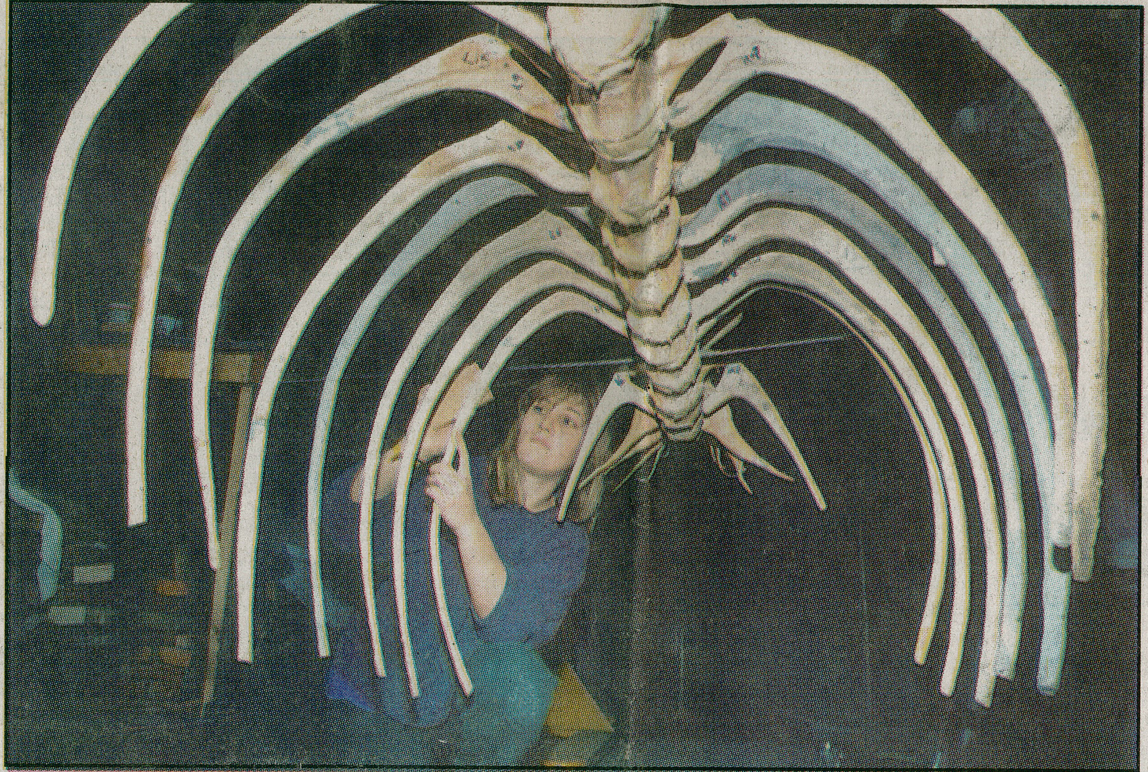
``We would go to the quarry and hammer down. But we could only work from 6 a.m. to noon. It got too hot in the afternoon. You didn't get wet, though. It was so hot your sweat would evaporate right on your skin, so you'd be covered in salt."

It was a pitiless introduction to field work. But it was more than made up for by the joy of future discoveries – stumbling upon bone finds millions of years old, clues to what life was like when the rulers of the earth had brain pans that could scarcely accommodate an acorn (maybe things haven't changed so much after all).

In 1982, Peter left the ROM to help set up the Tyrrell Dinosaur Museum in Alberta. In 1986 he returned to the ROM as head technician in paleontology. The next year he started up Research Casting International as a sideline.

But the ``sideline" very quickly overtook his

Research Casting International owner Peter May looks at a miniature skeleton of an Albertosaurus his company produced.



Lilly Meyer sands the ribs for a life size Albertosaurus skeleton. Photos by John Rennison

to the thriving new business. Peter has been getting orders from universities and museums all over the world – the U.S., Britain, Australia, Japan.

Research Casting International is one of only two companies in the world that Peter knows of which do dinosaur skeleton construction. The other is in Utah.

His work, though largely unknown by the lay community in his own backyard, has been featured on American PBS, Good Morning America, and in National Geographic Magazine.

Right now he and his team are working on a large project for the British Museum of Natural History, making skeletons of an albertosaurus, a large camarasaurus, and several other smaller dinosaurs, all of which will be suspended from wires in a kind of overhead display.

Whenever the company wins a contract from a museum, the museum usually lends it some bones for use in making molds, and Research Casting International voluntarily pays royalties for the bones, as a way of pumping money back into often cash-strapped institutions.

Peter has also been invited to an excavation in Africa by a scientist who is trying to mount a display for the famous Field Museum in Chicago. The display might be even bigger than the one in New York.

But Peter hasn't been doing so much field work in the years since he began his young fam-

decline.

The monumental New York display is still sending ripples through the world of paleontology. Several critics have tried to discredit the display as a distortion, saying a creature the size of a barosaurus – over 25,000 kilograms (25 tons) in weight, 17 metres (50 feet) tall standing, and more than 24 metres (70 feet) long – could not have reared up on its hind legs like a horse.

It could not have supported its erect body on two limbs, its heart couldn't have pumped enough blood that far up before the animal passed out, and the bones of its forelimbs probably would have shattered when they came crashing down again, the doubters say.

But Peter and other scientists who defend the display, while admitting the pose was chosen for its dramatic visual impact, point out that the very specialized bones of the barosaurus's tail could have been designed to support its whole weight so it could rear up.

In any case, says Peter, we know so little for certain about how dinosaurs looked and behaved that most depictions of them are calculated guesses at best.

We're not even sure whether dinosaurs were warm- or cold-blooded, says Peter. And they weren't technically lizards, as most of us were brought up to believe, but archosaurs, a related but distinct type.

bones made from molds of fossils rather than the creature's real bones, 80 per cent of which the museum has.

But, says Peter, if the museum were to erect the real bones, especially in the rearing stance, it would have to reinforce the floor, because the localized weight would be too great. And if any of the real bones, or parts of them, were to fall away from the skeleton for any reason, someone could be seriously hurt.

While a real bone might weigh as much as 80 kilograms (175 pounds), the equivalent fabricated bone would weigh only 4.5 kilograms (10 pounds). Peter and his crew make the bones with a mixture of water and polyester called wep.

For a skeleton like that of the barosaurus, a relatively small base must support a large structure> They make the upper bones out of lighter material, usually an expanding foam, so the skeleton doesn't get top-heavy.

Peter is now working on a book with Pat Eliggi on paleontological techniques, in which his approach to casting bones is discussed.

For someone who not so long ago couldn't tell a tyrranosaurus from a thesaurus, Peter has immersed himself in the world of the dinosaur. The walls of his office are clad in geological charts and dinosaur family trees and postcards from the Cretaceous, and there are small sculpted dinosaur dramas being enacted on his desk.

He has even dreamt of dinosaurs at night, he confesses.

``It was after we'd finished the barosaurus display in the American Museum of Natural History. I had a dream it fell over. There was a war and it got hit by a bomb or something."

And, of course, he has his own ideas about that great paleontological mystery –why the dinosaurs became extinct.

``The one theory I like, though it's probably not true, is the nemesis theory. It says there is a major extinction about every 25 million years, that there is an asteriod belt that the earth comes in contact with that often. So we've probably got another 10 million years before the next one."

Peter's children have yet to pick up on his love of dinosaurs. ``I bring them in here now and then, but they're pretty jaded," he smiles.

Not Peter. He says there may be planets out in some distant galaxy on which dinosaur-like creatures are roaming even now.

``I know a lot of people who'd give anything to be there with them, to see what they look like, how they behave."

From that glint in his eye, you can bet he'd be the first one out of the space hatch.