

Replicas made of dinosaurs to replace crumbling bones

By DONALD GRANT

THEY JUST AREN'T making dinosaurs like they used to.

Gordon Gyrmov, Rudy Zimmermann and Peter May are making them better.

After enduring 60 million years or more, the fossilized bones of a plant-eating *Chasmosaurus belli* or a carnivorous *Albertosaurus libratus* haven't coped with 56 years of exposure to the 20th century.

The shaking, rattling and rolling of Metro Toronto's subway trains have been just too much for *Chasmosaurus*'s brittle-boned skeleton.

And then there are those pesky souvenir-hunting youngsters tempted by an "education trip" to the Royal Ontario Museum's vertebrate paleontology dinosaur display.

So the museum's technical team has developed a fibre-glass replica of *Chasmosaurus* that weighs about 200 kilograms (440 pounds) compared with the plant-eater's three or four tonnes millions and millions of years ago.

The old bones of this rare arthritic dinosaur are packed away for scientific eyes only.

Besides, what the children have been seeing for the past 50 years of old *Chasmosaurus*, according to the technical team, hasn't been a true representation of the 6-metre (20-foot) long dinosaur. However, their \$15,000 replica is. In fact, it shows old *Chasmosaurus* at least half a metre higher and more awesome than ever.

Ever since the bones of two *Chasmosaurus* dinosaurs were collected by Levi Sternberg and an ROM expedition near Stezeville in Alberta's Red Deer River

area in 1926, the dinosaur has looked like a giant lizard, according to Mr. Zimmermann, a machinist.

"He would have had difficulty walking like this," explained the former test pilot of German rocket planes during the Second World War. "But he's (the replica) walking correctly now. We've straightened his legs."

The straightening of the replica's new legs was based on the fact that *Chasmo-*

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saurus weighed 3½ tonnes (4 tons), ate a quarter-tonne of food a day, and needed strong femurs to hold that weight.

"Its legs had to be straighter, not bent," he maintained.

And then he discovered that the fossilized *Chasmosaurus* was missing a vertebra, too. That has been corrected in the replica.

"The books that the people worked with in those days were 50 years old. We're working with much better information."

Mr. Zimmermann pointed out that the real *Chasmosaurus* in storage is scientifically important because it shows even dinosaurs suffered from arthritis.

"This fellow had a rib broken when he was young," he noted, pointing to a mid-rib that was much shorter than the others. "It became fused to the next rib and never continued growing.

"This is the arthritic growth," he

added, pointing to a fist-sized bump.

Working with dinosaur bones has shown the three men bits and pieces of the creatures' lives. The giant creatures eventually died out, but scientists don't know why.

"There was an *Albertosaurus* (found in 1893 in Alberta) that had a broken leg," Mr. Gyrmov said. "The buildup around that break got bigger, because he was forced to forage and kill other animals. It never healed. What pain it must have been in."

He has seen similar abnormalities in the 11 dinosaurs that he made replicas of for museums and other organizations in Alberta, England, Japan, Poland, Germany and the United States.

Soon, the senior technician will be startling his neighbors near Peterborough, Ont., when a dinosaur replica will be moved from his 15-metre (50-foot) long workshop.

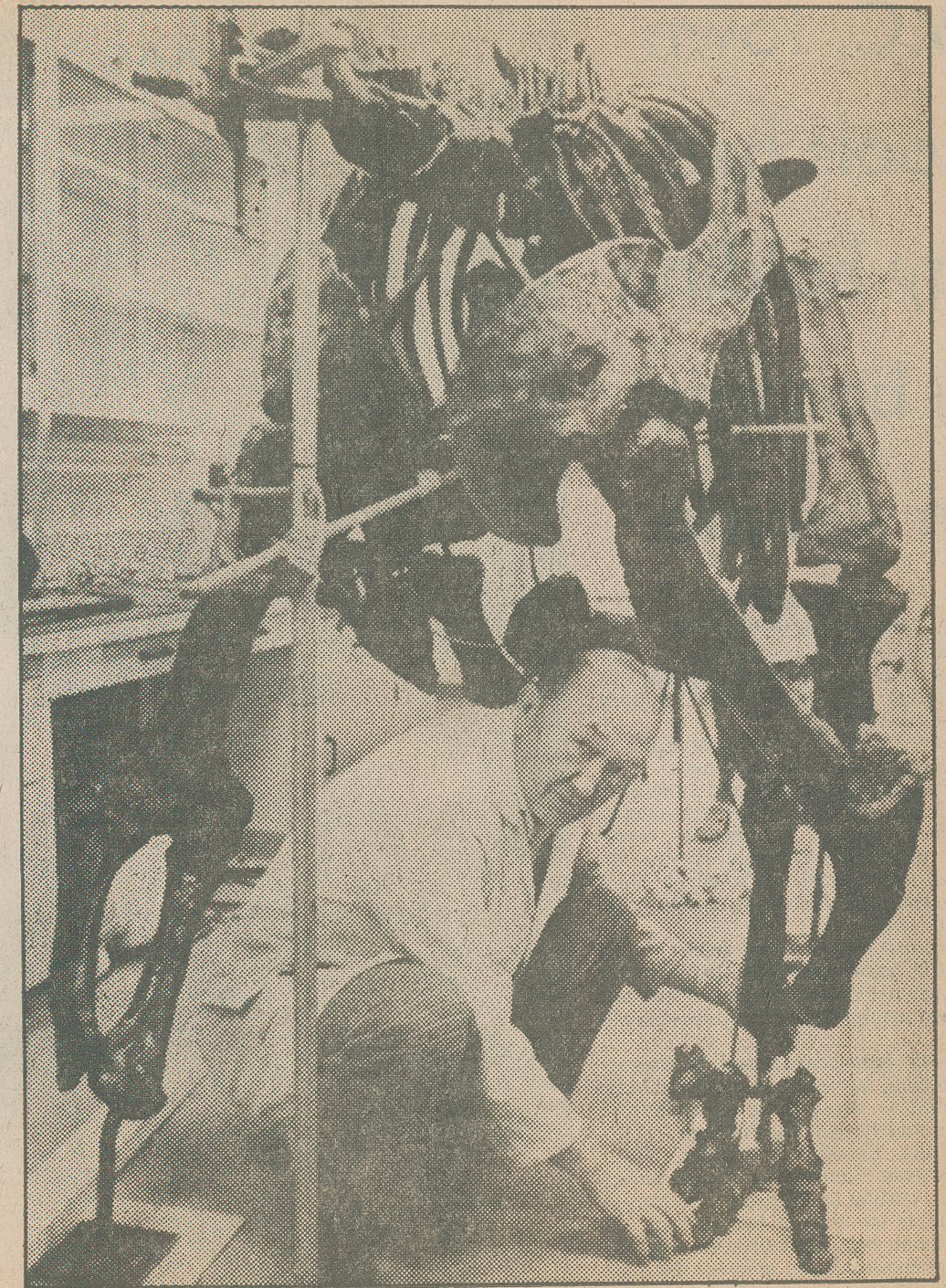
He emphasized that it is museum policy to have fossilized dinosaurs on display, not replicas. Most of the replicas are involved in ROM trades.

According to Mr. Gyrmov, it costs about \$15,000 to put together a *Chasmosaurus* of fibre glass. Each bone replica has a piece of metal to which Mr. Zimmermann applies his welding torch.

The *Albertosaurus*, which stands majestically on its two legs, costs \$12,000, because "there's not as much work." A two-dimensional dinosaur, Mr. Gyrmov said, can be built for \$6,000.

And there's a steady market for their wares. A London, Ont., museum wants an *Albertosaurus* and there are a couple of others wanted by Albertan groups.

"In many ways, the fibre-glass replicas are much better," Mr. Gyrmov said. "The fibre glass can survive forever."



Rudy Zimmermann attaches fibre glass bones to replica of dinosaur.

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