The Untold Story of the Carnegie *Diplodocus*

Mike Taylor[1,*], Matt Lamanna[2], Ilja Nieuwland[3], Amy Henrici[2], Linsly Church[2], Steve Sroka[4] and Ken Carpenter[5]

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2. Carnegie Museum of Natural History, Pittsburgh, PA, USA
3. Royal Netherlands Academy of Arts and Sciences, Netherlands
4. Utah Field House of Natural History, Vernal, Utah, USA
5. University of Colorado Museum, Boulder, Colorado, USA

The sauropod dinosaur *Diplodocus*

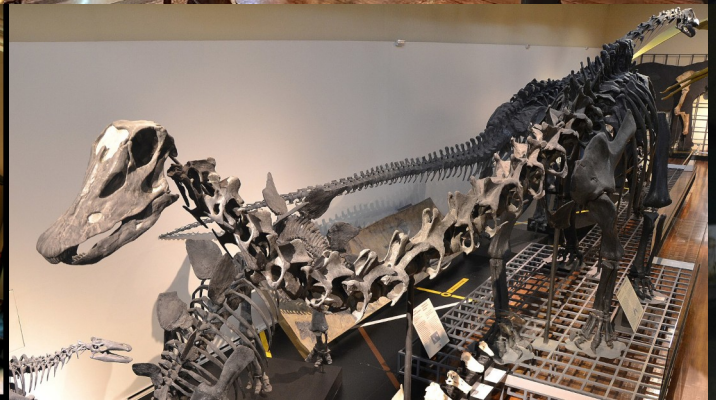
Best known from the Carnegie specimen "CM 84"

… And its many casts







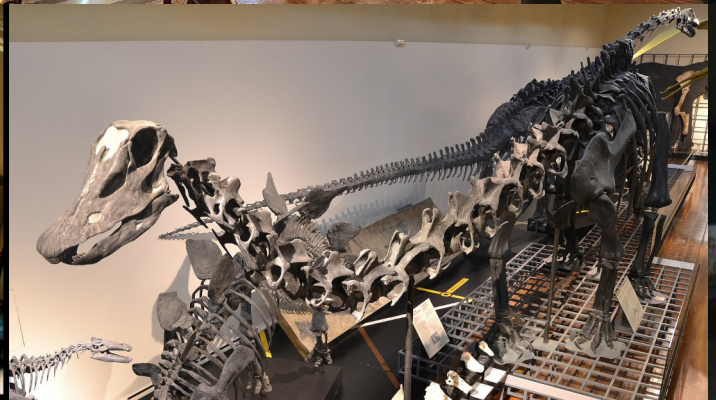

Casts were sent around the world in the early 1900s.

Natural History Museum	**London**	England	12 May 1905
Museum für Naturkunde Berlin	**Berlin**	Germany	13 May 1908
Muséum National d'Histoire Naturelle	**Paris**	France	15 June 1908
Kaiserliches und königliches naturhistorisches Hof-Museum	**Vienna**	Austria	24 September 1909
Giovanni Capellini Museum for Paleontology and Geology	**Bologna**	Italy	27 October 1909
The Imperial Museum	**St. Petersburg**	Russia	Early July 1910
Museo de La Plata	**La Plata**	Argentina	1912
Museo Nacional de Ciencias Naturales	**Madrid**	Spain	2 December 1913
Museo de Paleontología (UNAM)	**Mexico City**	Mexico	1930
Staatssammlung für Paläontologie und Geologie	**Munich**	Germany	1934 (never mounted)









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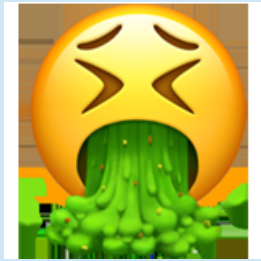

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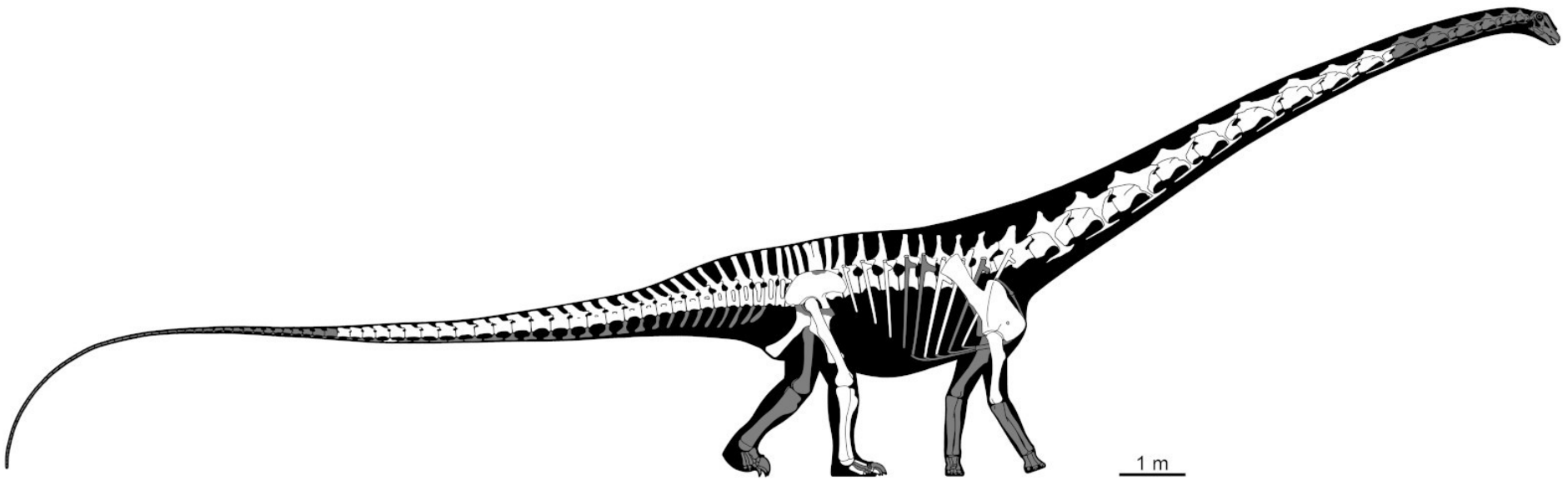

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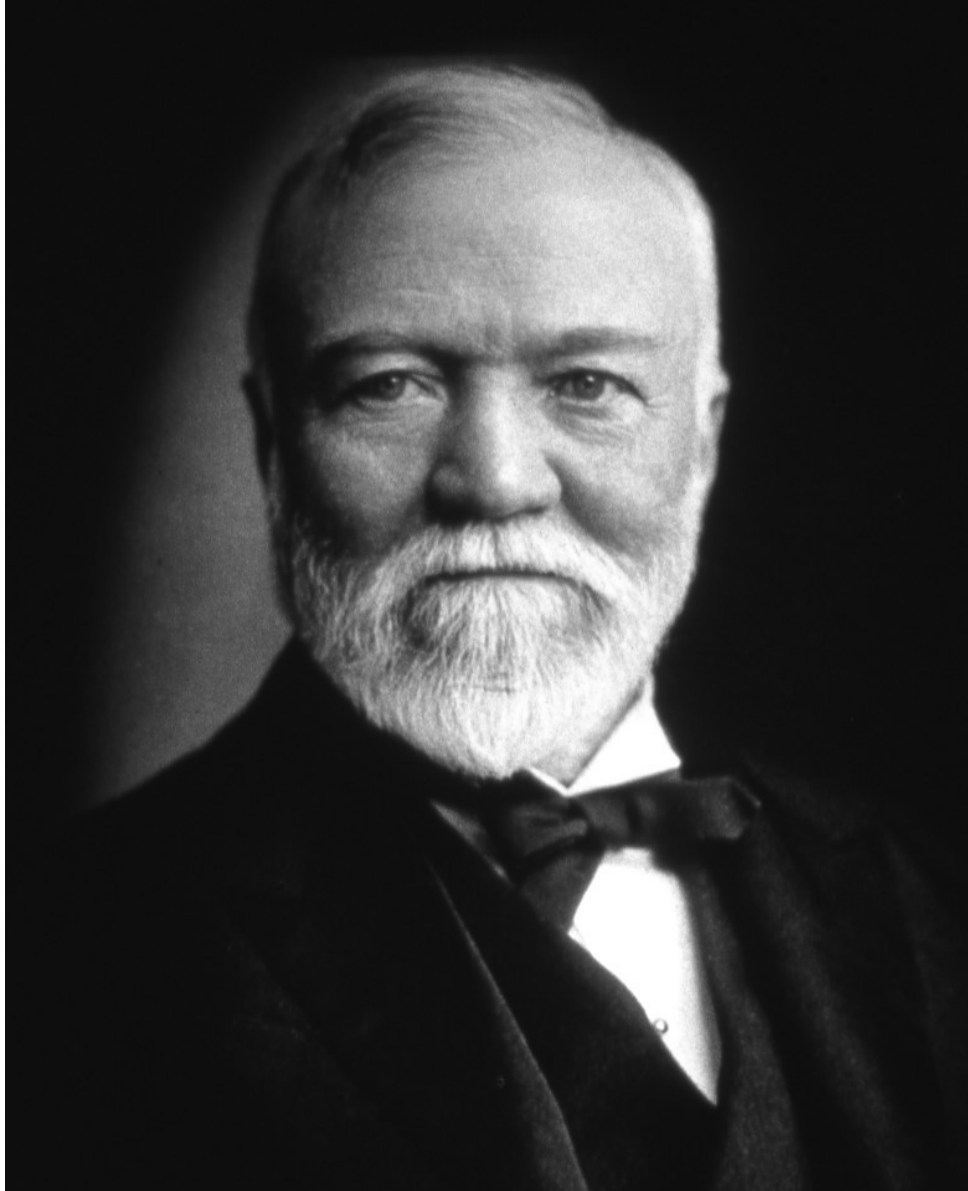
Meet Andrew Carnegie

Steel magnate in late 1800s.

One of the richest people in the world.



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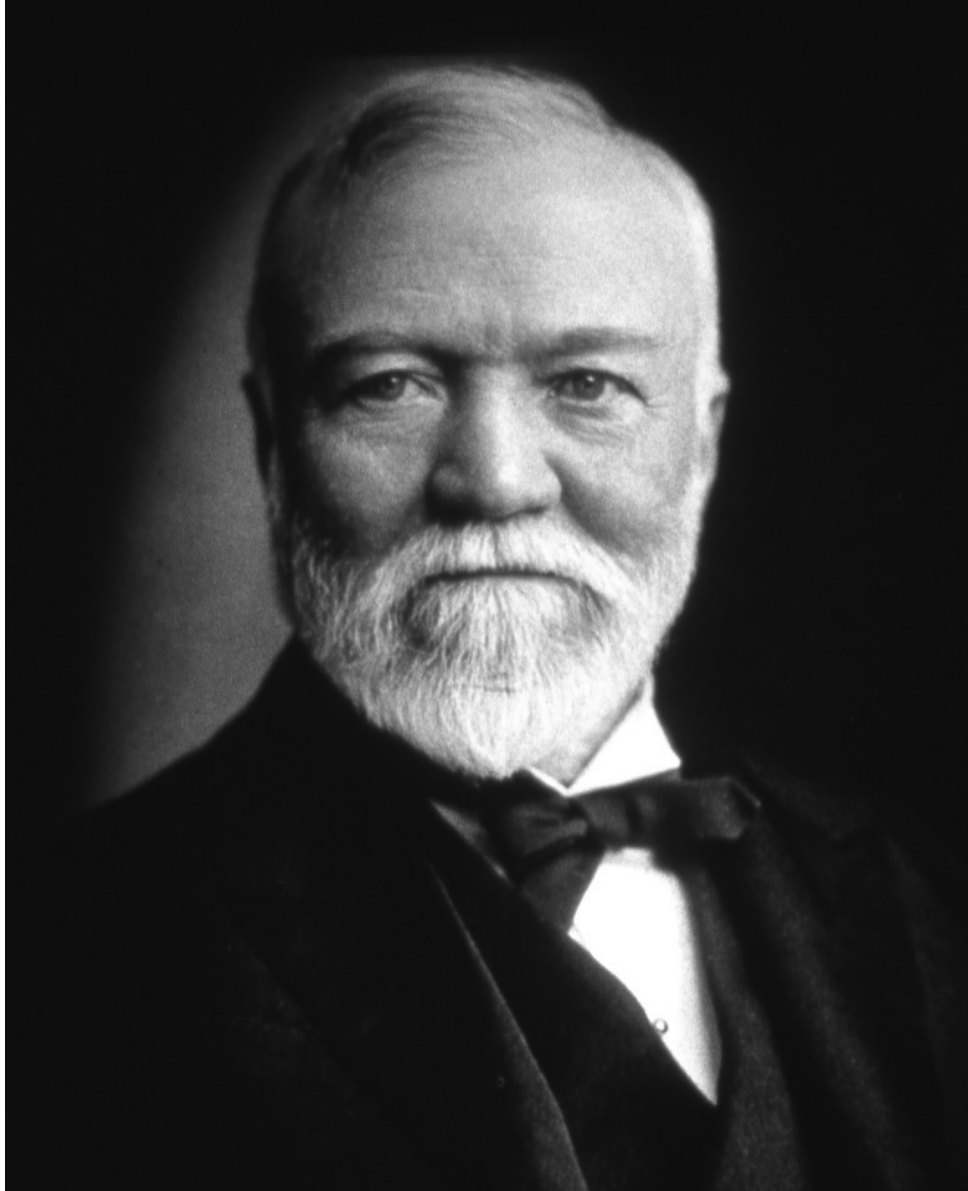
Steel magnate in late 1800s.

One of the richest people in the world.

Became concerned about his legacy.
In early 1900s, gave away 90% of wealth.



The Carnegie Museum of Natural History
Pittsburgh, Pennsylvania

Anonymous 1898b

New York Journal and Advertiser

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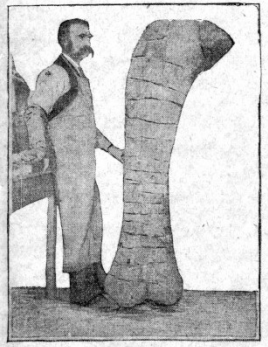

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Its discoverer is Professor W. H. Reeder, of the Wyoming State University. That State is the greatest burial ground of Dinosaurs in the world.

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These reptiles were in shape fantastic beyond the wildest conception of the imagination. They were mostly quite different from any existing reptiles. Some looked like hideous caricatures of the mammals of the present day. Many of them were armored with enormous horny plates and great spines along the back and around the head. Such creatures could not have been demolished by anything less than heavy artillery. They had jaws in which they could have crushed an elephant as easily as a cat crushes a mouse. Many were carnivorous.

There is a strange similarity between the dragons which are found in the primitive legends of all races and those prehistoric reptiles. The suggestion has been made that some of the monsters survived until in nearly ages of man, but although this is discountenanced by science, there remains a mystery which is far from being solved.

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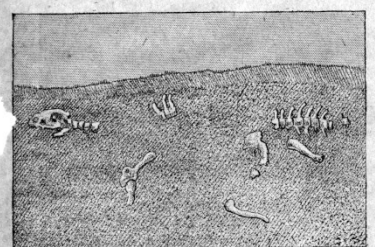

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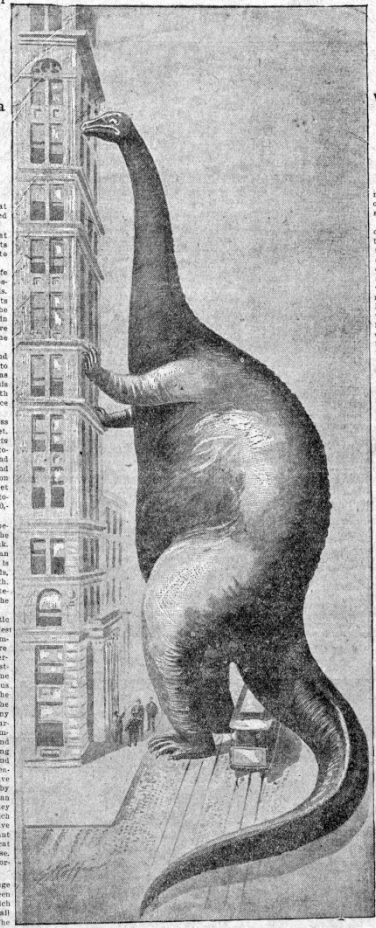
It was the greatest creature that is known to have ever lived. Then it walked the earth trembled.



(Drawn from a Picture of a Member of the Same Family in Hutchinson's "Creatures of Other Days." Copyright, 1894, by D. Appleton & Co.)

How the Brontosaurus Giganteus Would Look If It Were Alive and Should Try to Peep Into the Eleventh Story of the New York Life Building.

When It Was Angry Its Terrible Roar Could Be Heard Ten Miles.

When It Stood Up Its Height Was Equal to Eleven Stories of a Sky-Scraper.

nished food to its ferocious and carnivorous neighbors. It had neither armor, spikes nor great jaws.

The remarkably small head is indeed one of themost striking features of Brontosaurus, and presents a curious contrast to the large and formidable skulls possessed by some other forms. But it is clear that no animal with such a long neck as this creature could have borne the weight of a heavy skull. Short, thick necks and heavy skulls always go together. Indeed, the weight of the long neck itself would have been serious had it not been for the fact that the vertebræ in this part of the skeleton, and as far as the region of the tail, have large cavities in the sides of the centra.

This cavernous structure of the vertebra gradually decreases toward the tail. The cavities communicate, with a series of internal cavities, which give a kind of honeycombed structure to the whole vertebrae. This arrangement affords a combination of strength and lightness in the massive supports required for the large ribs, limbs and muscles such as could not have been provided by any other plan.

The body of Brontosaurus was comparatively short, with a fairly large paunch. The legs and feet were strong and massive, and the limb-bones solid. As if partly to balance the neck, we find a long and powerful tail, in which the vertebræ are nearly all solid.

In Lost Dinosaurs the fore-limbs are small compared to the hind limbs. It is hardly possible that Brontosaurus walked on its hind legs, as many of the Dinosaurs did. But, at the same time, we may believe that occasionally it assumed a more erect position; and the light hollowed structure of the vertebræ in the fore part of the body may have imparted such lightness as made it possible for the creature to assume such attitudes.

There can be little doubt that many other fierce and formidable Dinosaurs were living at the same time and in the same region with Brontosaurus. How this apparently helpless and awkward animal escaped in the struggle for existence it is not easy to conjecture; but since there is reason to believe it was more or less at home in the water, and could use its powerful tail in swimming, we may perhaps find a way out of the difficulty by supposing that, when alarmed by dangerous flesh-eating foes, it took to water and found discretion to be the better part of valor. Although presumably stupid, Brontosaurus probably possessed some cunning, and we can fancy it stretching its long neck above reeds, ferns and cycads to get a view of the approaching enemy.

The sight of a flesh-eating ceratosaurus dining off a gigantic Brontosaurus must have been truly blood curdling.

The greatest student of Dinosaurs is Professor Marsh, of Yale. From 1877 until 1888 he had field parties continually at work in Wyoming. During the greater

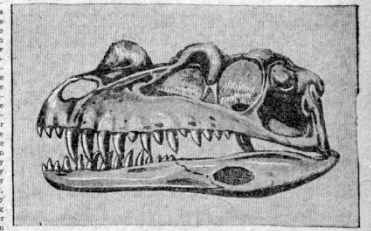
Footprints of the Brontosaurus a Yard Square Found in the Solid Rock.

part of the period this work was in charge of Professor Reeder, who is the discoverer of all of the largest Dinosaurs known.

In the Summer of 1894 the University of Wyoming began work in the field to secure a complete collection of fossil remains of these great animals. During the past three years Professor Reeder has spent his entire Summers in this work of collection, with the result that he has brought to the Western university more than fifty tons of the bones of these huge reptiles.

His recent great discovery is believed to make the university's collection of reptilian fossils the greatest in the world. The Wyoming fossil beds, as far as is known, are confined to Albany and Carbon counties, in the south central part of the State. The bones are usually found in banks of clay or marl, but occasionally in beds of sandstone. It is not an unusual thing to find a bone bed four or five feet in thickness, with the bones so close together and so mixed up that it is almost impossible to take them out and restore them to a normal place in the body.

At one time in its history Wyoming had numerous fresh water



Skull of the Brontosaurus in Wyoming.

lakes and a climate that was semi-tropical. At this time the Dinosaurs are believed to have inhabited these lakes and swamps in myriads. The animals sank into the mud when they died and their bones were covered over with other deposits and became petrified. The large fossil beds are found where, at one time, are supposed to have been the mouths of great rivers. The animals after death floated down these rivers, whence they were deposited in these estuaries, thus accounting for the vast deposits in certain places.

It is believed that in the course of geological ages these animals became covered with perhaps 20,000 feet of rock. The

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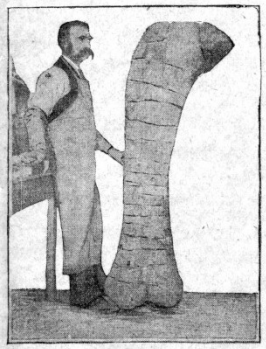

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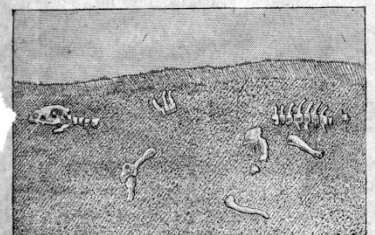

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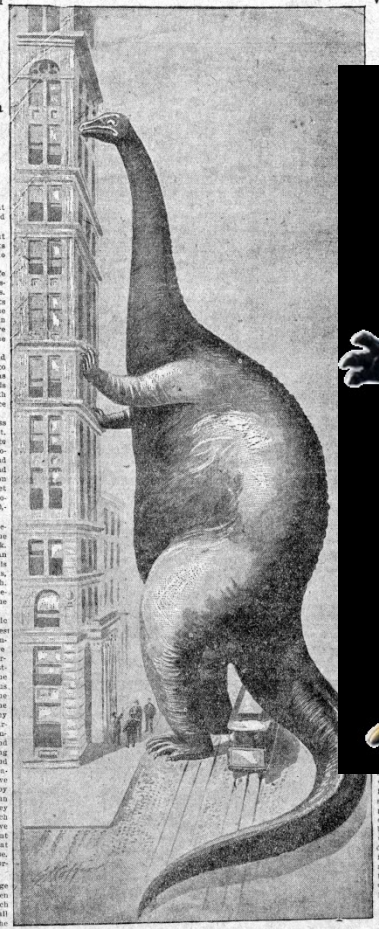

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lakes and a climate that was semi-tropical. At this time the Dinosaurs are believed to have inhabited these lakes and swamps in myriads. The animals sunk into the mud when they died and their bones were covered over with other deposits and because petrified. The large fossil beds are found where, at one time, are supposed to have been the mouths of great rivers. The animals after death floated down these rivers, whence they were deposited in these estuaries, thus accounting for the vast deposits in certain places.

It is believed that in the course of geological ages these animals became covered with perhaps 20,000 feet of rock. The

Anonymous 1898b

New York Journal and Advertiser

11 December 1898

29

MOST COLOSSAL ANIMAL EVER ON EARTH JUST FOUND OUT WEST.

Discovered the Remains of a Gigantic Brontosaurus, the Most Stupendous Thing Ever Alive—130 Feet in Length, with a Tail 60 Feet Long, Height 45 Feet, and Big Enough to Hold 40 Men.

(Copyright, 1898, by W. R. Hearst.)

When It Walked the Earth Trembled Under Its Weight of 120,000 Pounds.

When It Was Angry Its Terrible Roar Could Be Heard Ten Miles.

Photograph of the 8-Foot Thigh Bone of the Monster Discovered in Wyoming.

Footprints of the Brontosaurus a Yard Square Found in the Solid Rock.

Fossilized Bones of Bront... in Alluvial Gravel.

How the Brontosaurus Giganteus Would Look If It Were Alive and Should Try to Peep Into the Eleventh Story of the New York Life Building.

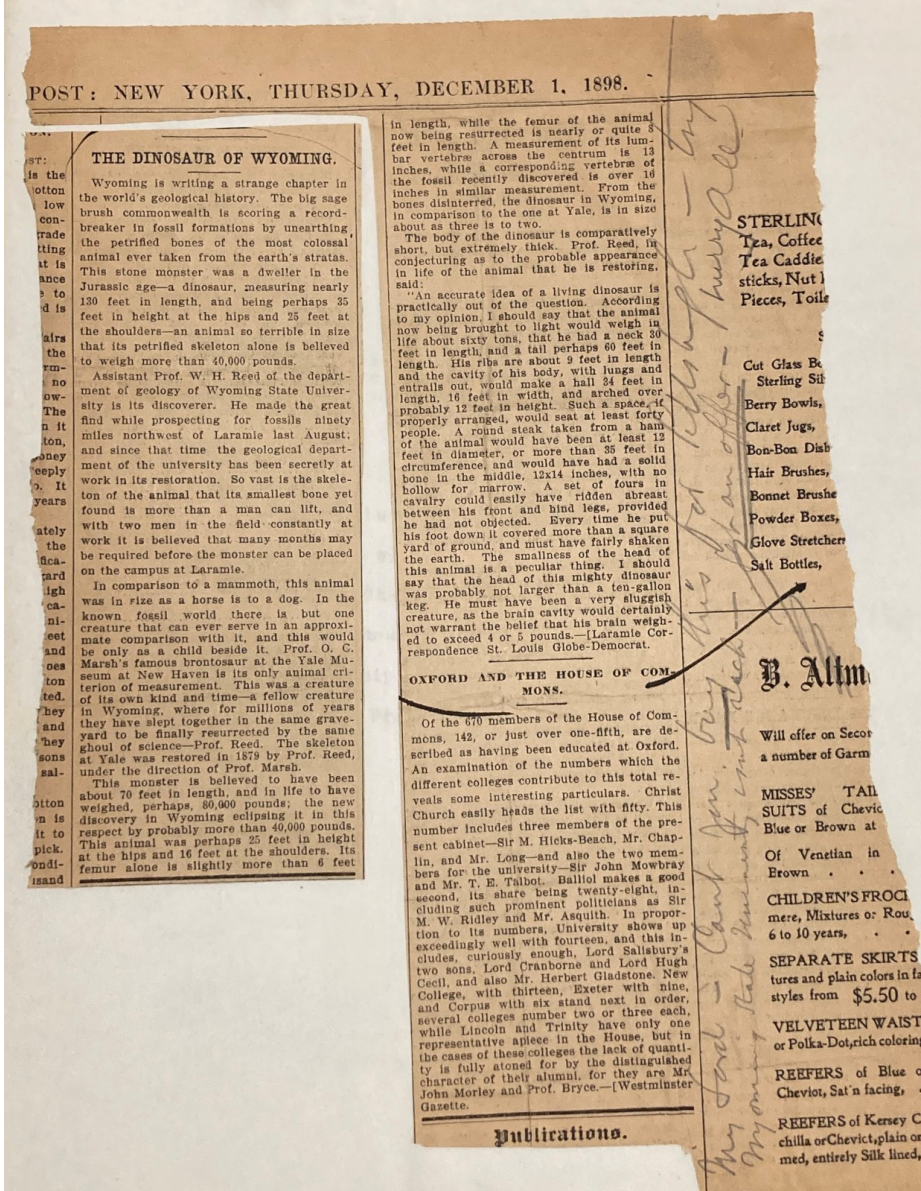
(Drawn from a Picture of a Member of the Same Family in Hutchinson's "Creatures of Other Days." Copyright, 1894, by D. Appleton & Co.)

...saurus in Wyoming.

Anonymous 1898a

New York Post

1 December 1898.



POST: NEW YORK, THURSDAY, DECEMBER 1, 1898.

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In comparison to a mammoth, this animal was in size as a horse is to a dog. In the known fossil world there is but one creature that can ever serve in an approximate comparison with it, and this would be only as a child beside it. Prof. O. C. Marsh's famous brontosaur at the Yale Museum at New Haven is its only animal criterion of measurement. This was a creature of its own kind and time—a fellow creature in Wyoming, where for millions of years they have slept together in the same graveyard to be finally resurrected by the same ghoul of science—Prof. Reed. The skeleton at Yale was restored in 1879 by Prof. Reed, under the direction of Prof. Marsh.

This monster is believed to have been about 70 feet in length, and in life to have weighed, perhaps, 80,000 pounds; the new discovery in Wyoming eclipsing it in this respect by probably more than 40,000 pounds. This animal was perhaps 25 feet in height at the hips and 16 feet at the shoulders. Its femur alone is slightly more than 6 feet in length, while the femur of the animal now being resurrected is nearly or quite 8 feet in length. A measurement of its lumbar vertebræ across the centrum is 13 inches, while a corresponding vertebræ of the fossil recently discovered is over 16 inches in similar measurement. From the bones disinterred, the dinosaur in Wyoming, in comparison to the one at Yale, is in size about as three is to two.

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OXFORD AND THE HOUSE OF COMMONS.

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Publications.

STERLIN
Tea, Coffee
Tea Caddie
sticks, Nut
Pieces, Toile

Cut Glass B
Sterling Sil
Berry Bowls,
Claret Jugs,
Bon-Bon Dish
Hair Brushes,
Bonnet Brushe
Powder Boxes,
Glove Stretcher
Salt Bottles,

B. Altm

Will offer on Secon
a number of Garm

MISSES' TAI
SUITS of Chevic
Blue or Brown at

Of Venetian in
Brown . . .

CHILDREN'S FROCI
mere, Mixtures or Rou
6 to 10 years, . .

SEPARATE SKIRTS
tures and plain colors in fa
styles from $5.50 to

VELVETEEN WAIST
or Polka-Dot, rich coloring

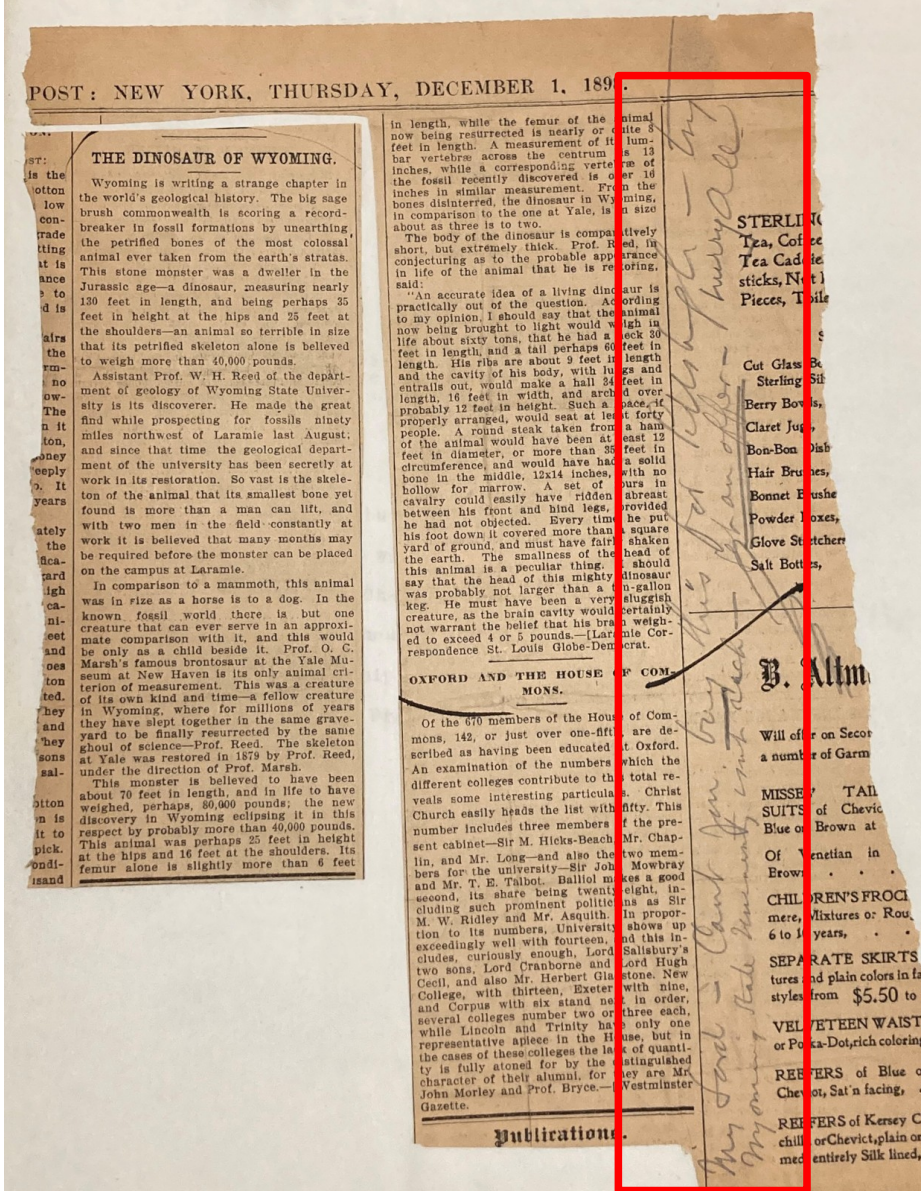
REEFERS of Blue
Cheviot, Sat'n facing,

REEFERS of Kersey C
chilla or Chevict, plain or
med, entirely Silk lined

Anonymous 1898a

New York Post

1 December 1898.



POST: NEW YORK, THURSDAY, DECEMBER 1, 189

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Publications.

STERLIN(
Tea, Coffee
Tea Caddie
sticks, Nut
Pieces, Toile

Cut Glass Be
Sterling Sil
Berry Bowls,
Claret Jugs,
Bon-Bon Dish
Hair Brushes,
Bonnet Brushe
Powder Boxes,
Glove Stretcher
Salt Bottles,

B. Altm

Will offer on Secor
a number of Garm

MISSES' TAIL
SUITS of Chevic
Blue or Brown at

Of Venetian in
Brown . .

CHILDREN'S FR
mere, Mixtures or
6 to 10 years, .

SEPARATE SK
tures and plain col
styles from $5.

VELVETEEN W
or Polka-Dot, rich

REEFERS of
Cheviot, Sat'n fac

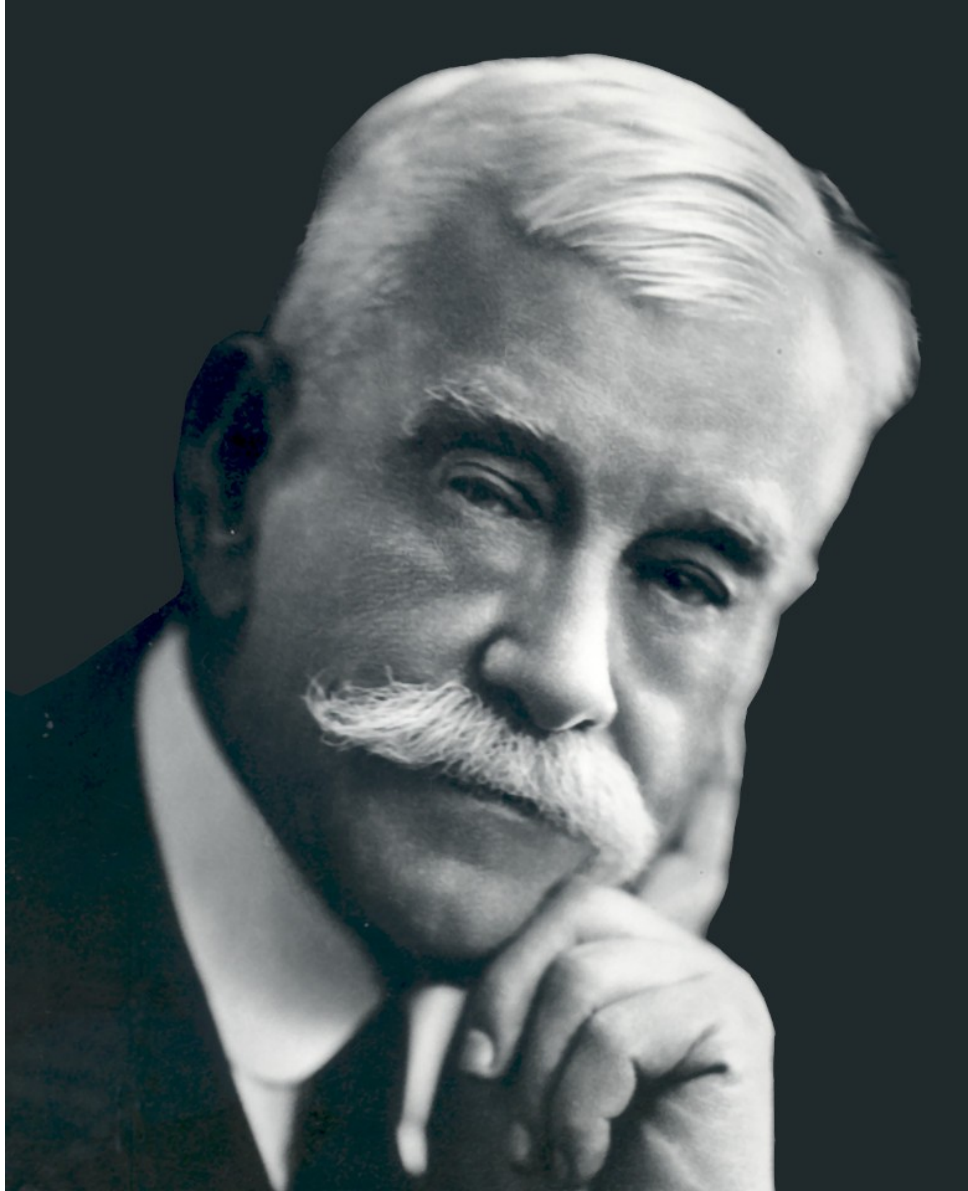
REEFERS of K
chilla or Chevict,
med, entirely Sill

Anonymous 1898a

My Lord — Cant you buy this for Pittsburgh — try
Wyoming State University isnt rich — get an offer— hurry AC

Meet William J. Holland

Director of the Carnegie Museum.



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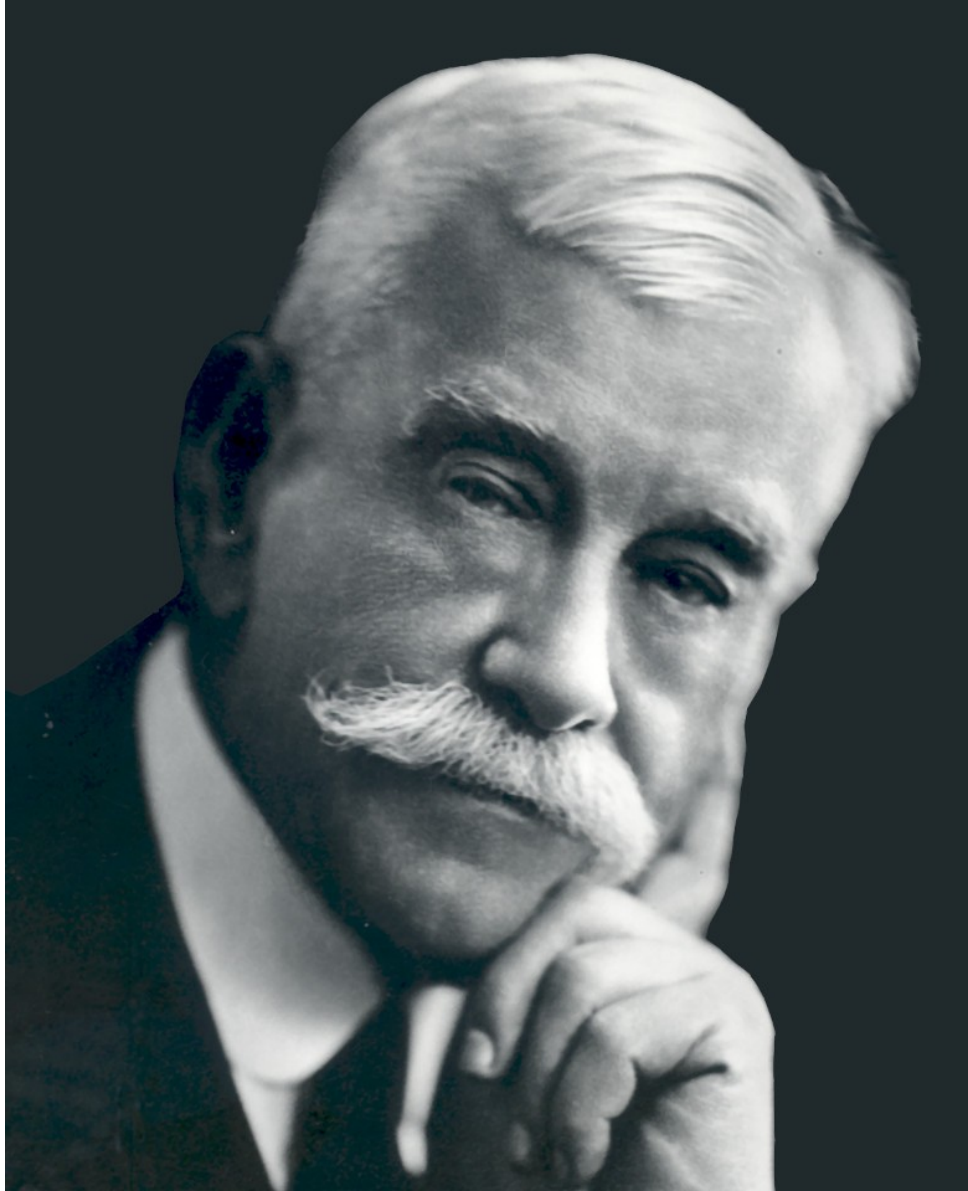
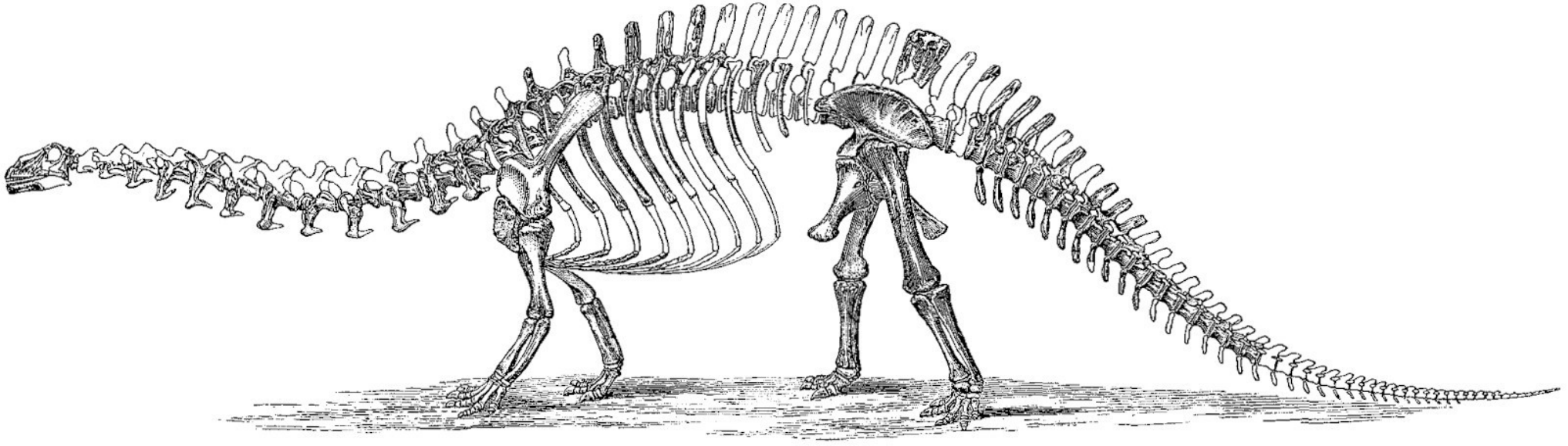
Director of the Carnegie Museum.

Lepidopterist.



The incredible shrinking dinosaur



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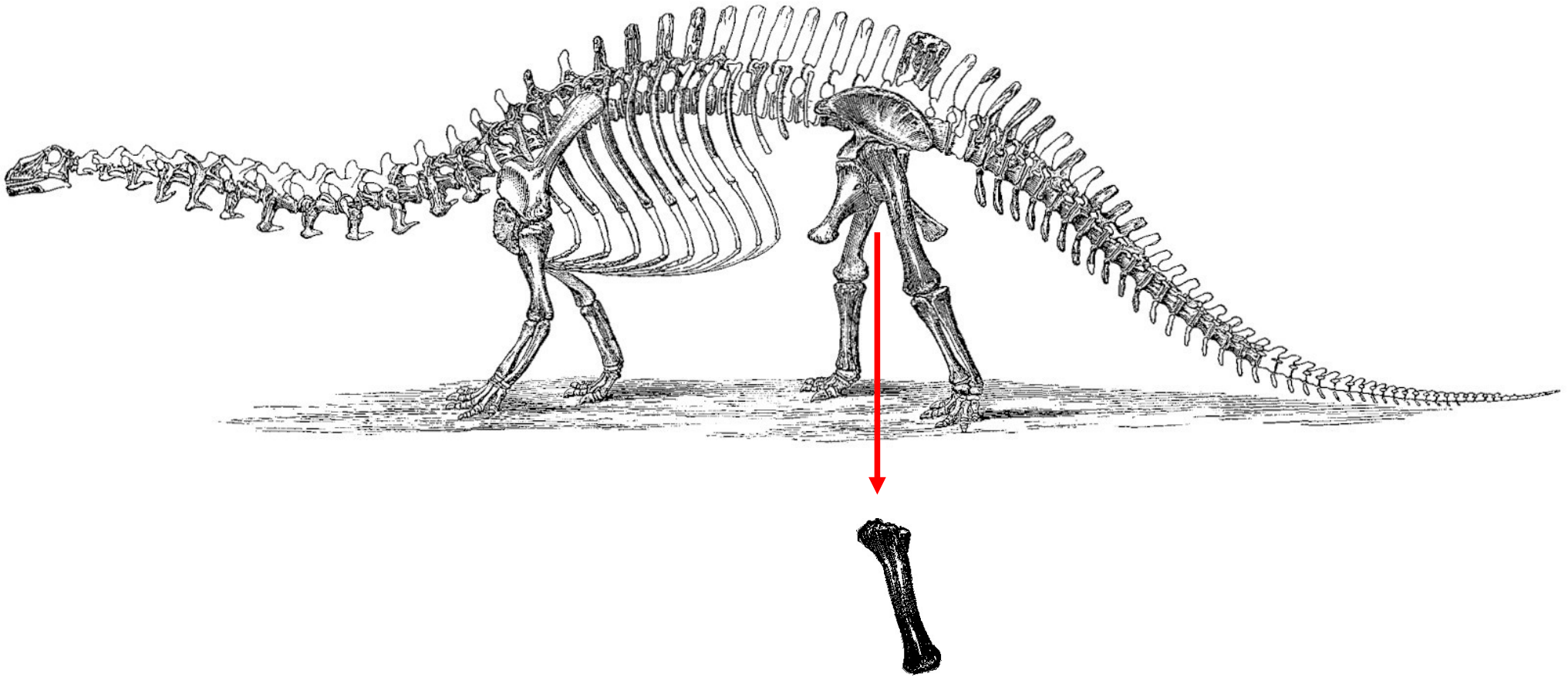

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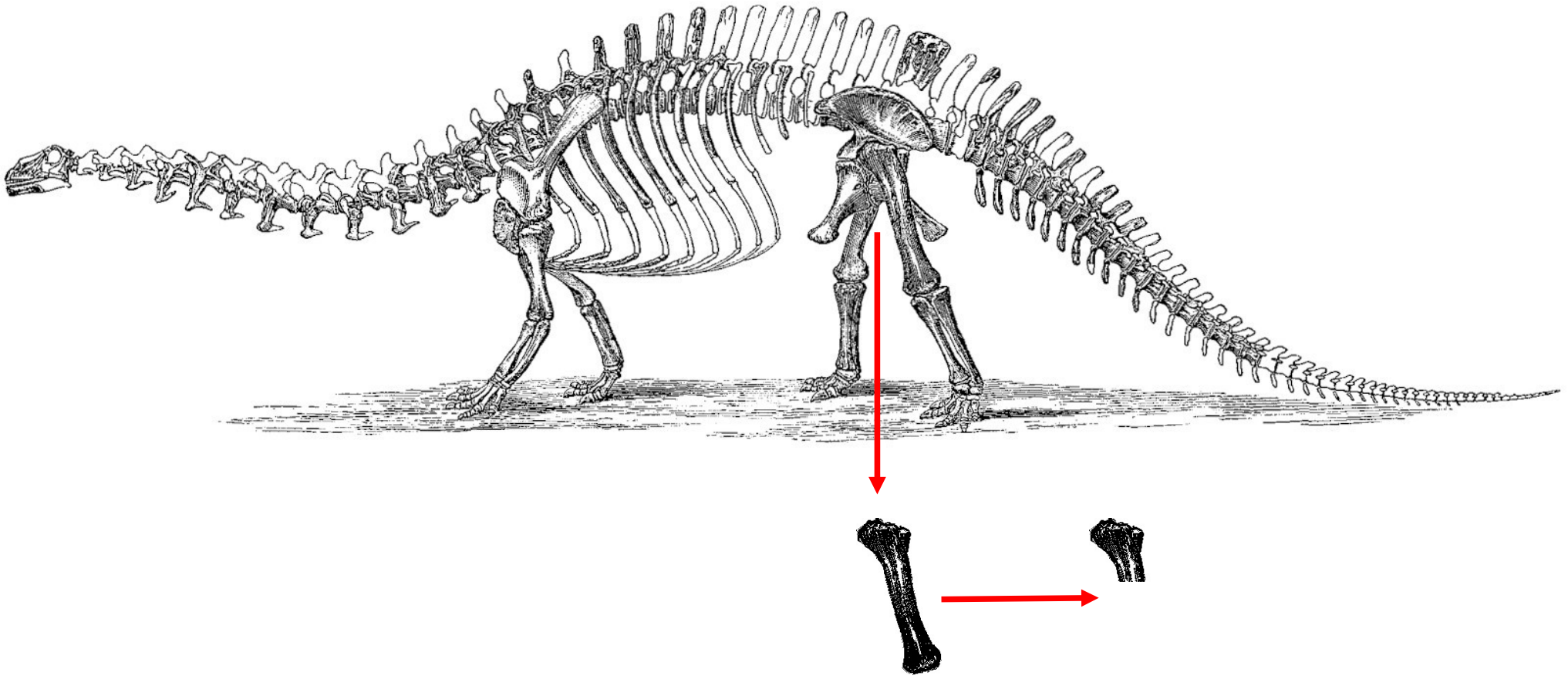

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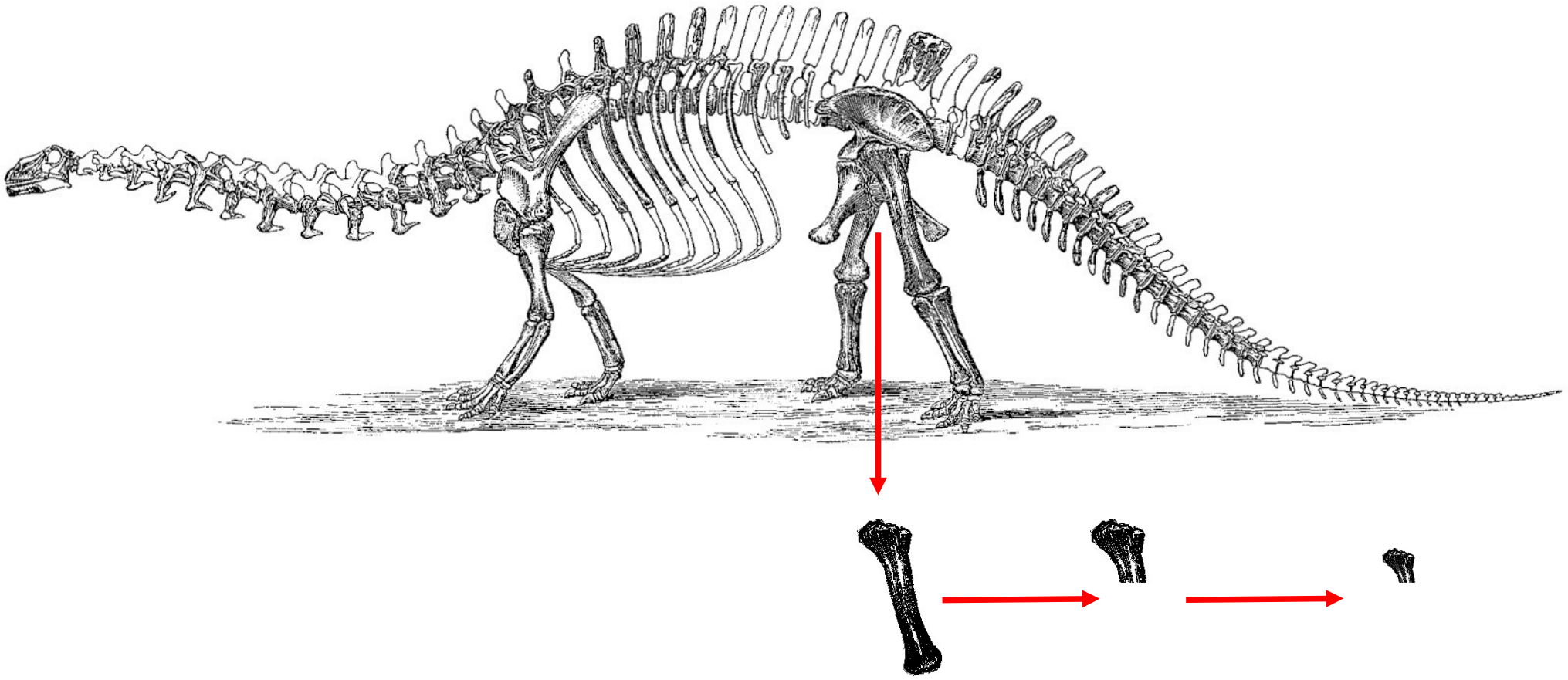

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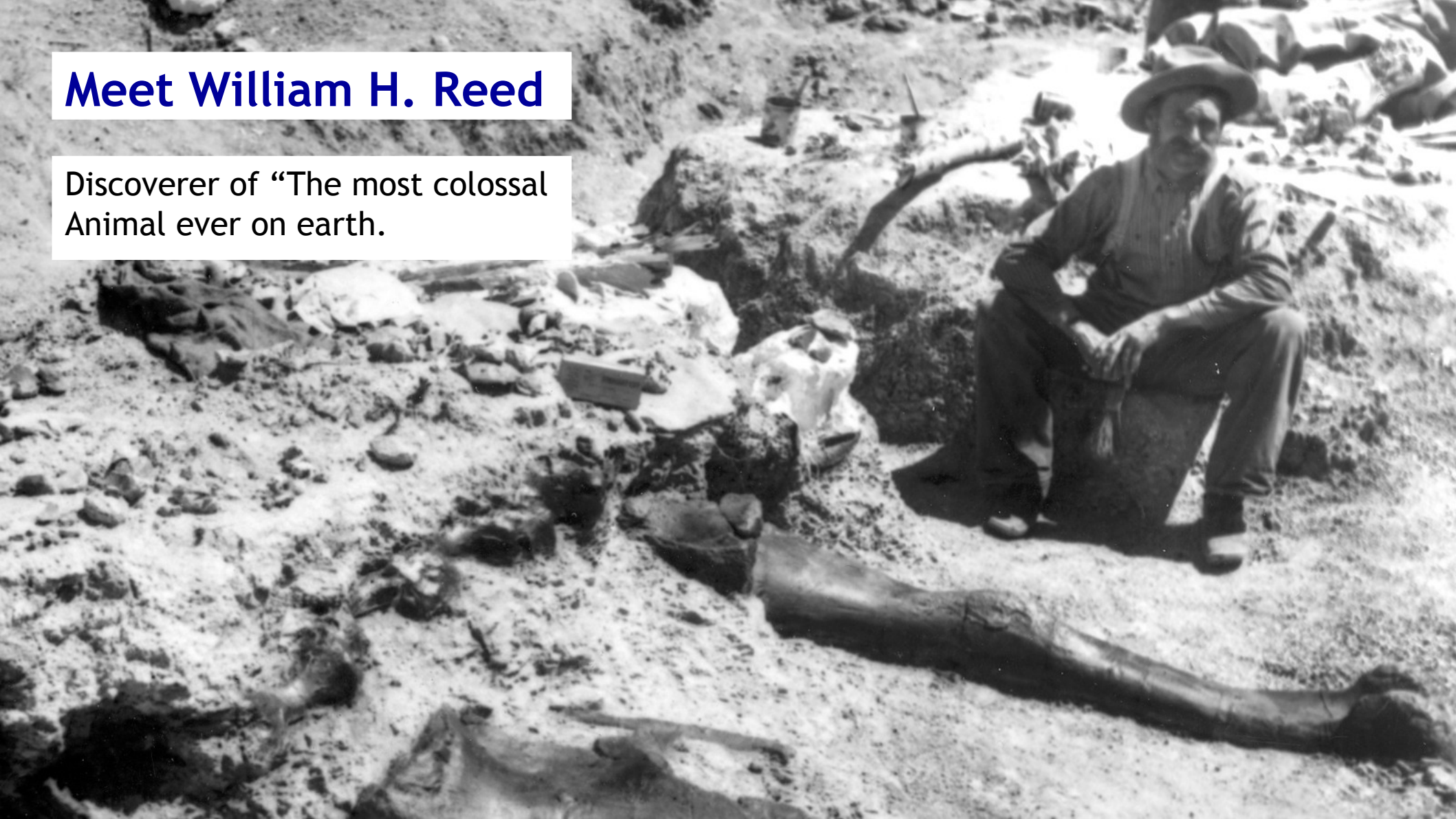

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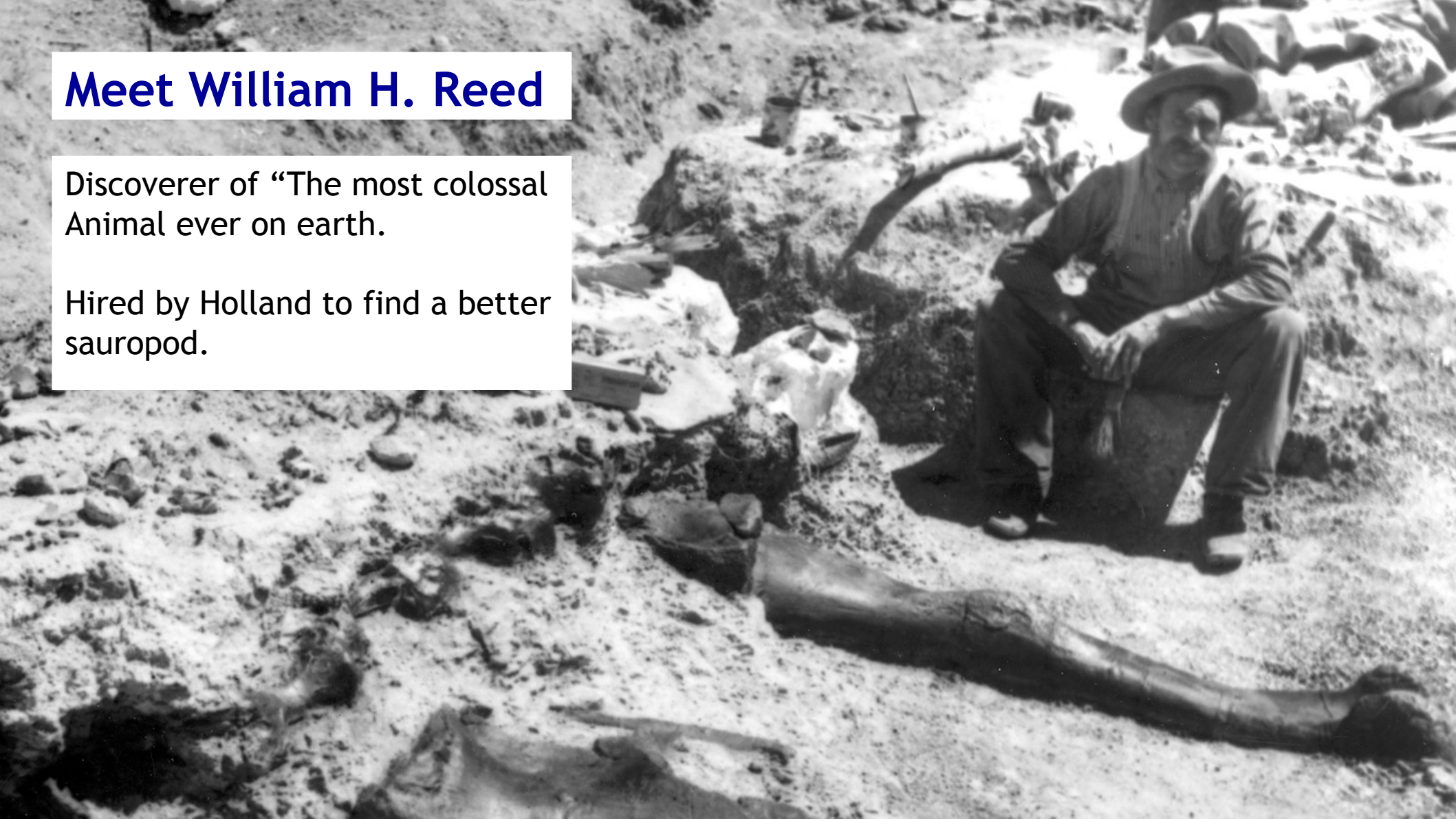
Hired by Holland to find a better sauropod.



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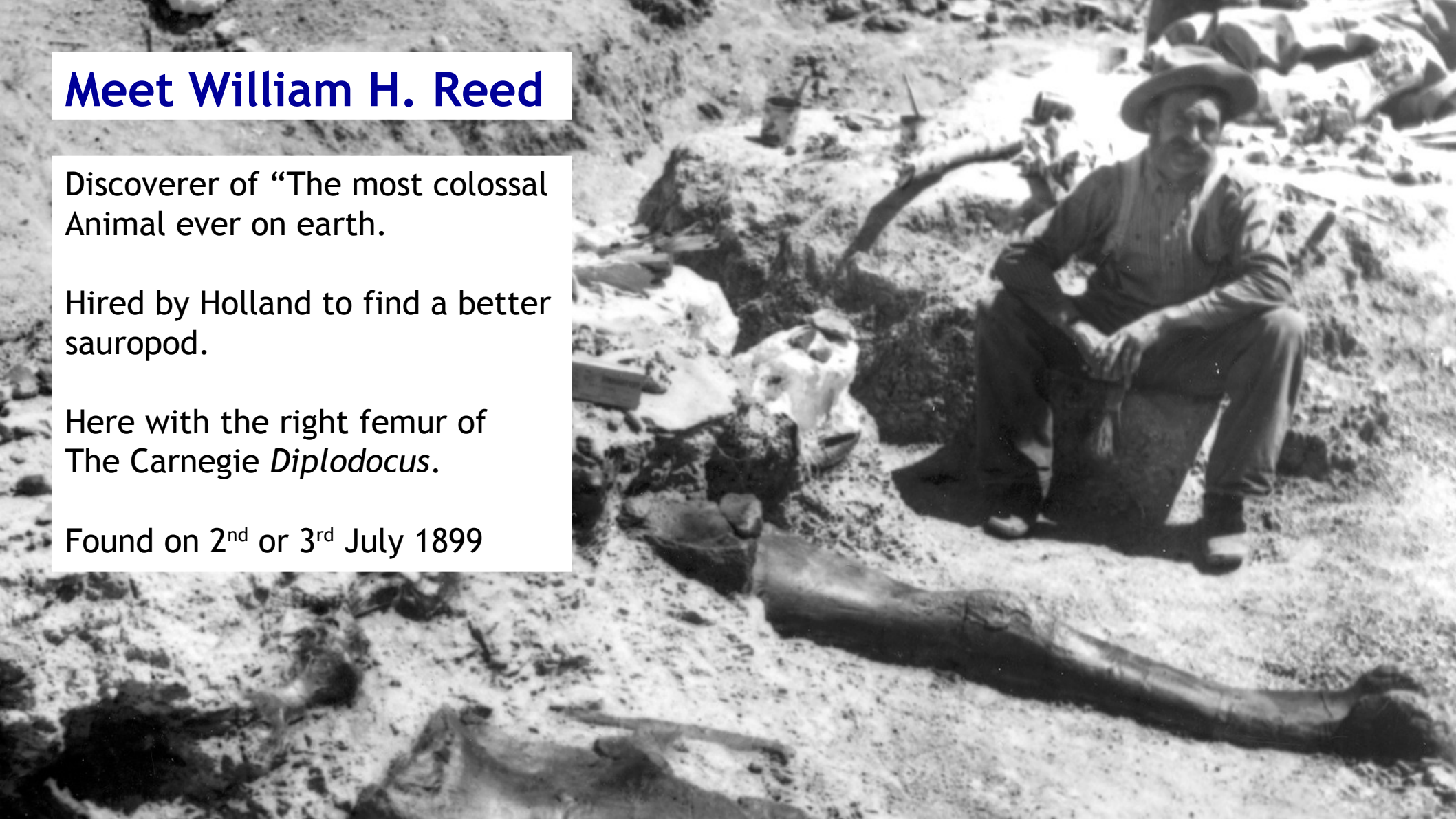
Here with the right femur of The Carnegie *Diplodocus*.

Found on 2nd or 3rd July 1899



The field crew

Paul Miller
Jacob L. Wortman
William H. Reed
William Reed, Jr.

Not pictured:
Arthur S. Coggeshall.

The prep lab (a few years later)

Olaf Peterson
Louis S. Coggeshall
Charles W. Gilmore
Earl Douglass
Arthur S. Coggeshall
Asher W. VanKirk
Sydney Prentice
John Bell Hatcher

Meet Arthur S. Coggeshall

Lead preparator of the fossils.

Meet Arthur S. Coggeshall

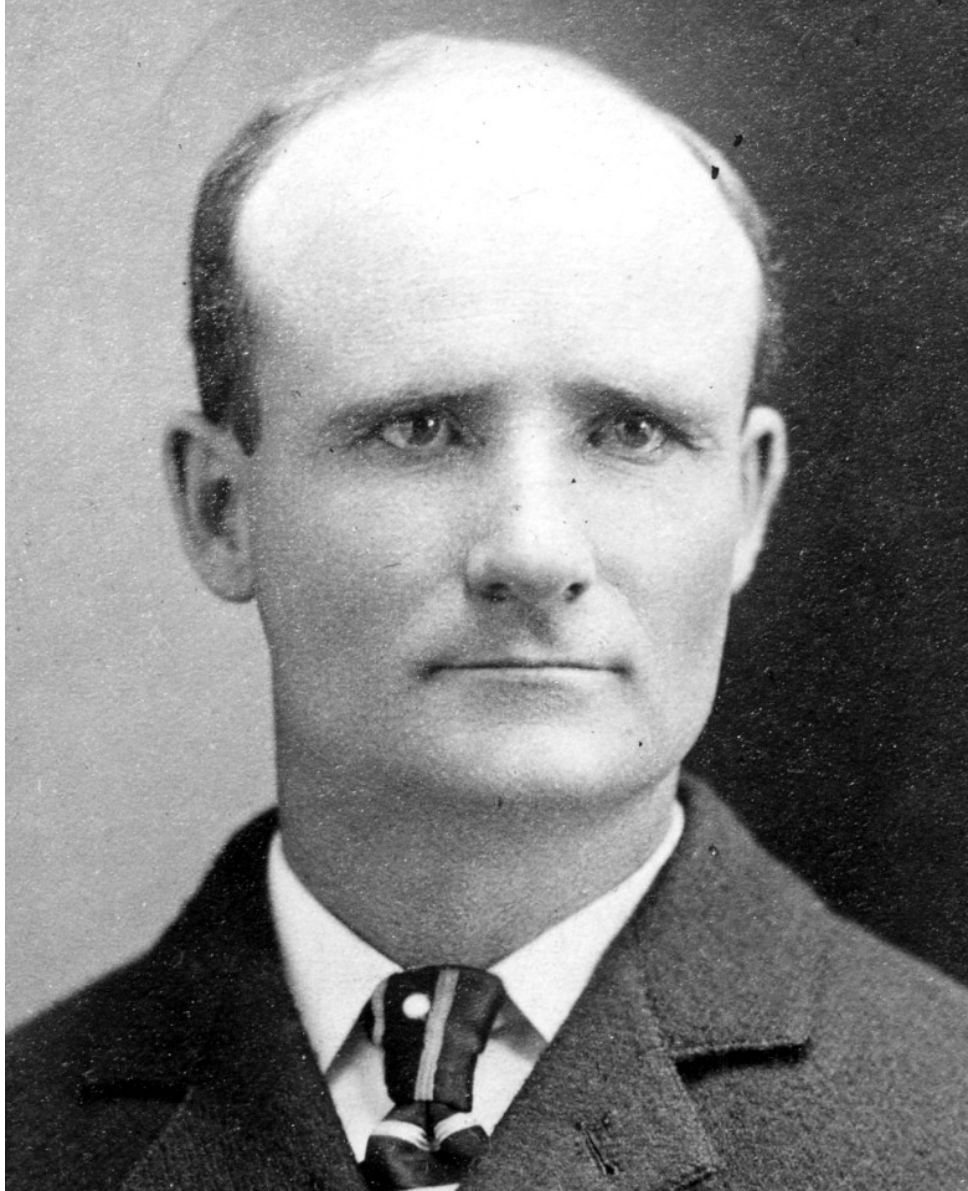
Lead preparator of the fossils.

(Bad photo because he was working class.)

Meet John B. Hatcher

Writer of the monographic description:

Hatcher, John B. 1901. *Diplodocus* (Marsh): its osteology, taxonomy and probable habits, with a restoration of the skeleton. *Memoirs of the Carnegie Museum* **1**:1–63 and plates I–XIII.



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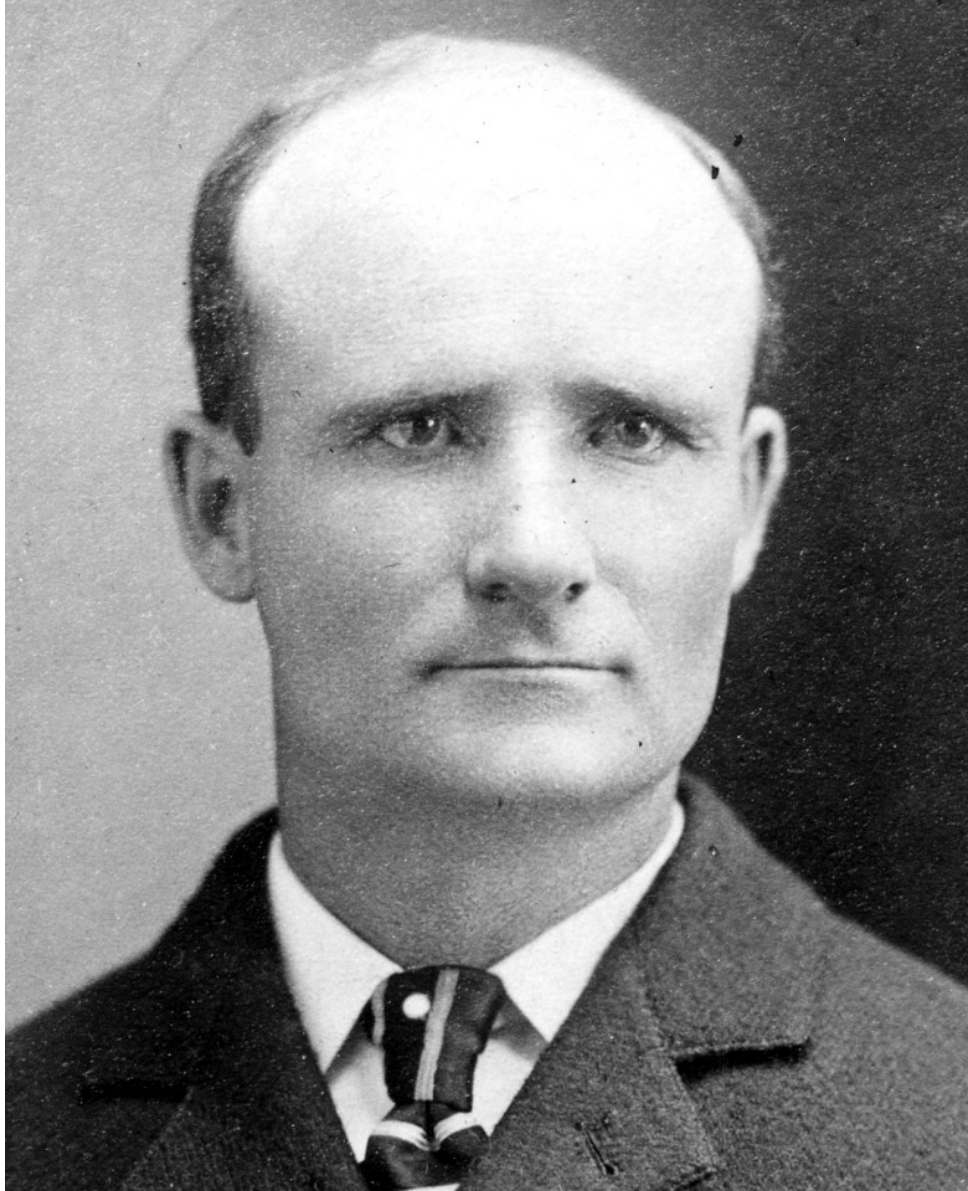
We still cite this **all the time**.

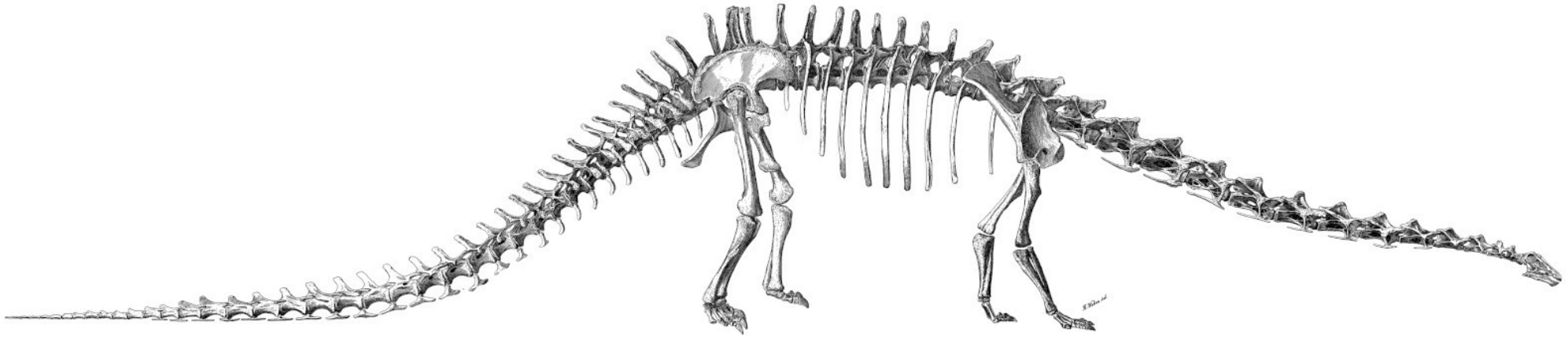
Want to live forever?
Do good descriptive work.



Meet *Diplodocus carnegii*

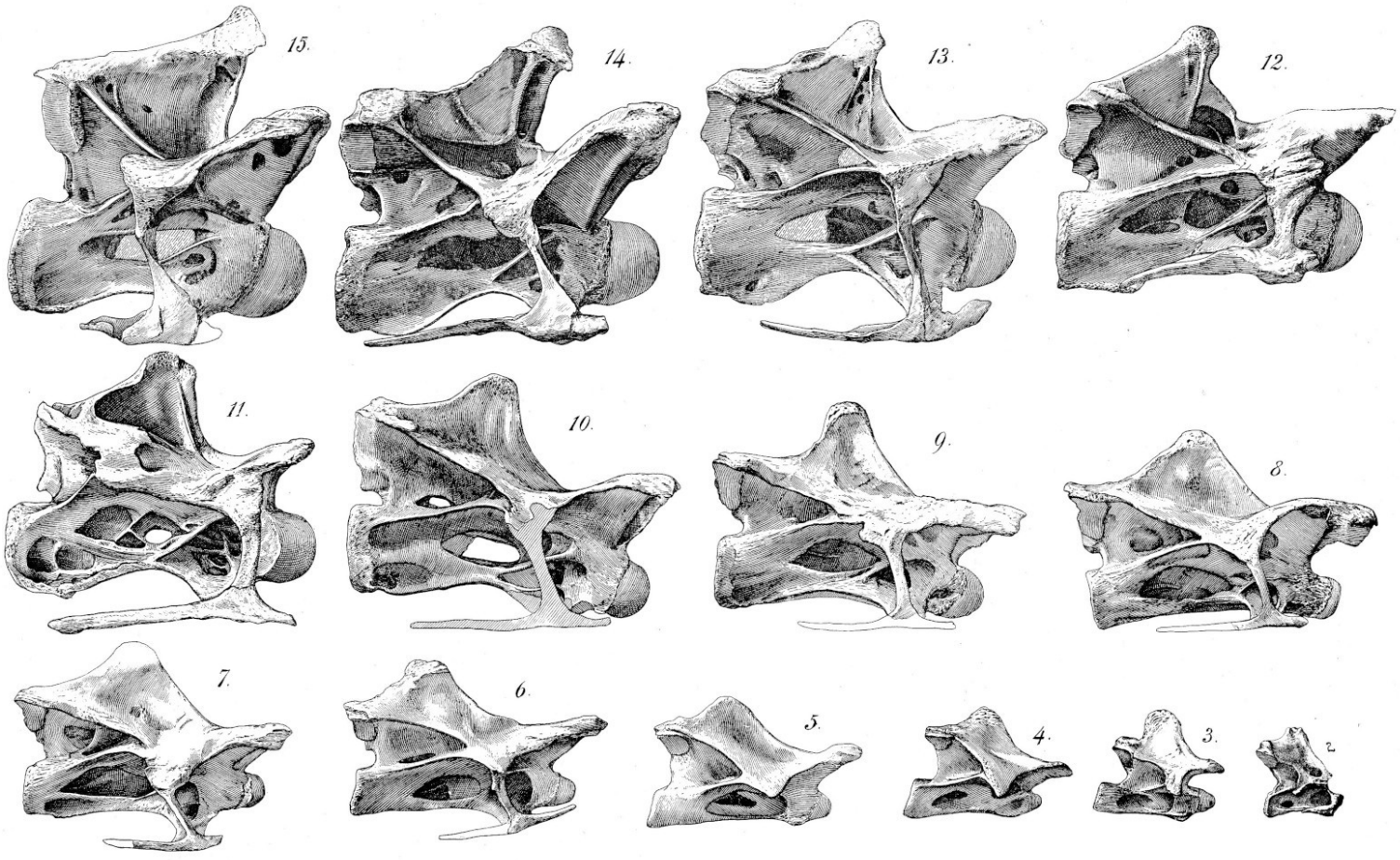
Hatcher 1901: plate XII

(Artwork by the much overlooked R. Weber.)



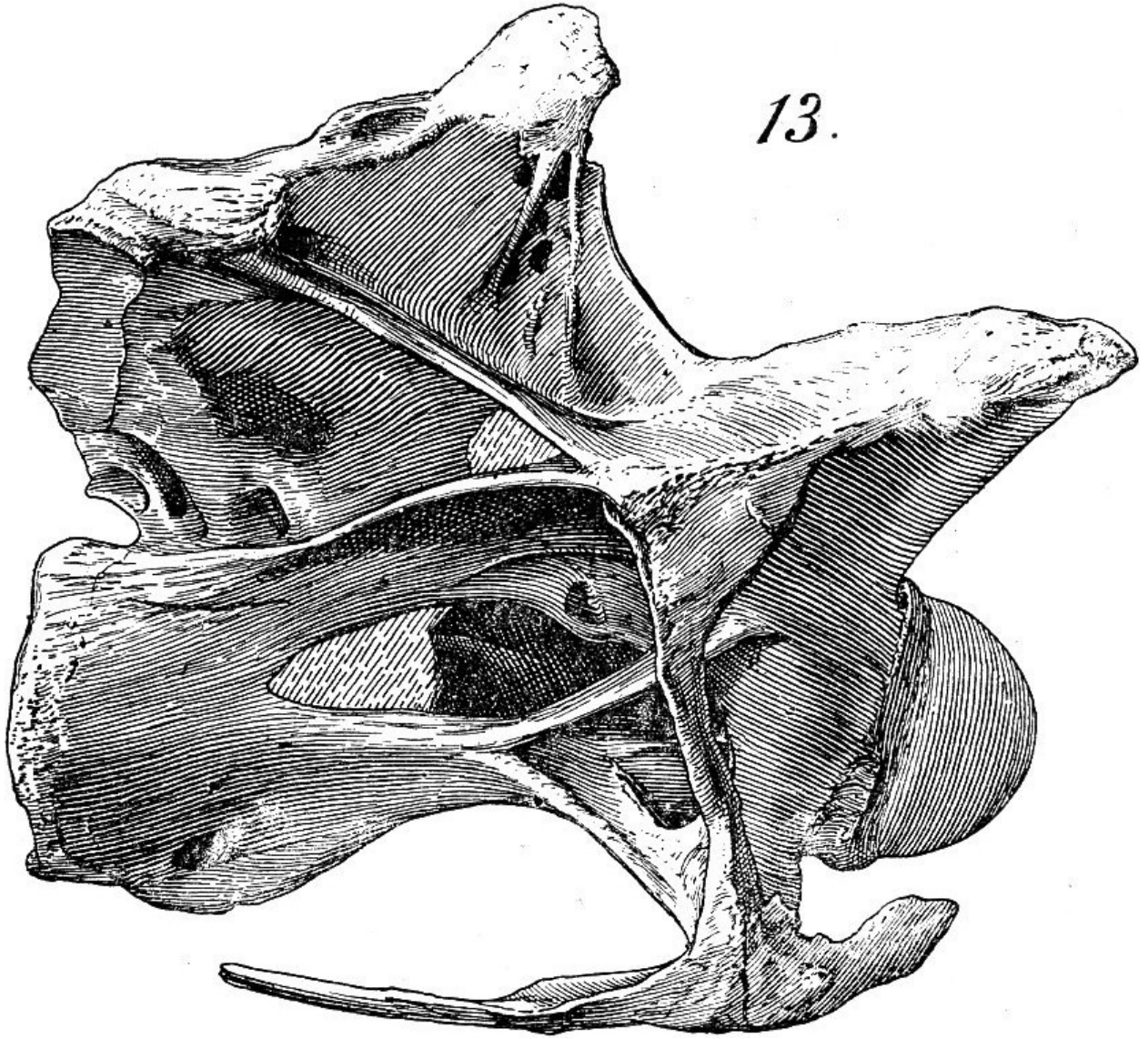
Meet *Diplodocus carnegii*

Hatcher 1901: plate II



Meet *Diplodocus carnegii*

Hatcher 1901: plate III



Meet King Edward VII

Known as “Bertie”

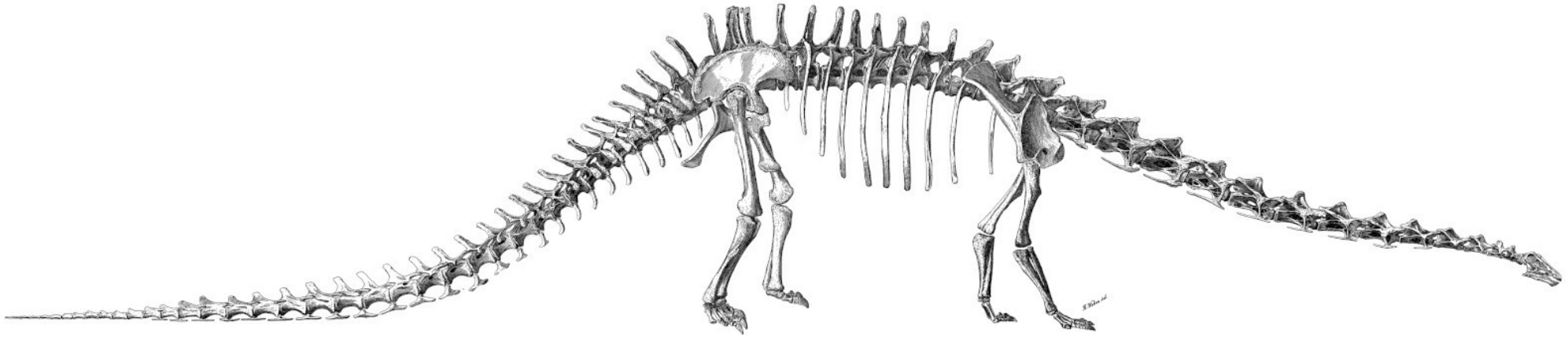
Eldest son of Queen Victoria

Heir to throne for 60 years
King from 1901–1910.

King Edward VII visited Carnegie at Skibo Castle

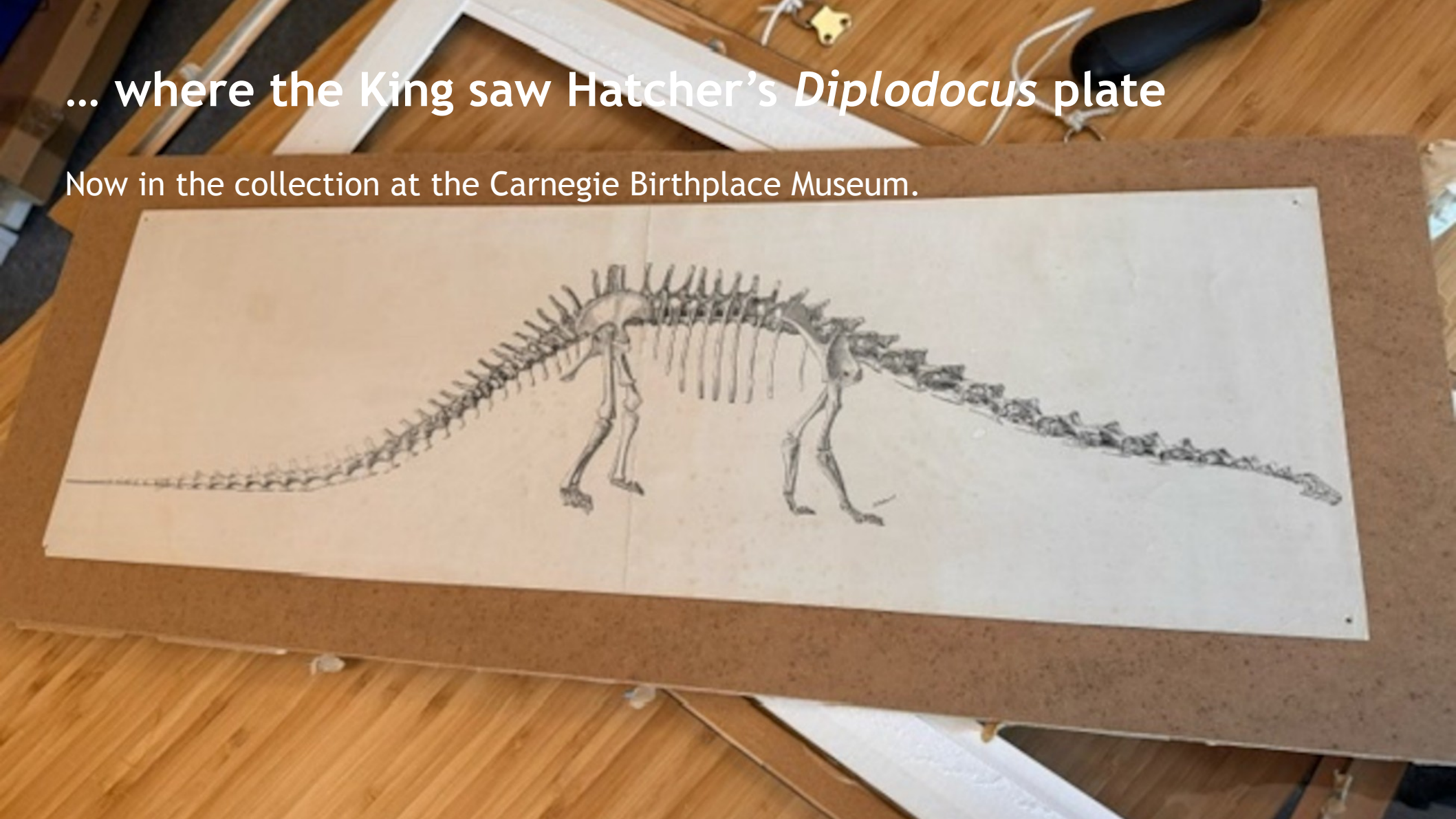
A surprise visit in October 1902.

… where the King saw Hatcher's *Diplodocus* plate



… where the King saw Hatcher's *Diplodocus* plate

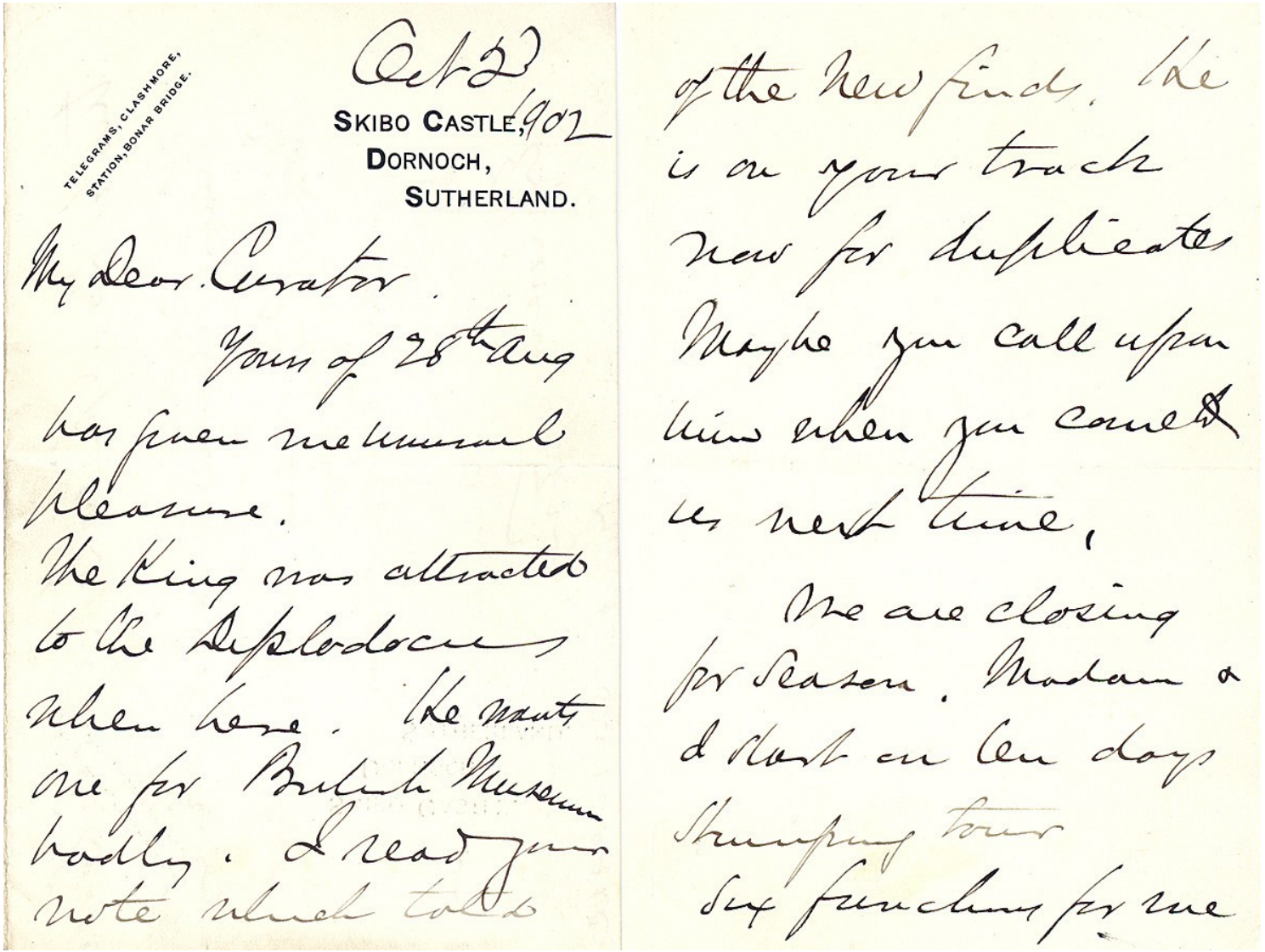
Now in the collection at the Carnegie Birthplace Museum.



“I want one”

“The King was attracted to the *Diplodocus* when here. He wants one for British Museum badly. I read your note which told of the new finds. He is on your track now for duplicate.”

Carnegie to Holland, 2 October 1902.



TELEGRAMS, CLASHMORE, STATION, BONAR BRIDGE.

Oct 2

SKIBO CASTLE, 1902
DORNOCH,
SUTHERLAND.

My dear Curator.

Yours of 28th Aug has given me much pleasure.

The King was attracted to the Diplodocus when here. He wants one for British Museum badly. I read your note which told of the new finds. He is on your track now for duplicates. Maybe you call upon him when you come to us next time.

We are closing for season. Madam & I start on ten days shooting tour

Say franchise for me

Meet Serafino Agostini

Italian sculptor.

Led the moulding and casting process.

Meet Serafino Agostini

Italian sculptor.

Led the moulding and casting process.

Previously worked on church statuary.

Meet Serafino Agostini

Italian sculptor.

Led the moulding and casting process.

Only previously done with
Belgian *Iguanodon*.

Secretive.

Meet Serafino Agostini

Italian sculptor.

Led the moulding and casting process.

“To produce the plaster dinosaurs, a cast had to be made of each bone. The entire bone could not be copied at one time but, protected by a thin coating of wax, must be marked off by wax ridges into small sections, sometimes as many as twenty to one bone. [...] The plaster could not be cast directly on the bone because of its brittleness.”
— Seneff (1947:118)

Meet Serafino Agostini

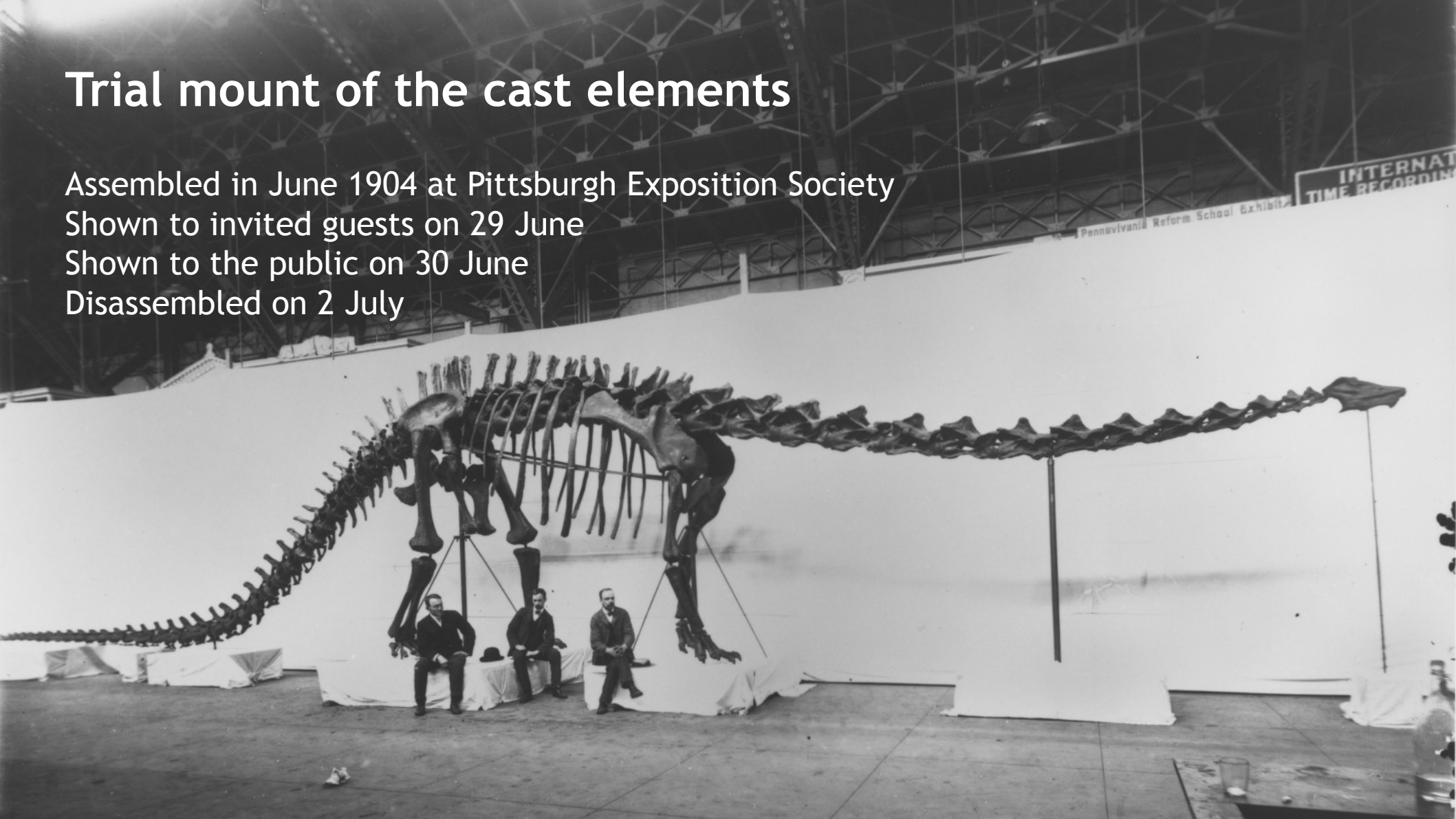
Italian sculptor.

Led the moulding and casting process.

“the condition of our bones […] is such that we cannot without endangering the specimens in some cases pour plaster about them to make piece molds. […] It will become necessary for us to carefully model in sculptor’s clay a number of at least the vertebrae, and then from the models make molds, from which an indefinite number of reproductions can in future be made.”
— Holland (1903) letter to Carnegie.

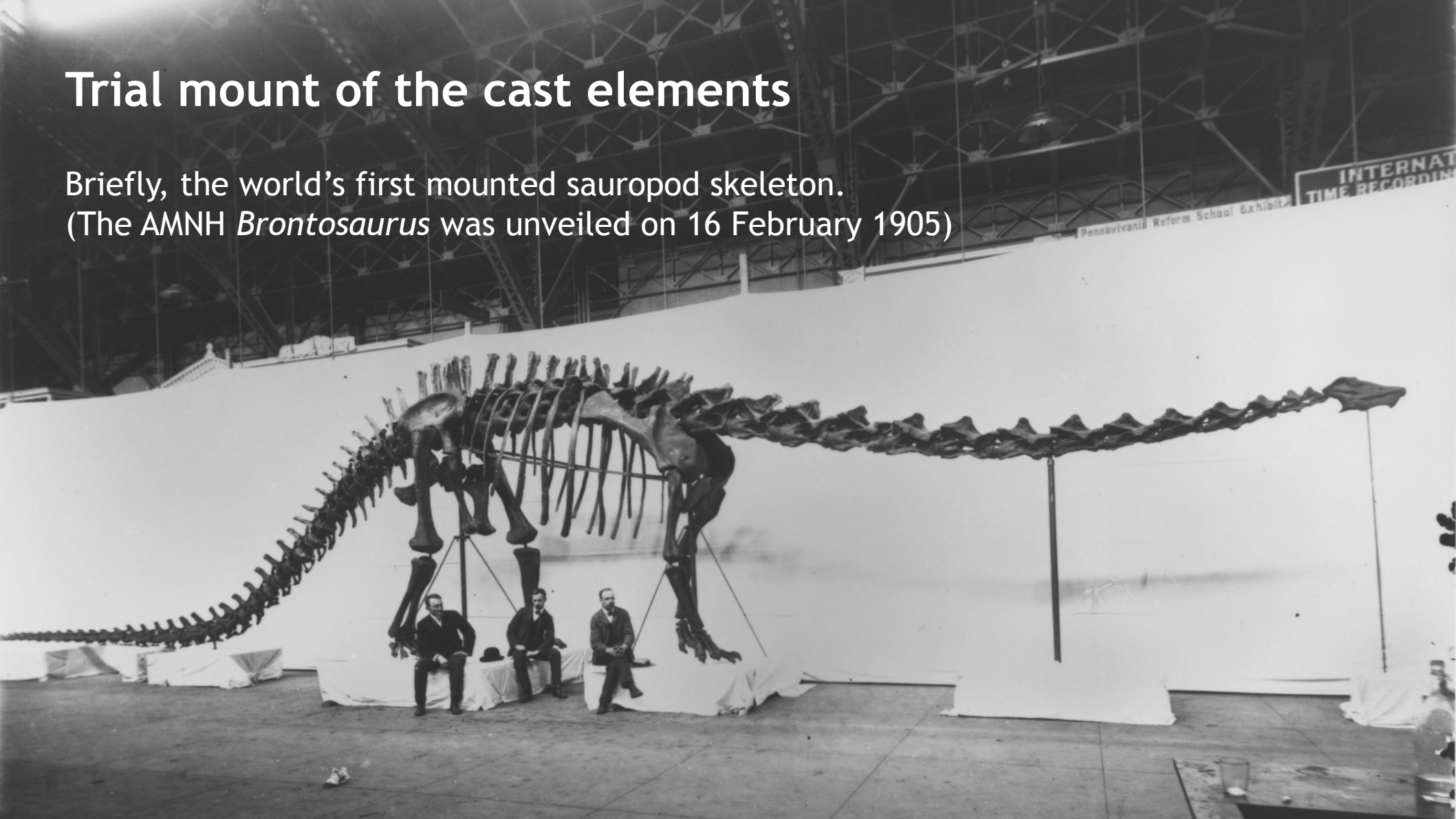
Trial mount of the cast elements

Assembled in June 1904 at Pittsburgh Exposition Society
Shown to invited guests on 29 June
Shown to the public on 30 June
Disassembled on 2 July



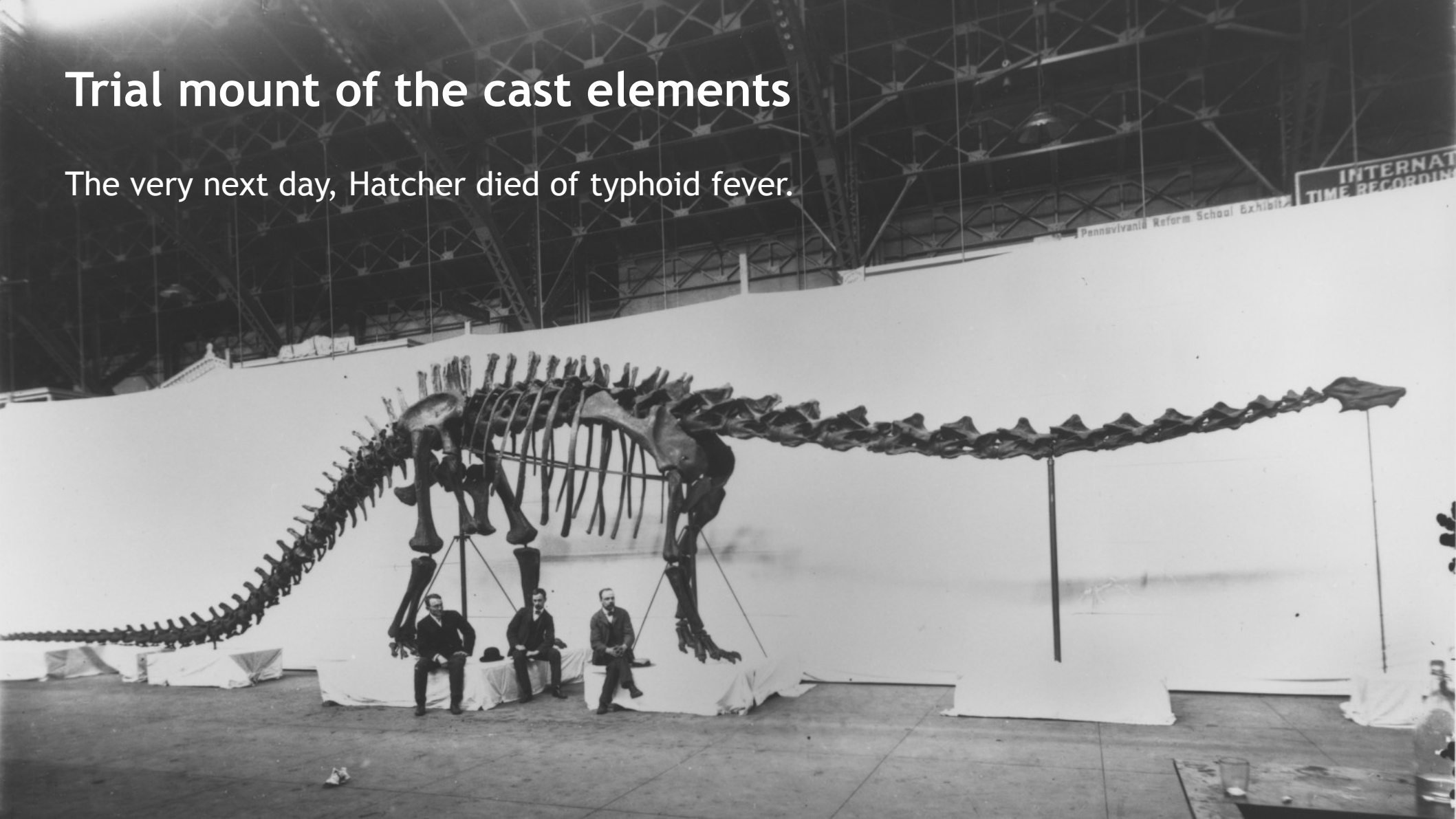
Trial mount of the cast elements

Briefly, the world's first mounted sauropod skeleton.
(The AMNH *Brontosaurus* was unveiled on 16 February 1905)



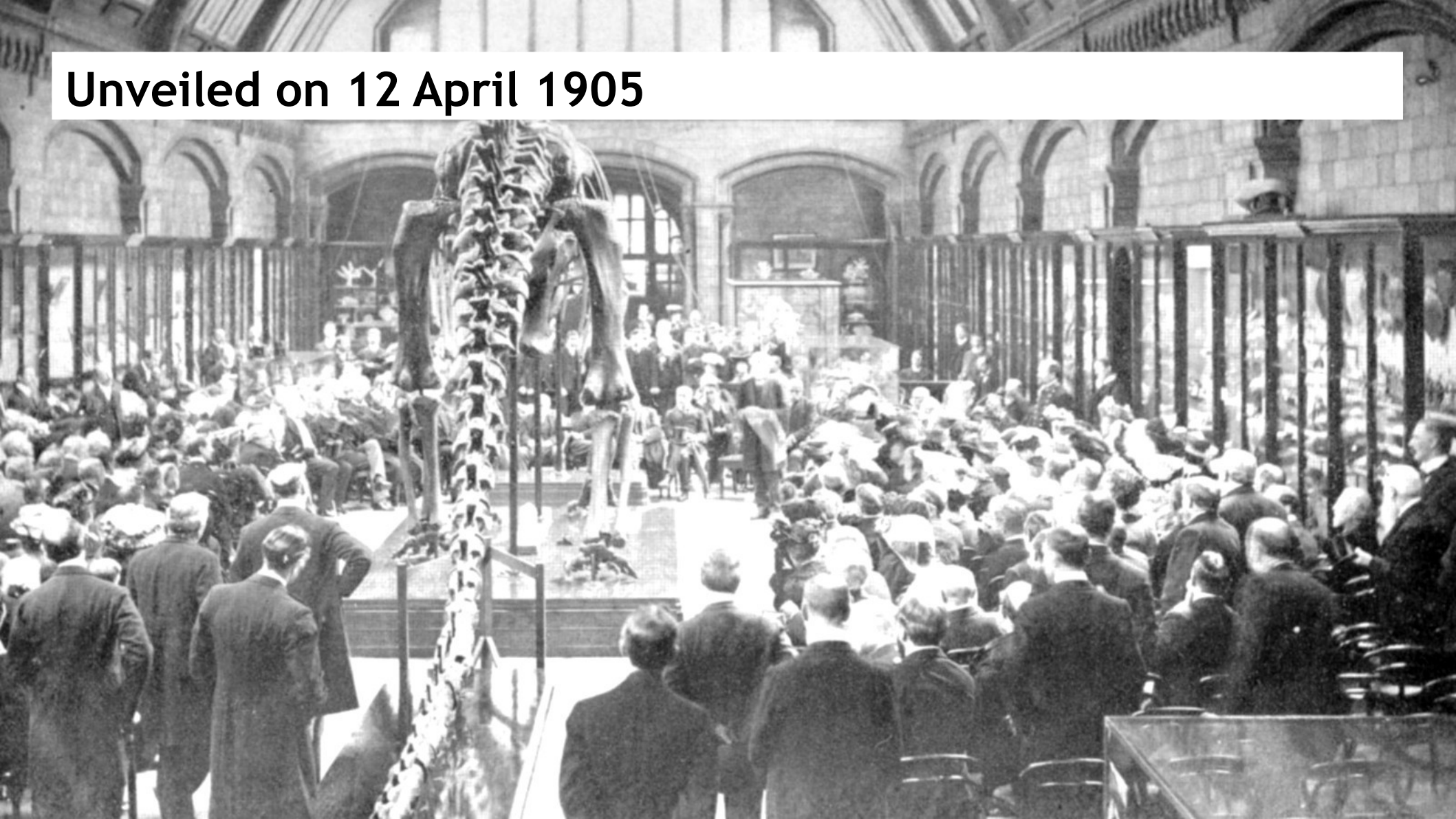
Trial mount of the cast elements

The very next day, Hatcher died of typhoid fever.



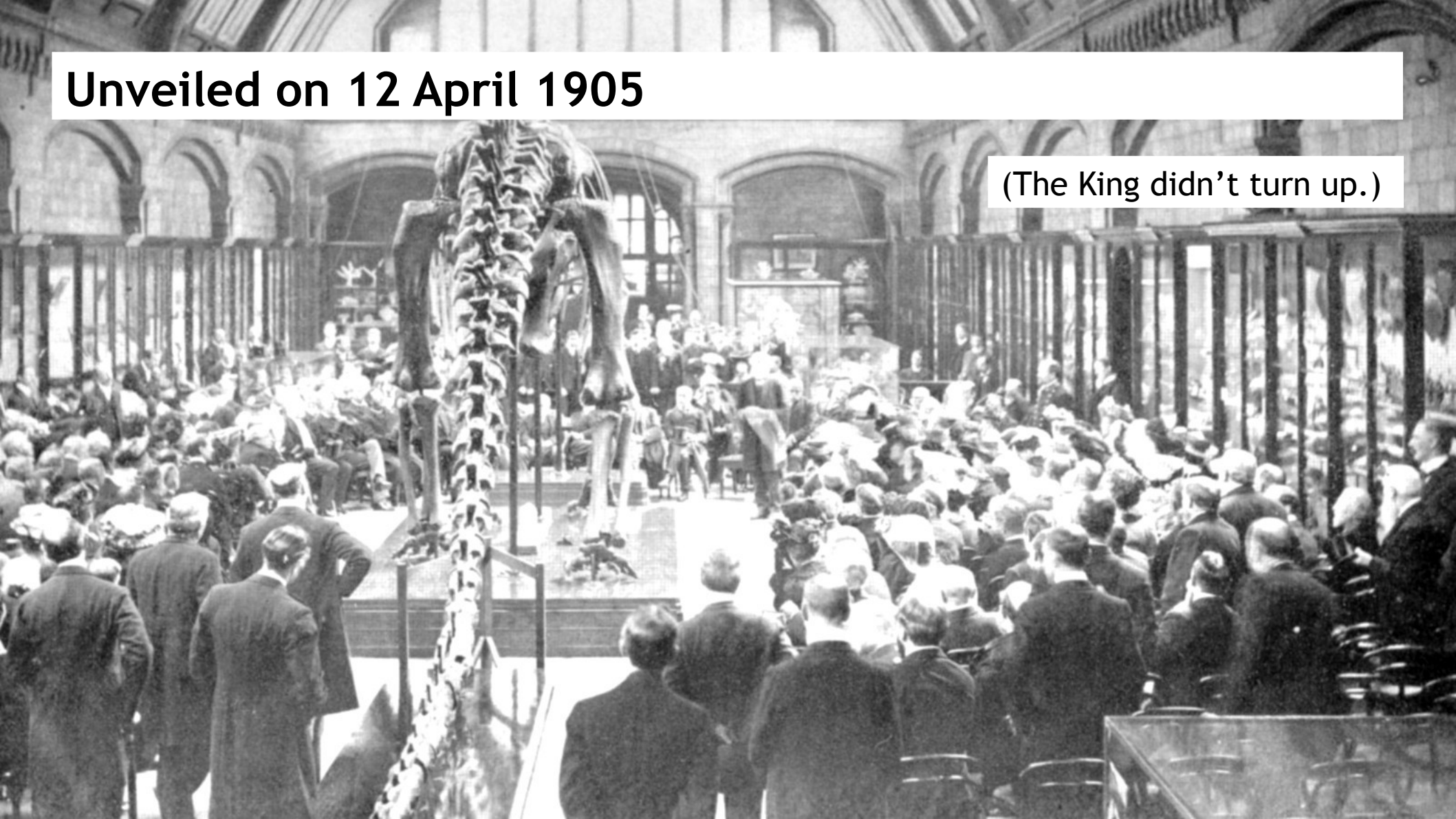

Mounted in London, April 1905

Unveiled on 12 April 1905

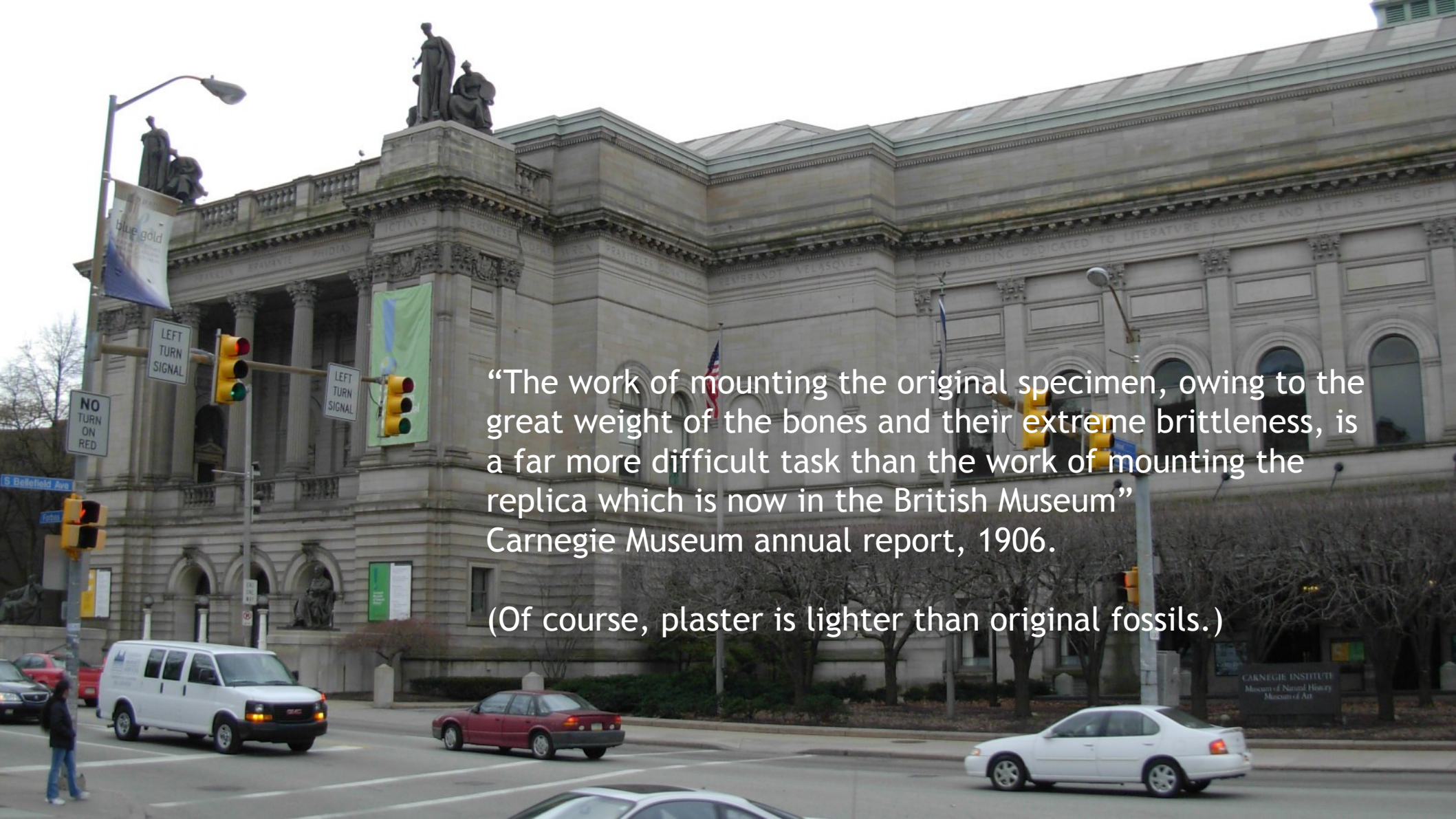


Unveiled on 12 April 1905

(The King didn’t turn up.)



Meanwhile, back at the ranch ...



"The work of mounting the original specimen, owing to the great weight of the bones and their extreme brittleness, is a far more difficult task than the work of mounting the replica which is now in the British Museum"
Carnegie Museum annual report, 1906.

(Of course, plaster is lighter than original fossils.)

The original skeleton was mounted in 1907

The composition of the mounted “skeleton” was complex

Bones

CM 84: neck, torso, ribs, sacrum, 12 proximal caudals, left scapulocoracoid, sternal plates, right ilium, pubes, ischia, left femur

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CM 307: the rest of the tail

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CM 307: the rest of the tail
CM 33985: lower left hindlimb

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CM 307: the rest of the tail
CM 33985: lower left hindlimb
CM 21775: left forelimb

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Sculptures
CM 662: sculpted right forelimb
AMNH 965: sculpted forefeet
CM 662: sculpted braincase
USNM 2673: sculpted remainder of skull
Pure sculpture: axis, left ilium, femur and tibia

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Based on skeletal reconstruction by Scott Hartman
Used by permission

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Something wrong here

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Missing: clavicles, interclavicle, sternal ribs, gastralia

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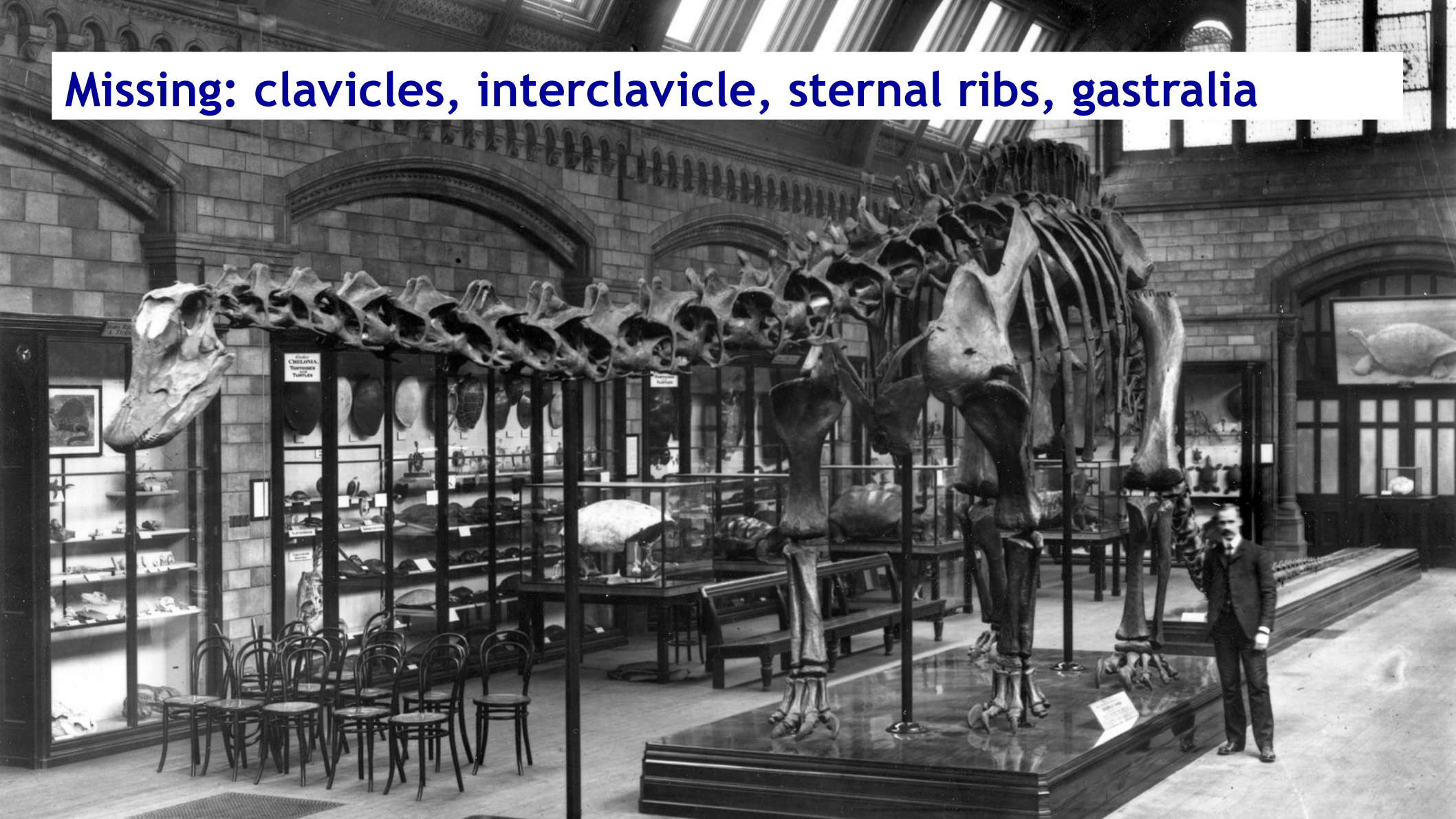
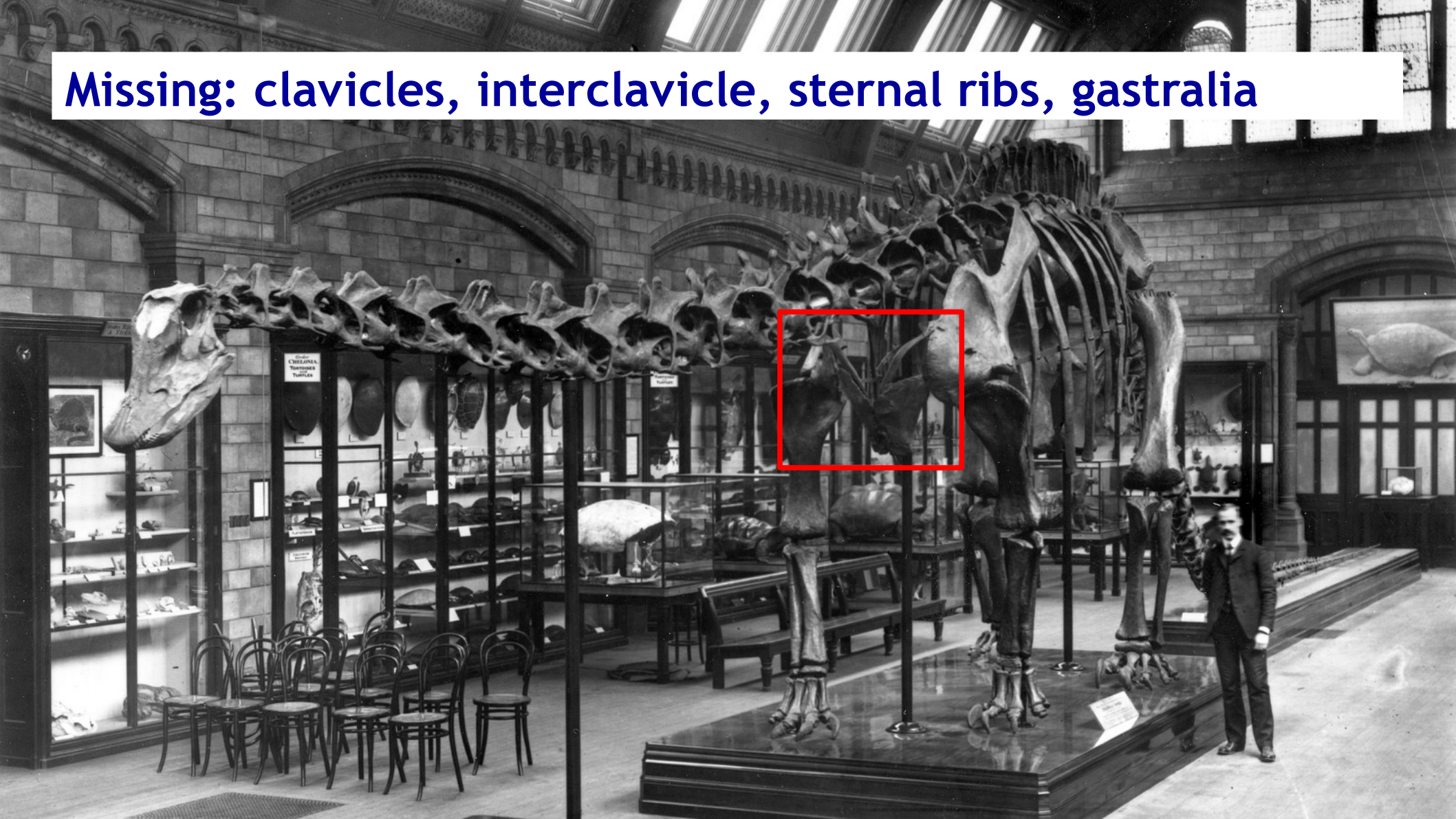
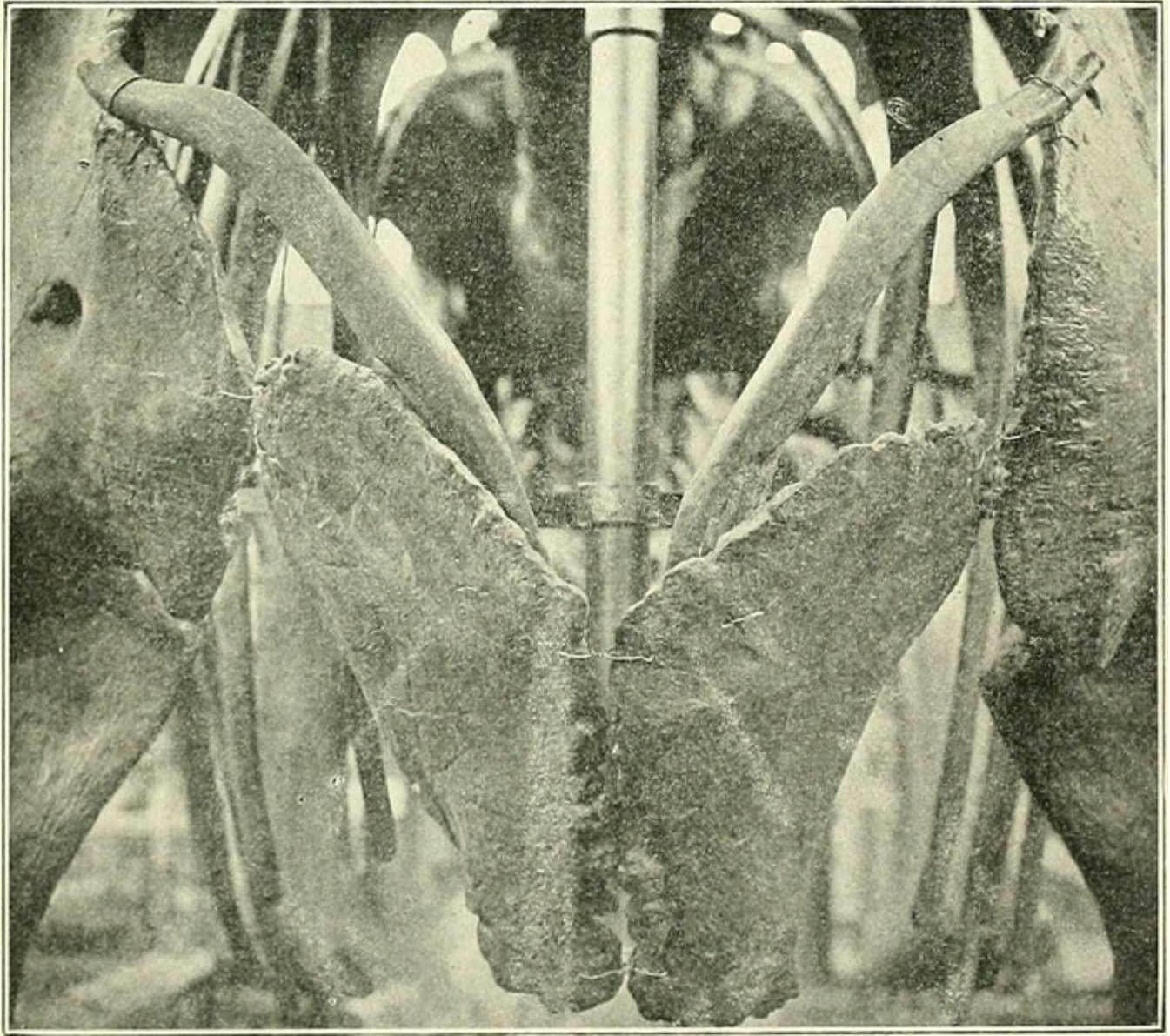
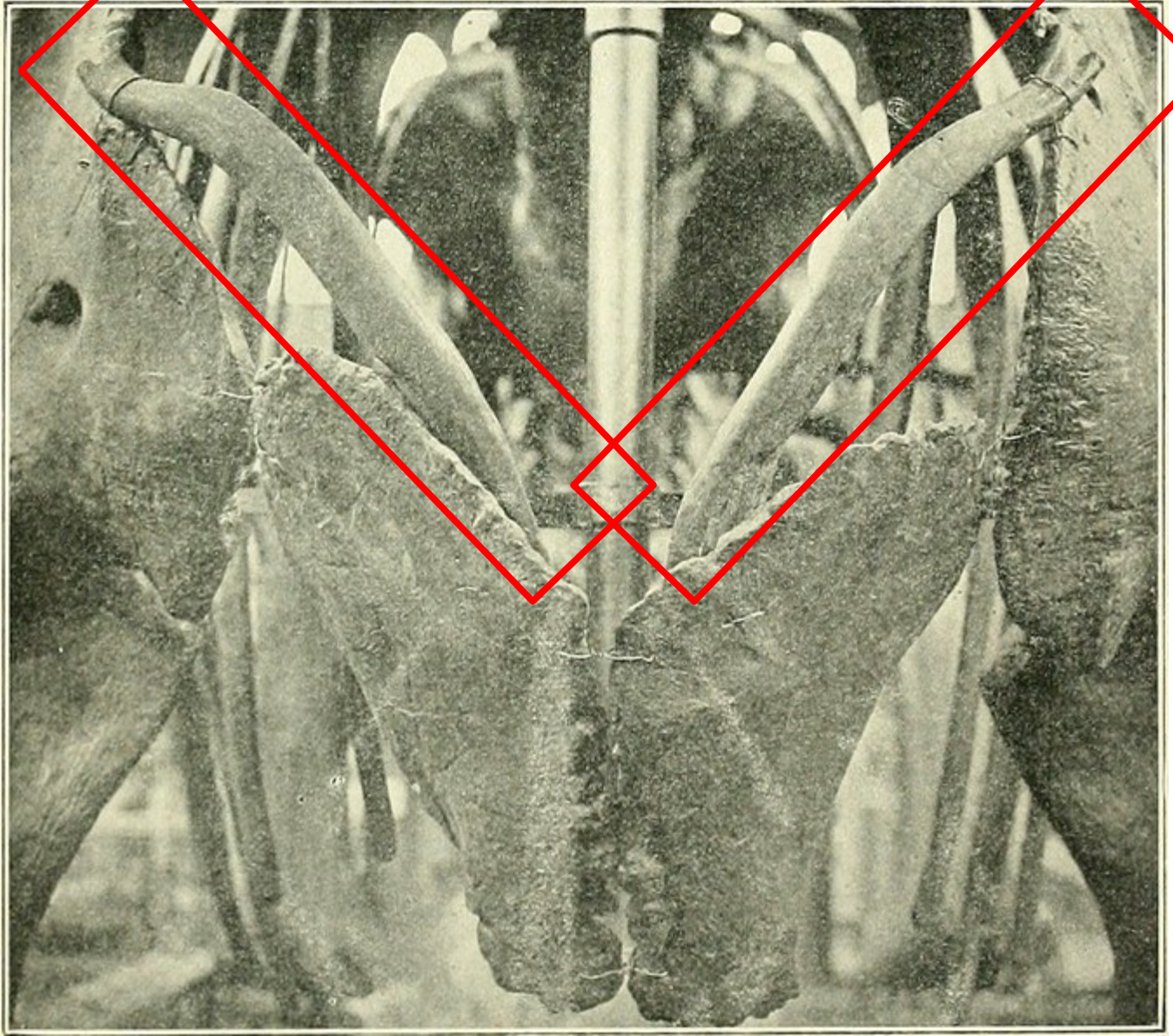
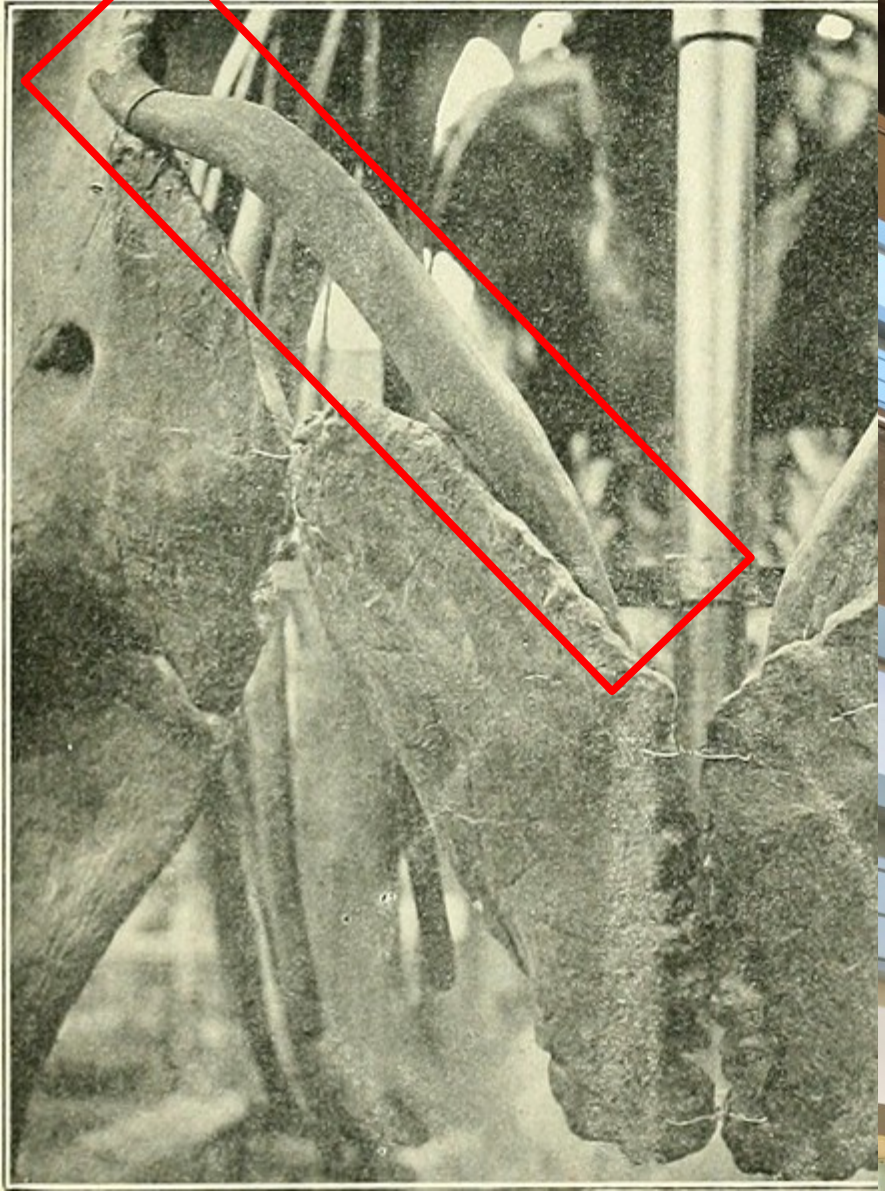


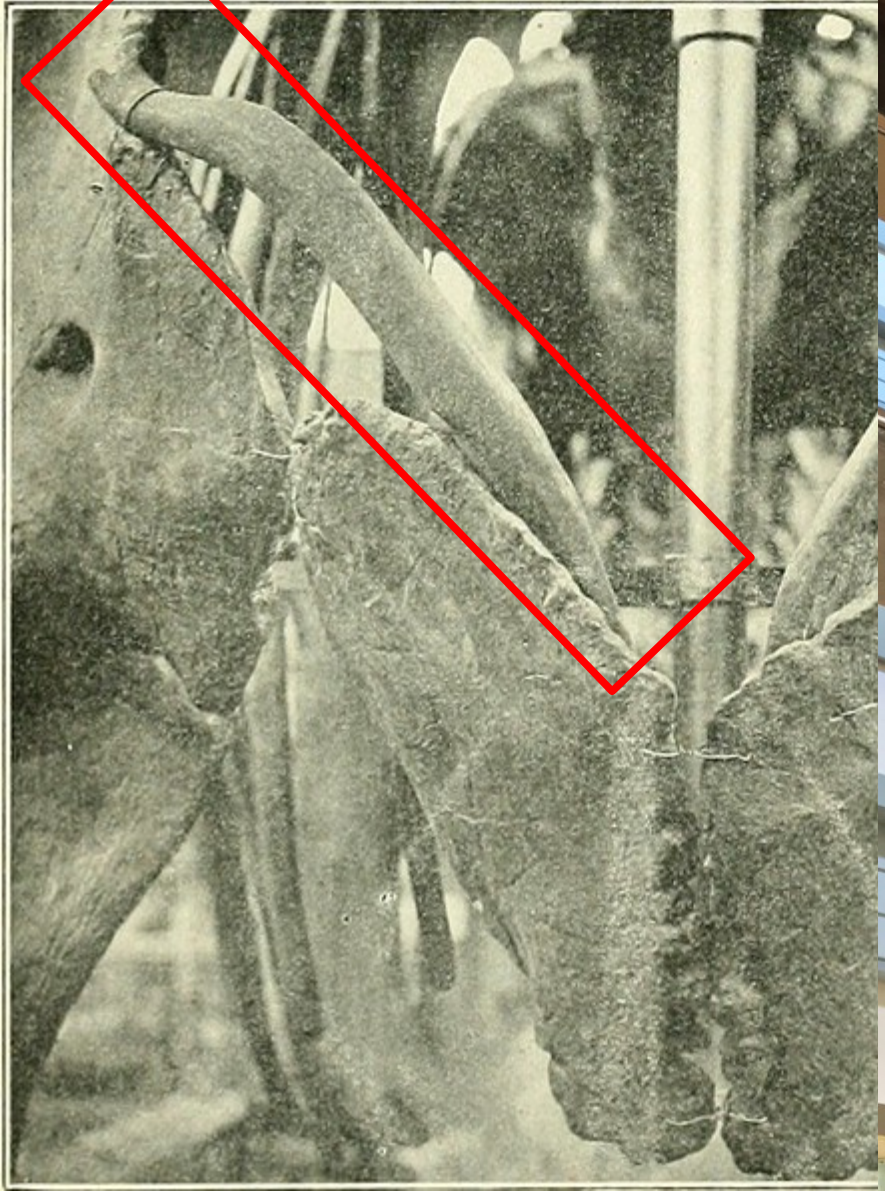
Missing: clavicles, interclavicle, sternal ribs, gastralia

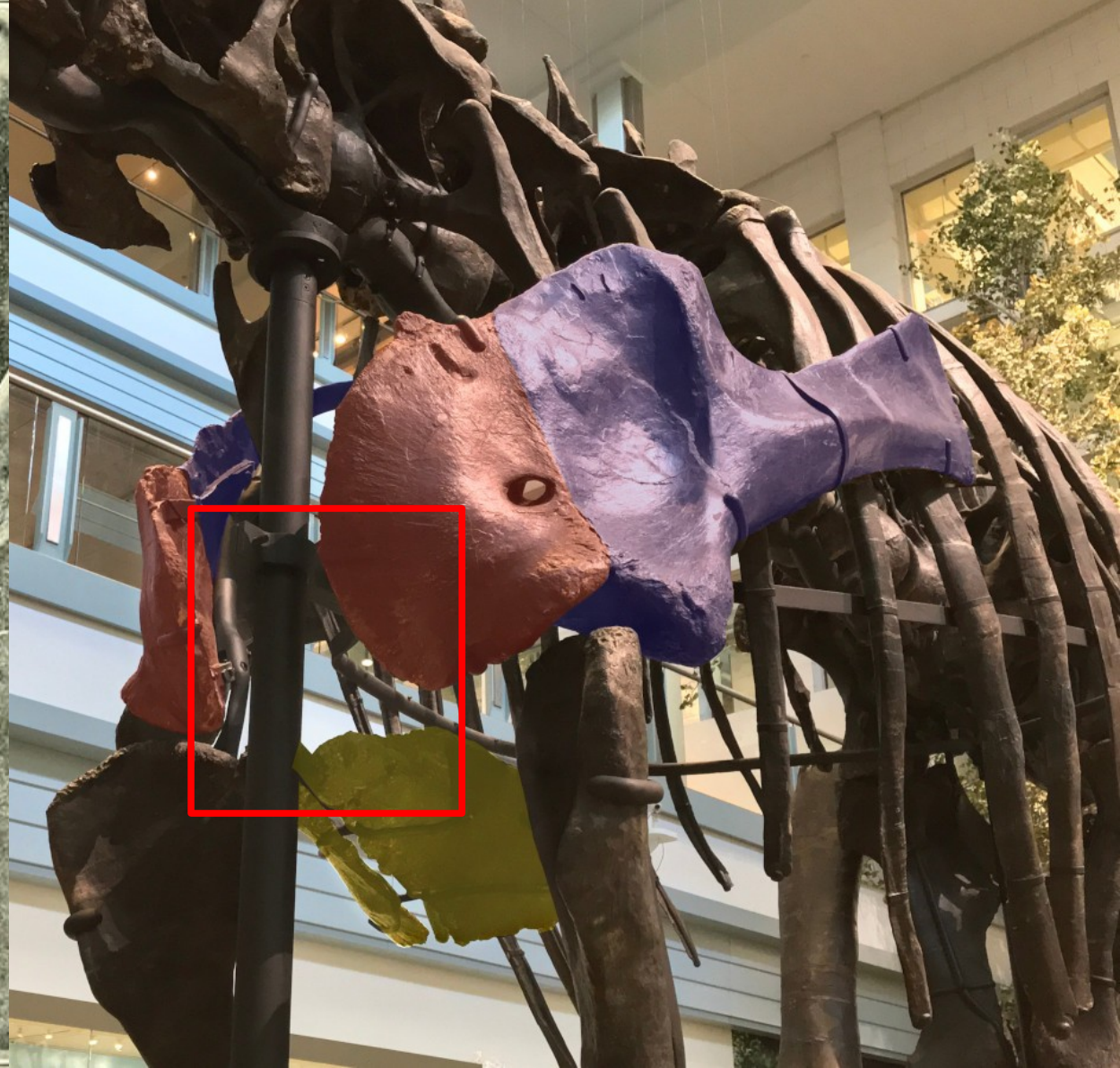


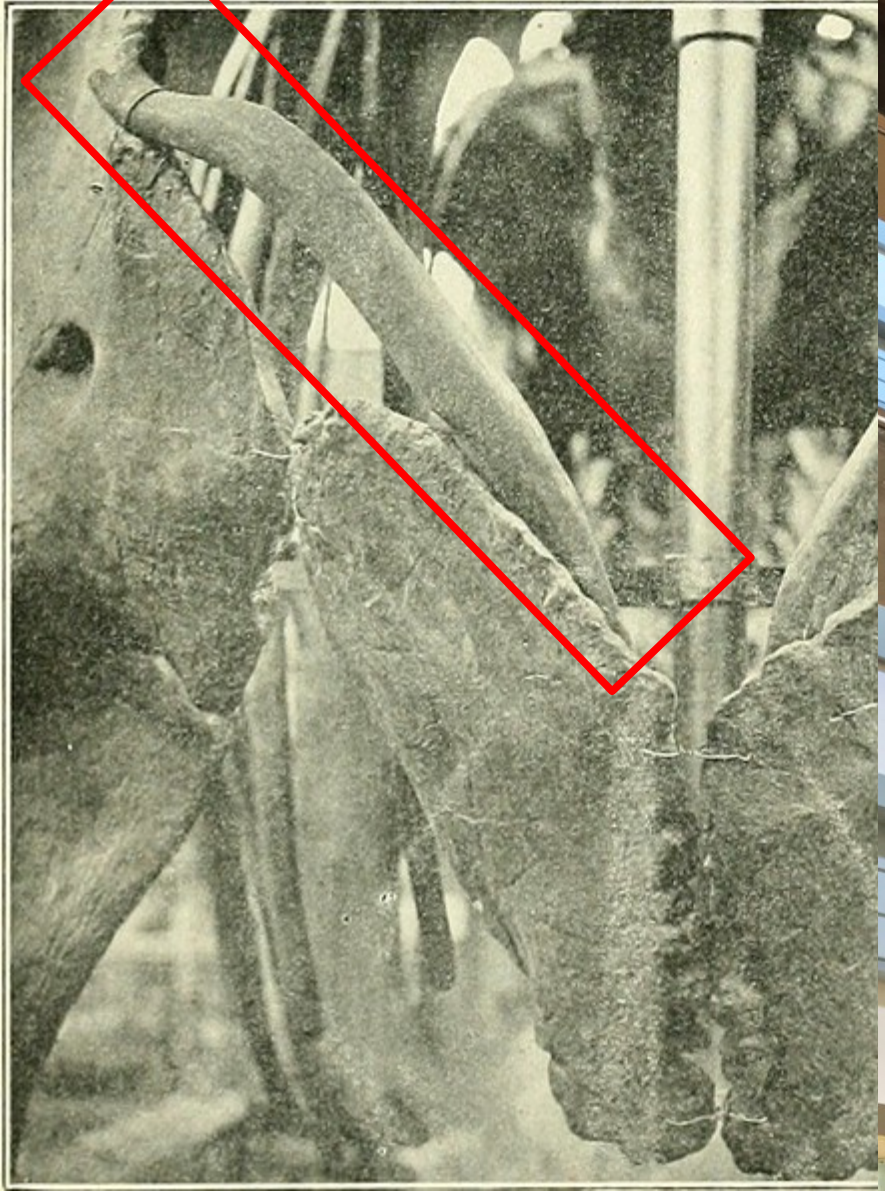


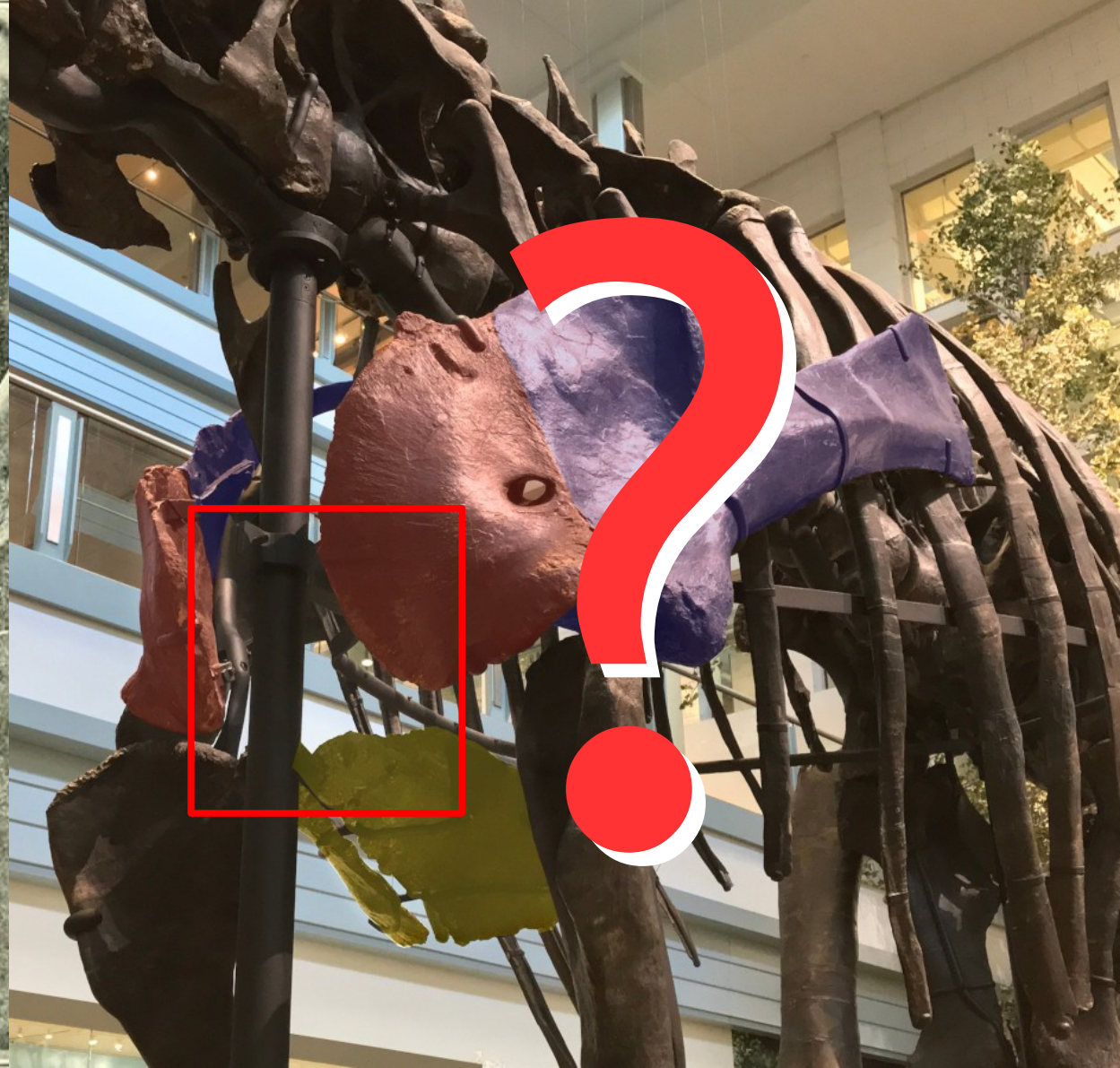










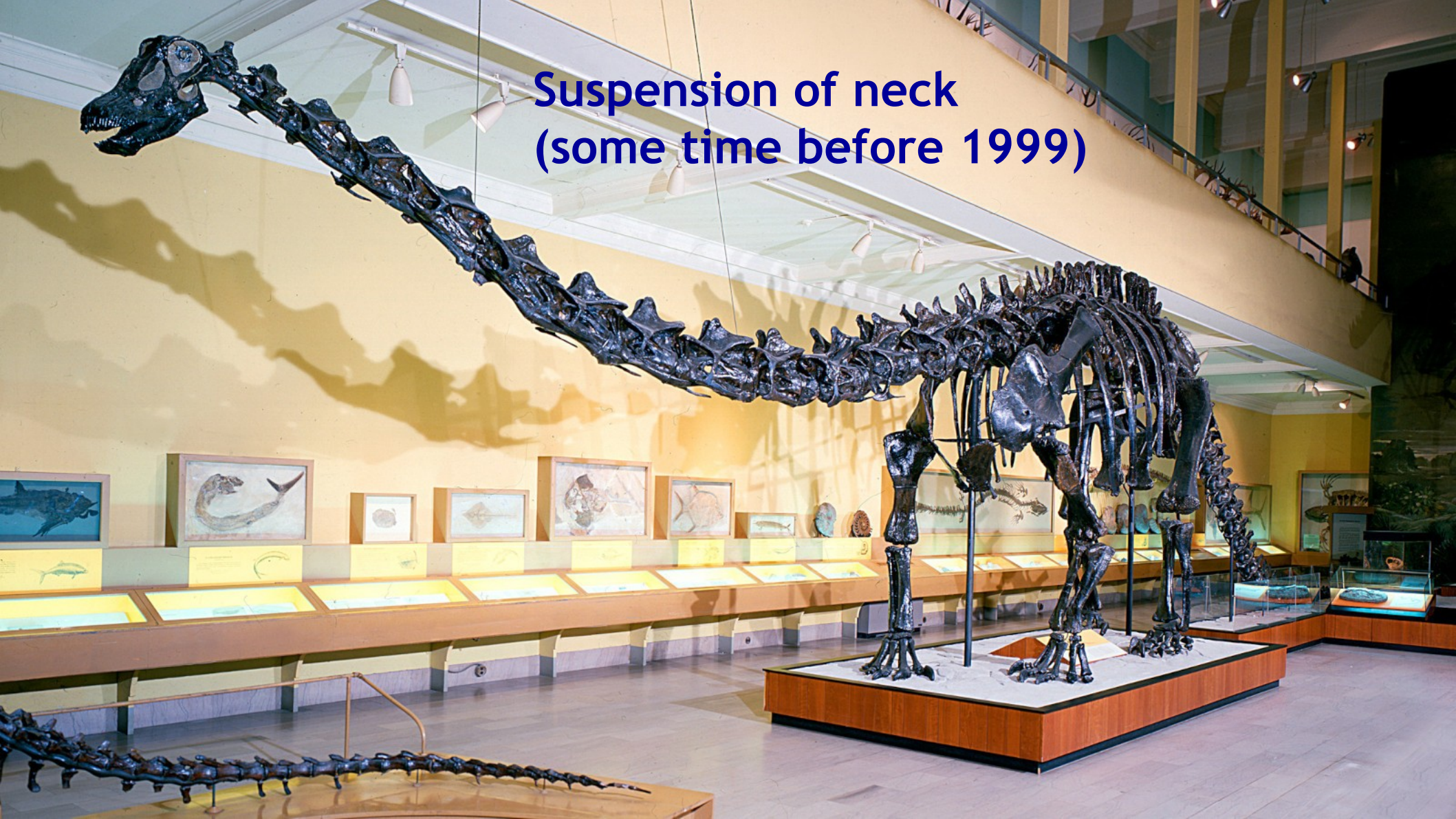


Skull replacement (between 1912 and 1947)

CM 662 braincase +
USNM 2673 remainder of skull

→

CM 11161
skull


Suspension of neck
(some time before 1999)

Forelimb problems

Forelimb problems

Forelimb problems

Diplodocus sp. AMNH 5855
left humerus, anterior view (reversed)

(Mook 1917:figure 2A)

Camarasaurus supremus AMNH 5761/H.2
left humerus, anterior view

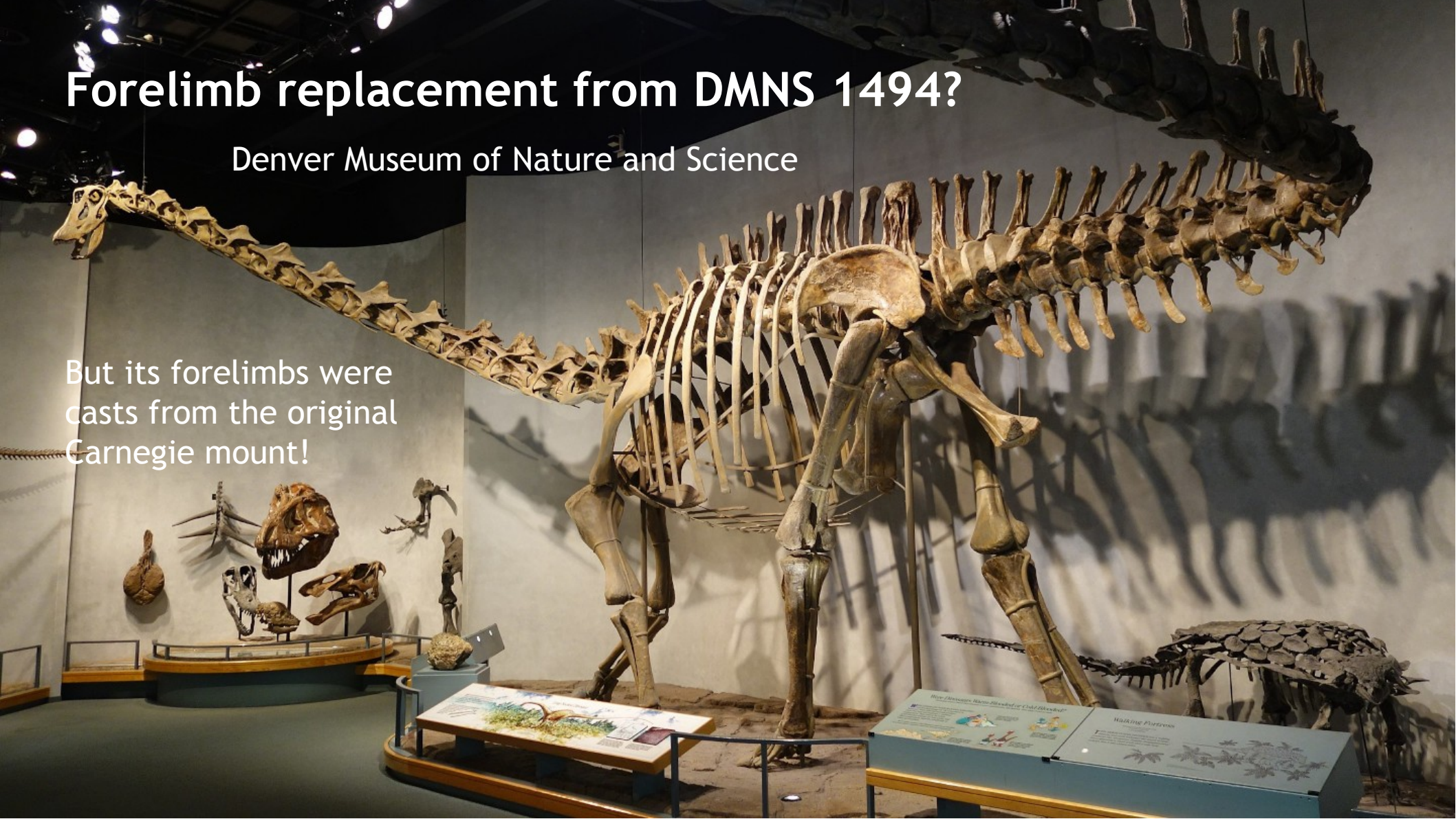
(Osborn and Mook 1921:figure 84B)

Forelimb replacement from DMNS 1494?

Denver Museum of Nature and Science

Forelimb replacement from DMNS 1494?

Denver Museum of Nature and Science



But its forelimbs were casts from the original Carnegie mount!


Forelimb replacement
2007
BYU 681 scaled sculptures

Forefoot problems

Forefoot problems

Forefoot epic part 1. Original Paris mount

AMNH 965 camarasaurid

Forefoot epic part 2. 2007 re-pose at HMN

AMNH 965 camarasaurid

Forefoot epic part 3. 1999 forefoot update

CM 662 "*Diplodocus*" *hayi*
(= *Galeamopus hayi*)

Forefoot epic part 4. 2007 remount

WDC-FS001A
Referred to *D. carnegii*
but probably not *Diplodocus*.

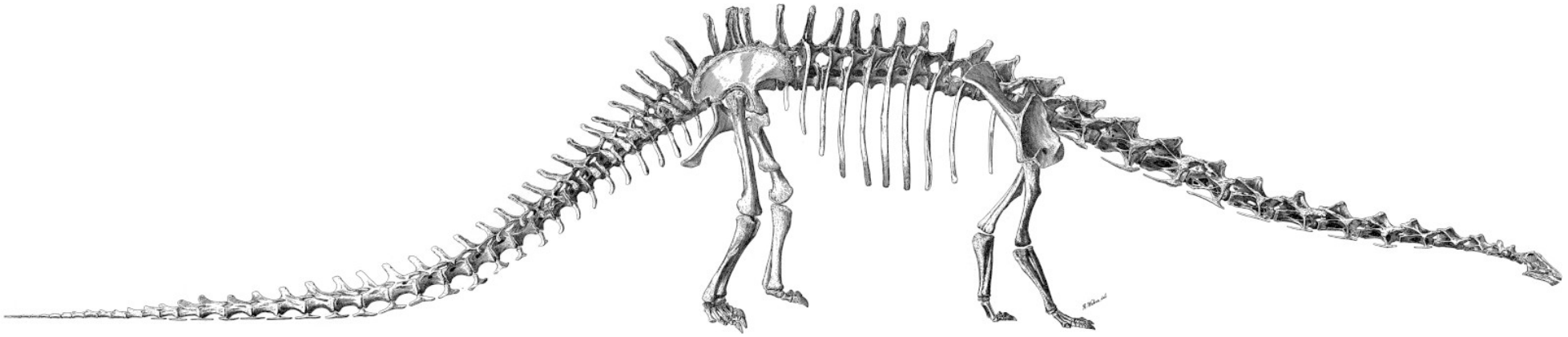
(From Wyoming Dinosaur Center.)

During remounting at Phil Fraley Productions studio, 2007

The remounted skeleton, photo in 2020

Total length of the mounted skeleton

Source	Length (feet)	Length (m)	Comments
Hatcher (1901)	68 feet	20.7 m	Tip of snout to caudal 37



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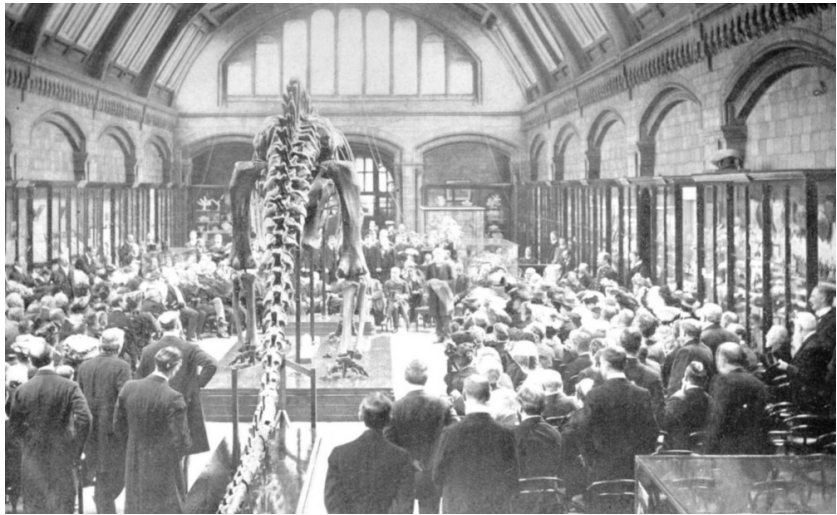
Source	Length (feet)	Length (m)	Comments
Hatcher (1901)	68 feet	20.7 m	Tip of snout to caudal 37
Holland (1904a)	78–80 feet	21.3–24.4 m	London mount, predicted
Holland (1904b)	84–85 feet	25.6–25.9 m	London mount
Holland (1904b)	78–80 feet	21.3–24.4 m	London mount
Holland (1905)	84 feet	25.6 m	London mount
Holland (1907)	78.5 feet	23.94 m	Berlin mount.



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Holland (1907)	78.5 feet	23.94 m	Berlin mount.
Untermann (1959)	76 feet	23.2 m	Vernal mount
David Letasi (p.c.)	75 feet	22.9 m	Lehi elements, laid out
Vincent Reneleau (p.c.)	77 feet	23.5 m	Distance along floor

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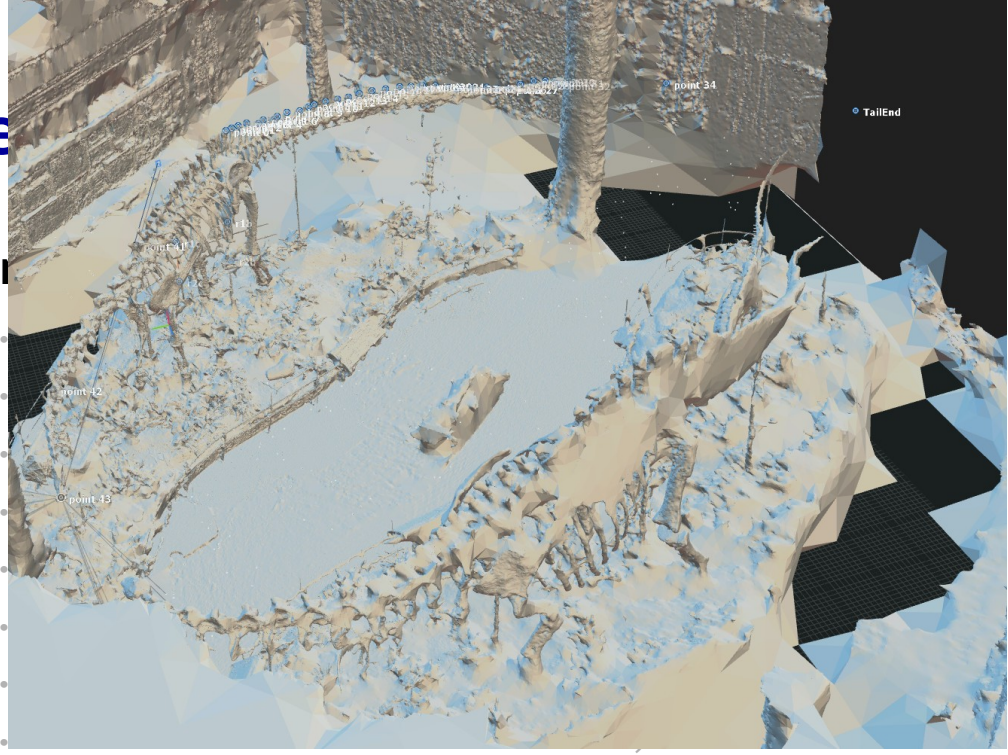
Holland (1905)	84 feet	25.	
Holland (1907)	78.5 feet	23.	
Untermann (1959)	76 feet	23.	
David Letasi (p.c.)	75 feet	22.	
Vincent Reneleau (p.c.)	77 feet	23.5 m	Distance along floor
Falkingham Photogram.	85.5 feet	26.05 m	Current Carnegie mount



Total length of the

Source	Le		
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Holland (1904b)	78		
Holland (1905)	84		
Holland (1907)	78		
Untermann (1959)	76		
David Letasi (p.c.)	75		
Vincent Reneleau (p.c.)	77 feet	23.5 m	Distance along floor
Falkingham Photogram.	85.5 feet	26.05 m	Current Carnegie mount
Eye-Bot LIDAR	85 feet, 9 in	26.13 m	Current Carnegie mount

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Consensus: old mount about 23 m, new mount 26 m.

Casts were sent around the world in the early 1900s.

Natural History Museum	**London**	England	12 May 1905
Museum für Naturkunde Berlin	**Berlin**	Germany	13 May 1908
Muséum National d'Histoire Naturelle	**Paris**	France	15 June 1908
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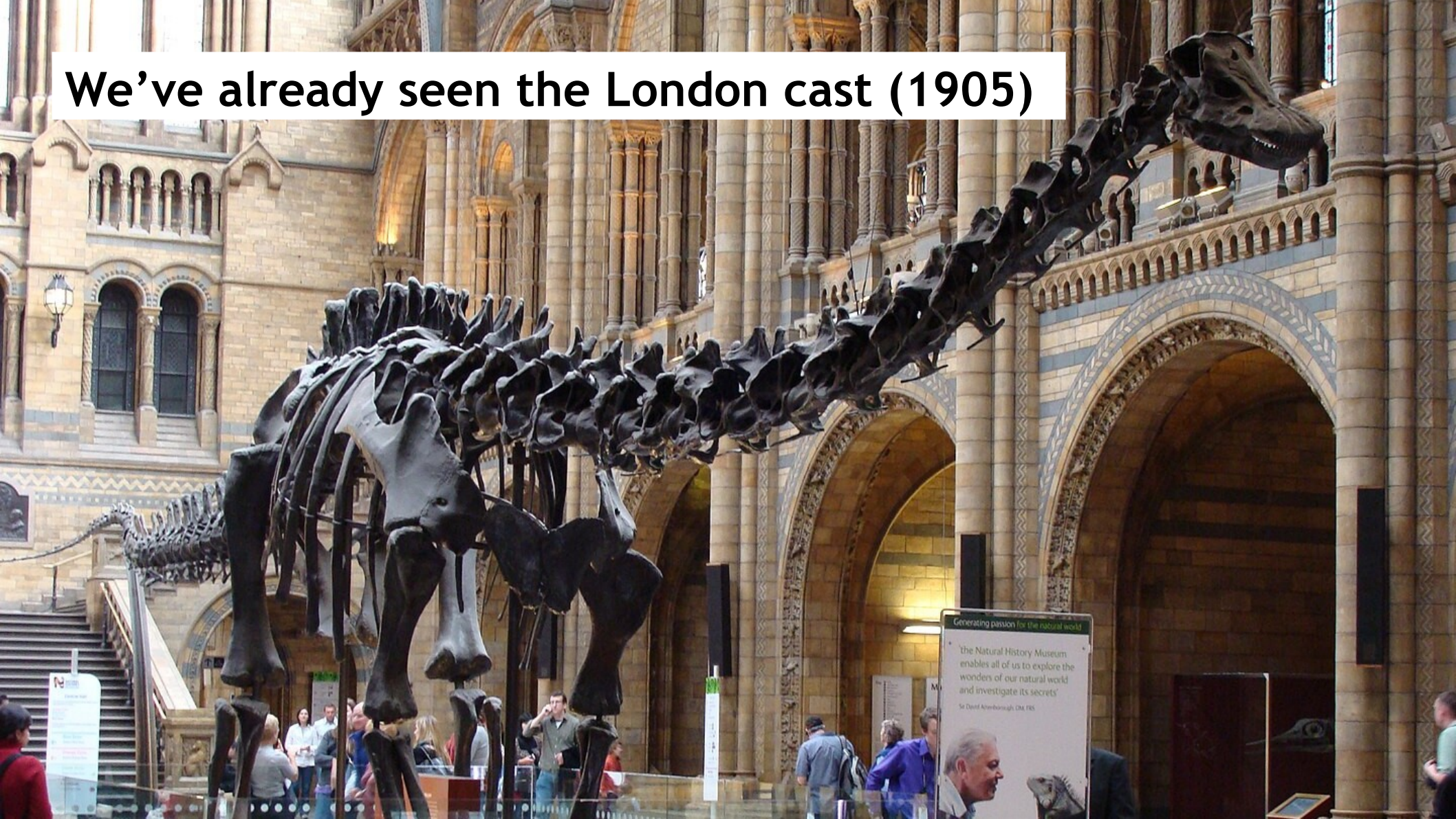
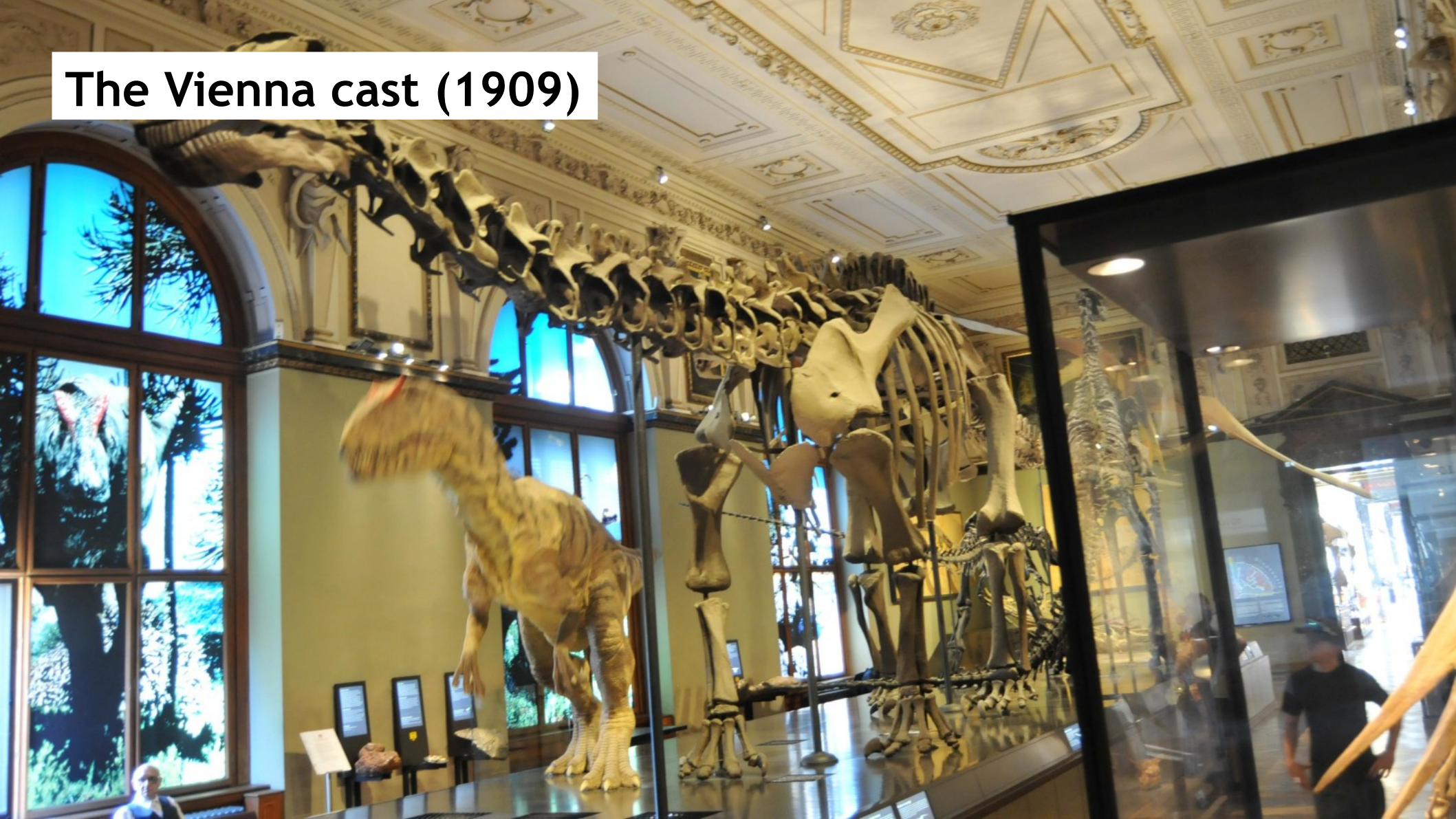
The Imperial Museum	**St. Petersburg**	Russia	Early July 1910
Museo de La Plata	**La Plata**	Argentina	1912
Museo Nacional de Ciencias Naturales	**Madrid**	Spain	2 December 1913
Museo de Paleontología (UNAM)	**Mexico City**	Mexico	1930
Staatssammlung für Paläontologie und Geologie	**Munich**	Germany	1934 (never mounted)

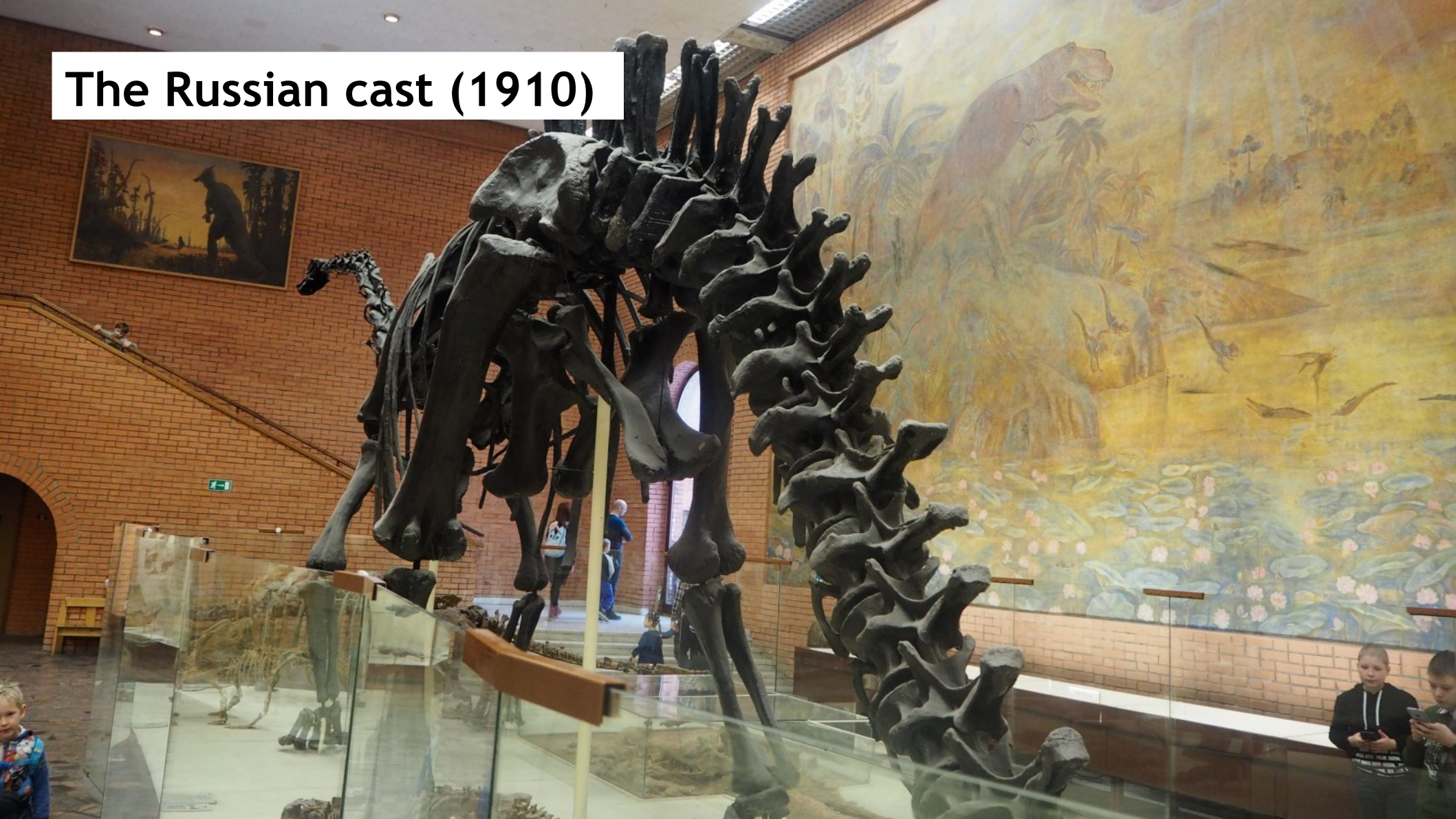

We’ve already seen the London cast (1905)
Generating passion for the natural world
‘the Natural History Museum enables all of us to explore the wonders of our natural world and investigate its secrets’

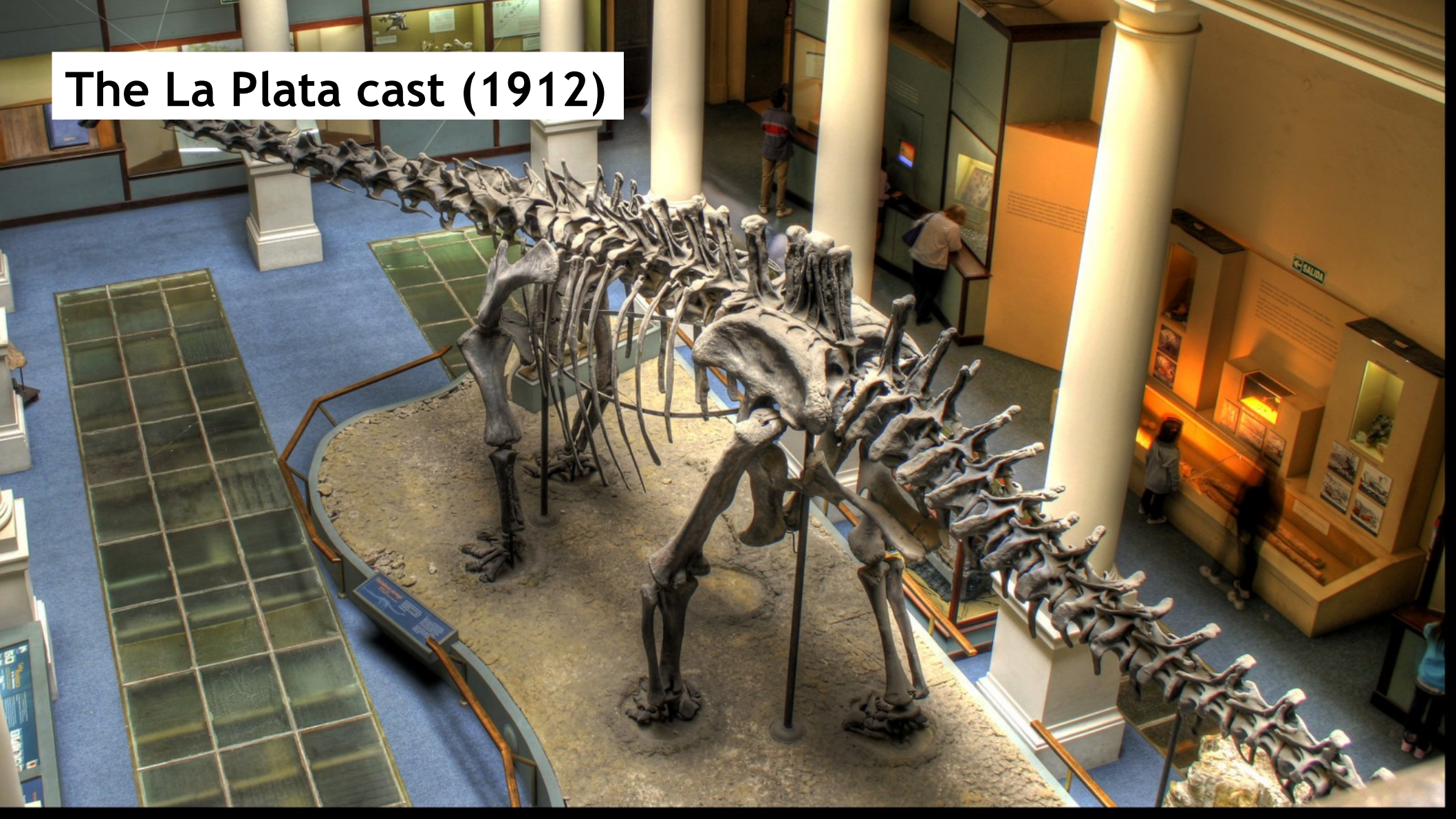

The Berlin cast (1908)


The Paris cast (1908)

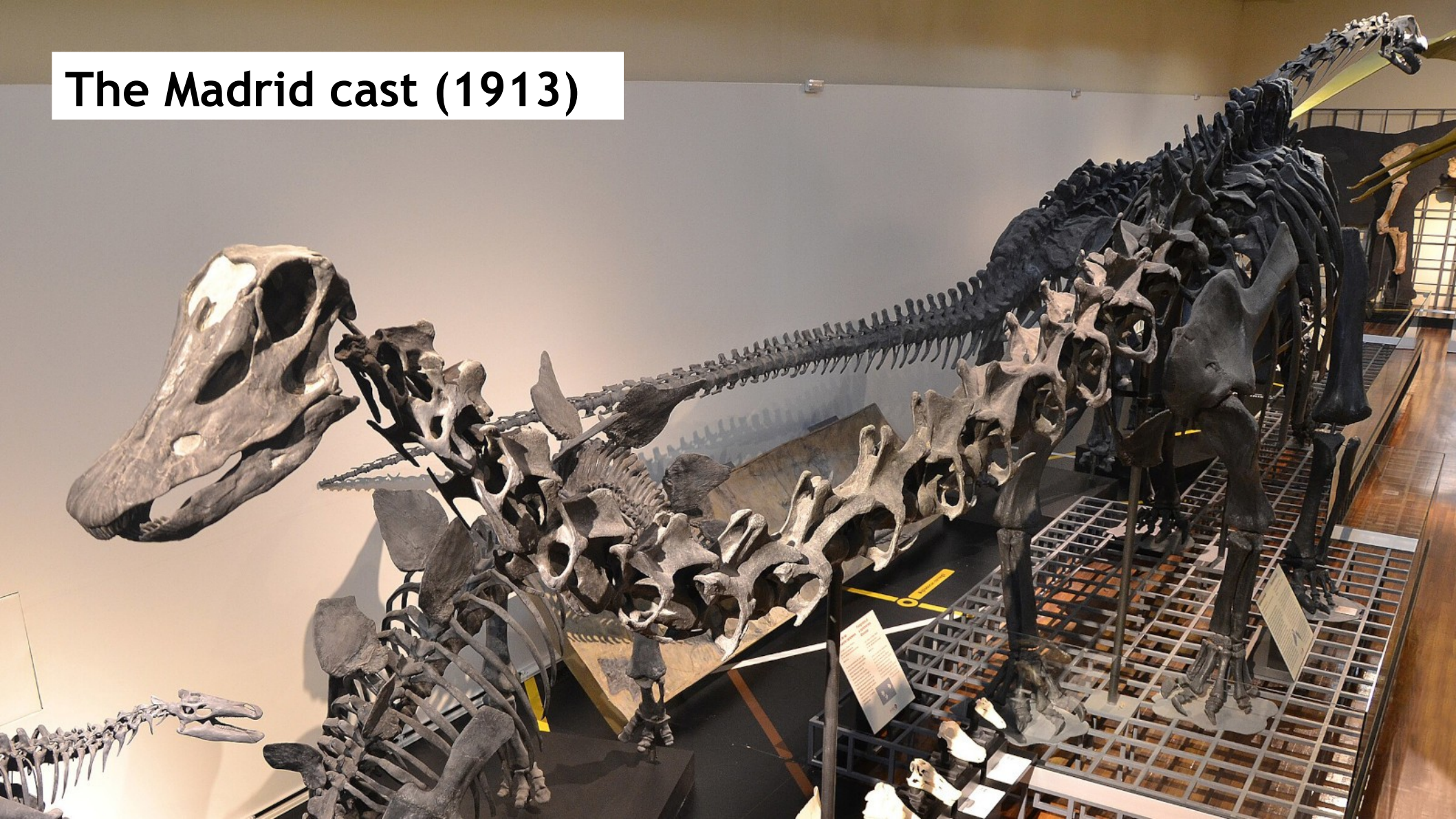

The Vienna cast (1909)

The Bologna cast (1909)


The Russian cast (1910)

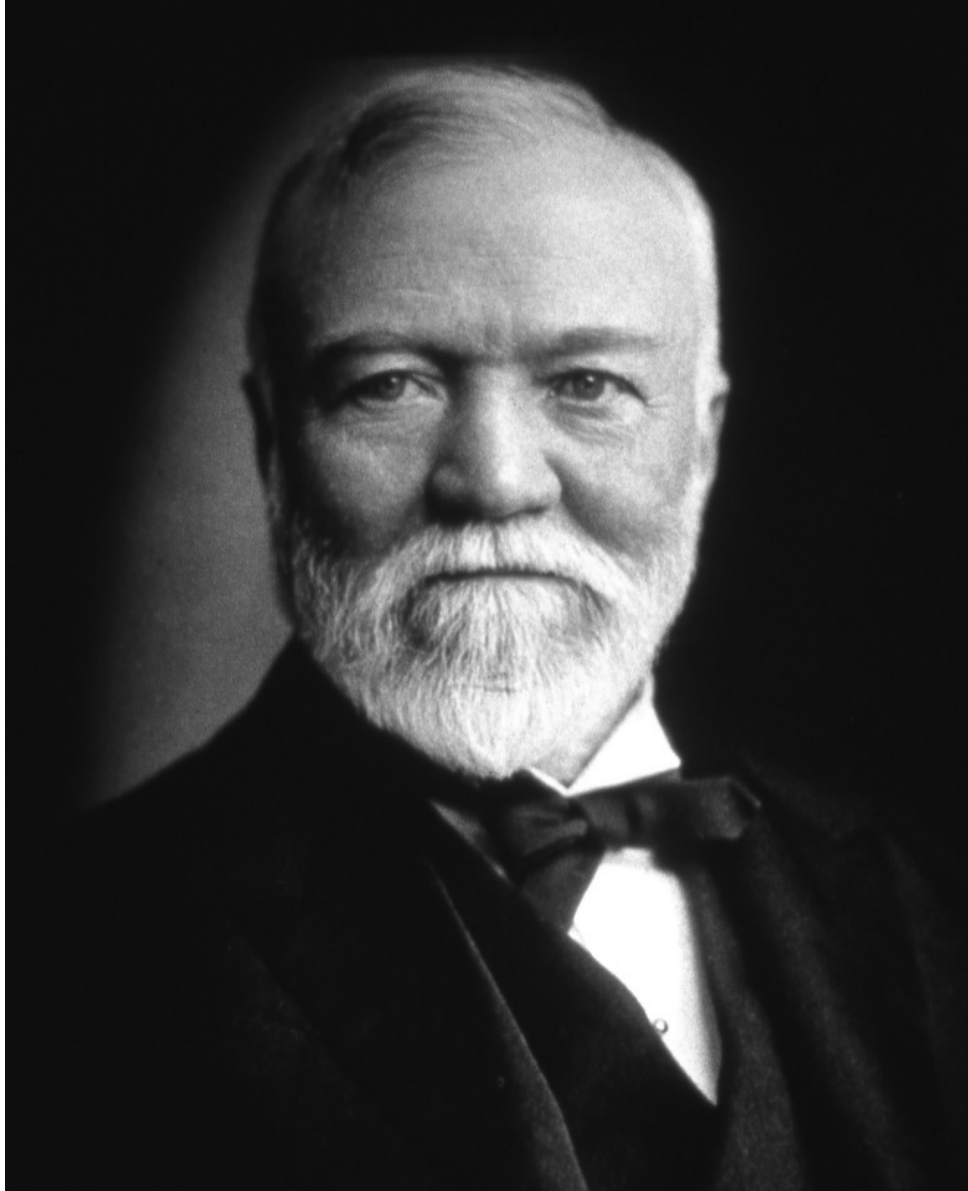

The La Plata cast (1912)

The Madrid cast (1913)

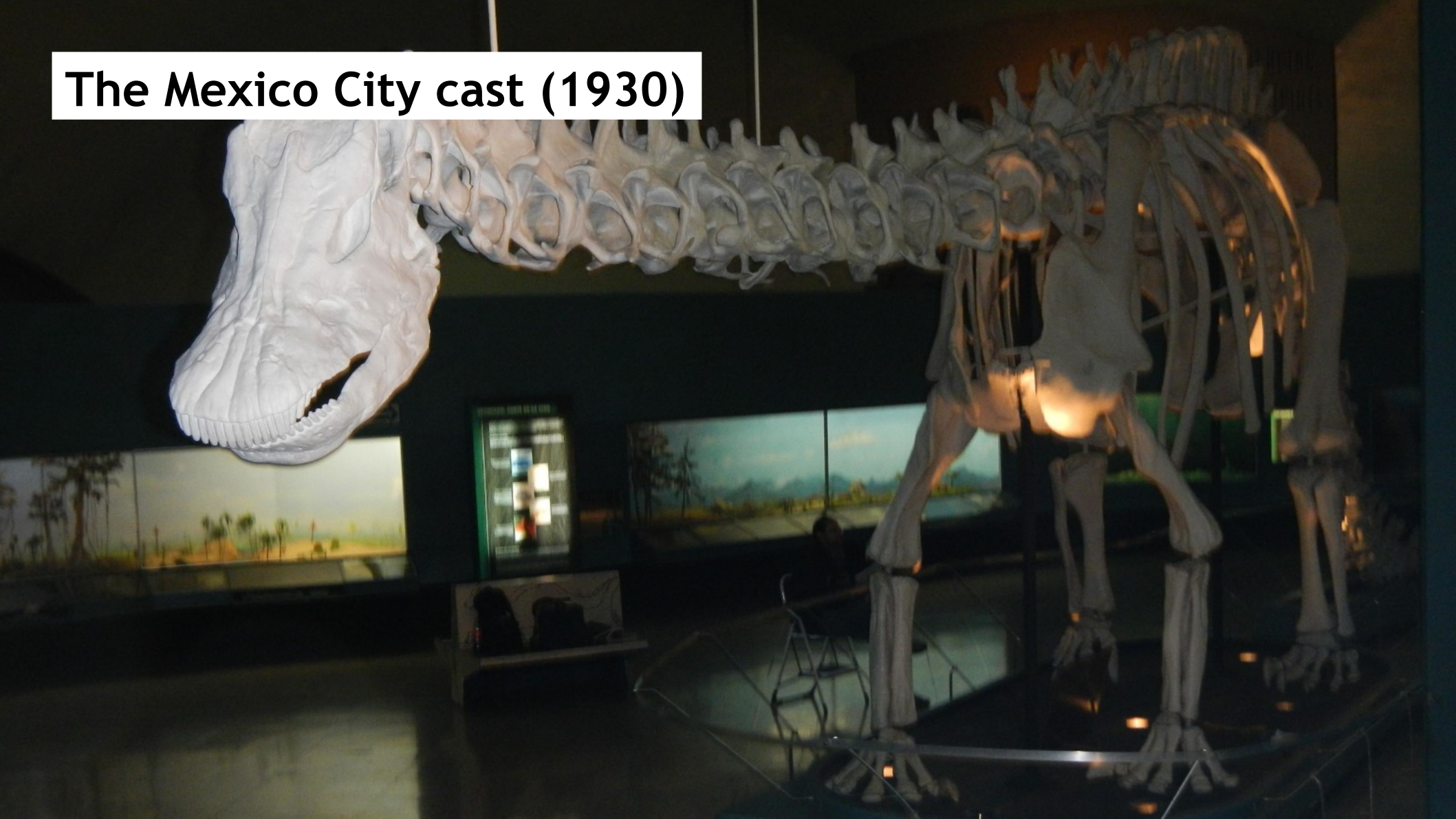


Carnegie died in 1919

Broken by the outbreak of WWI.



The Mexico City cast (1930)



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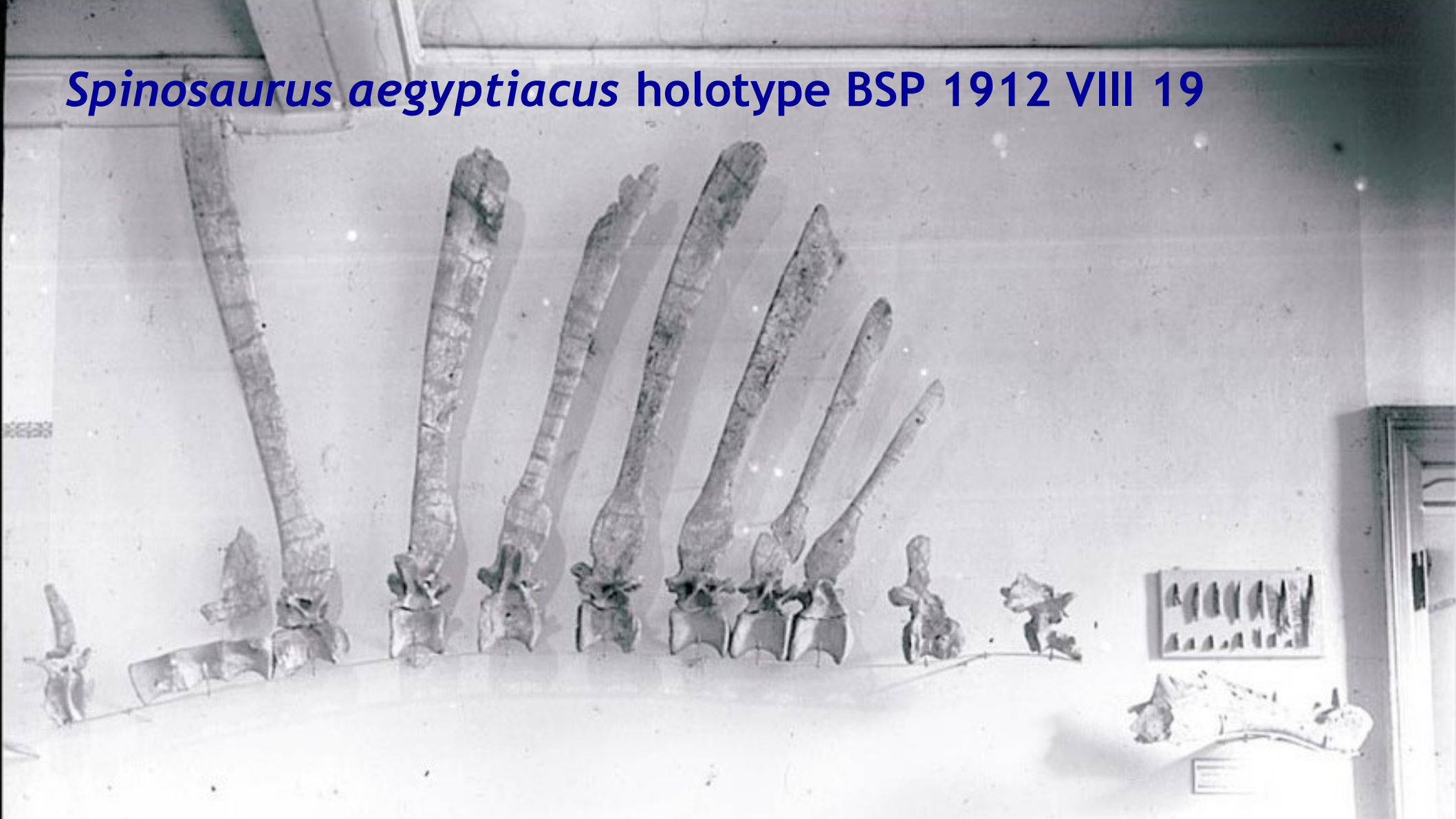
Staatssammlung für Paläontologie und Geologie	**Munich**	Germany	1934 (never mounted)


1934 was
not a great
time in
Germany

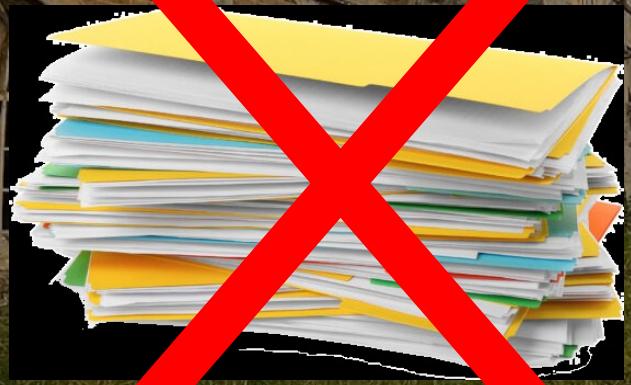

Spinosaurus aegyptiacus holotype BSP 1912 VIII 19


Spinosaurus destroyed by allied bombs in April 1944


Diplodocus taken to abandoned convent

Diplodocus taken to abandoned convent

… and the documentation lost



Hippie parties in the 1960s

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Molds unused
since
1930 or even 1910.

Episode IV: A New Hope

In 1952, Carnegie curator LeRoy “Pop” Kay donated the molds to the Field House in Vernal.

Untermanns

Ernest Untermann,
Museum Director.

— and —

Billie Untermann,
Staff Scientist.

Assembling the concrete cast

Ernest

Billie

Assembling the concrete cast

Cultural icon of Utah

1957-89

Dippy Draws 'Dudes,' by Thousands, Boosts Tourist Travel to Museum

G. Ernest Untermann,
Vernal Express
19 December 1957.

Dippy Draws 'Dudes,' by Thousands, Boosts Tourist Travel to Museum

Without benefit of seductive curves or a “come hither look”, “Dippy” the 76 foot long skeleton of the dinosaur *Diplodocus*, standing out on the lawn on the Utah Field House of Natural History, dazzles and delights the tourists, known to the trade as “dudes”.

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As a motorist pulls up to the curb, father hardly has time to set the brake, before the entire family erupts from the car and dashes across the lawn to charge Dippy amid gleeful squeals.

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Dippy is the most photographed object on U.S. Highway No. 40, between Salt Lake City and Denver. Although he was “born” only six months ago he had already been photographed thousands of times and has been the subject of as many as seven different camera fans at one time.

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1960s: where will the molds go next?

Inquiries from various countries

1960s: what next for the molds?

Inquiries from various countries

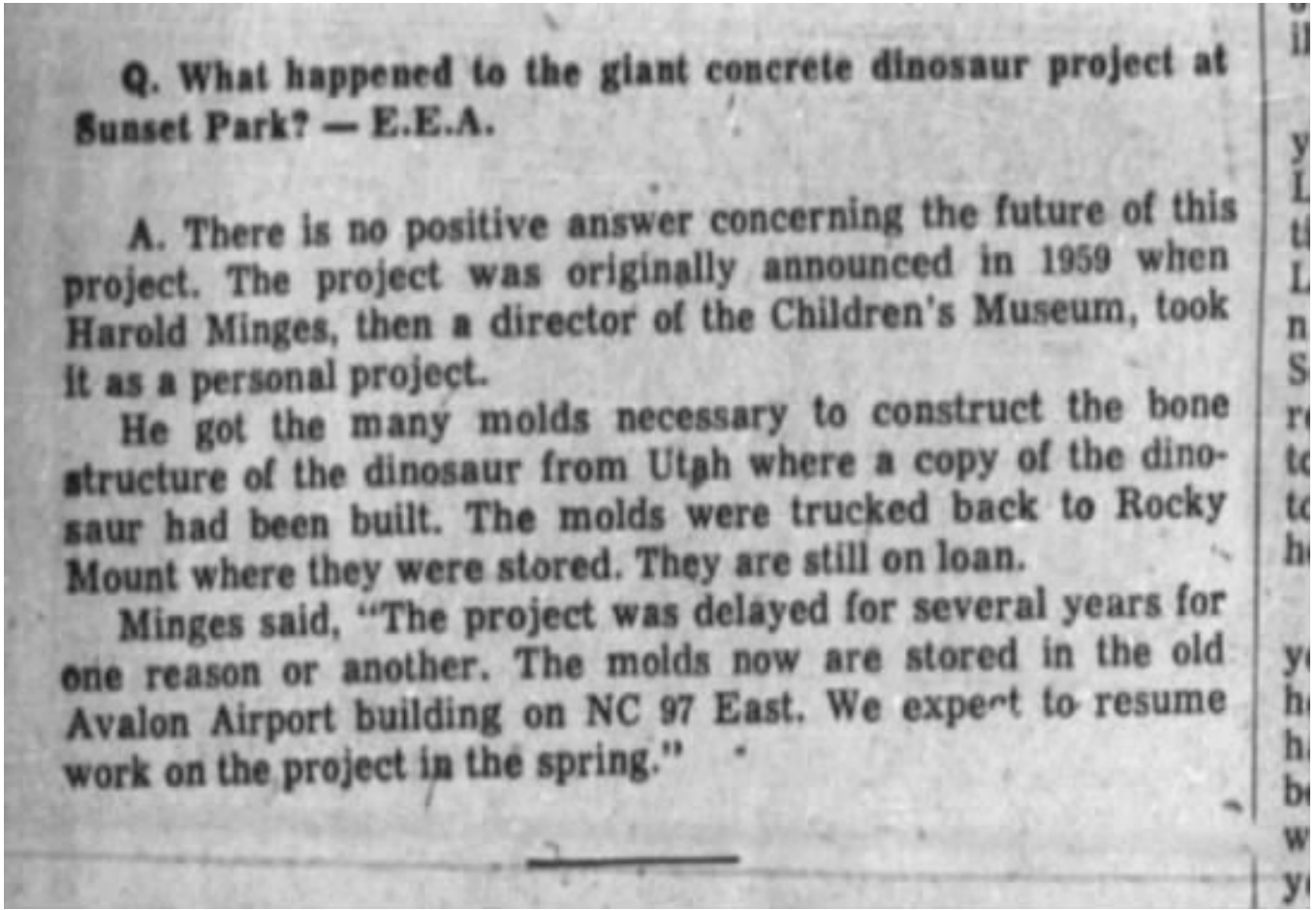
1960s: what next for the molds?

Inquiries from various countries

Shipped to Rocky Mount, NC.


Shipped to Rocky Mount, NC.

What next for the molds? (1968)



Q. What happened to the giant concrete dinosaur project at Sunset Park? — E.E.A.

A. There is no positive answer concerning the future of this project. The project was originally announced in 1959 when Harold Minges, then a director of the Children's Museum, took it as a personal project.

He got the many molds necessary to construct the bone structure of the dinosaur from Utah where a copy of the dinosaur had been built. The molds were trucked back to Rocky Mount where they were stored. They are still on loan.

Minges said, "The project was delayed for several years for one reason or another. The molds now are stored in the old Avalon Airport building on NC 97 East. We expect to resume work on the project in the spring."

An ignominious fate for the molds?

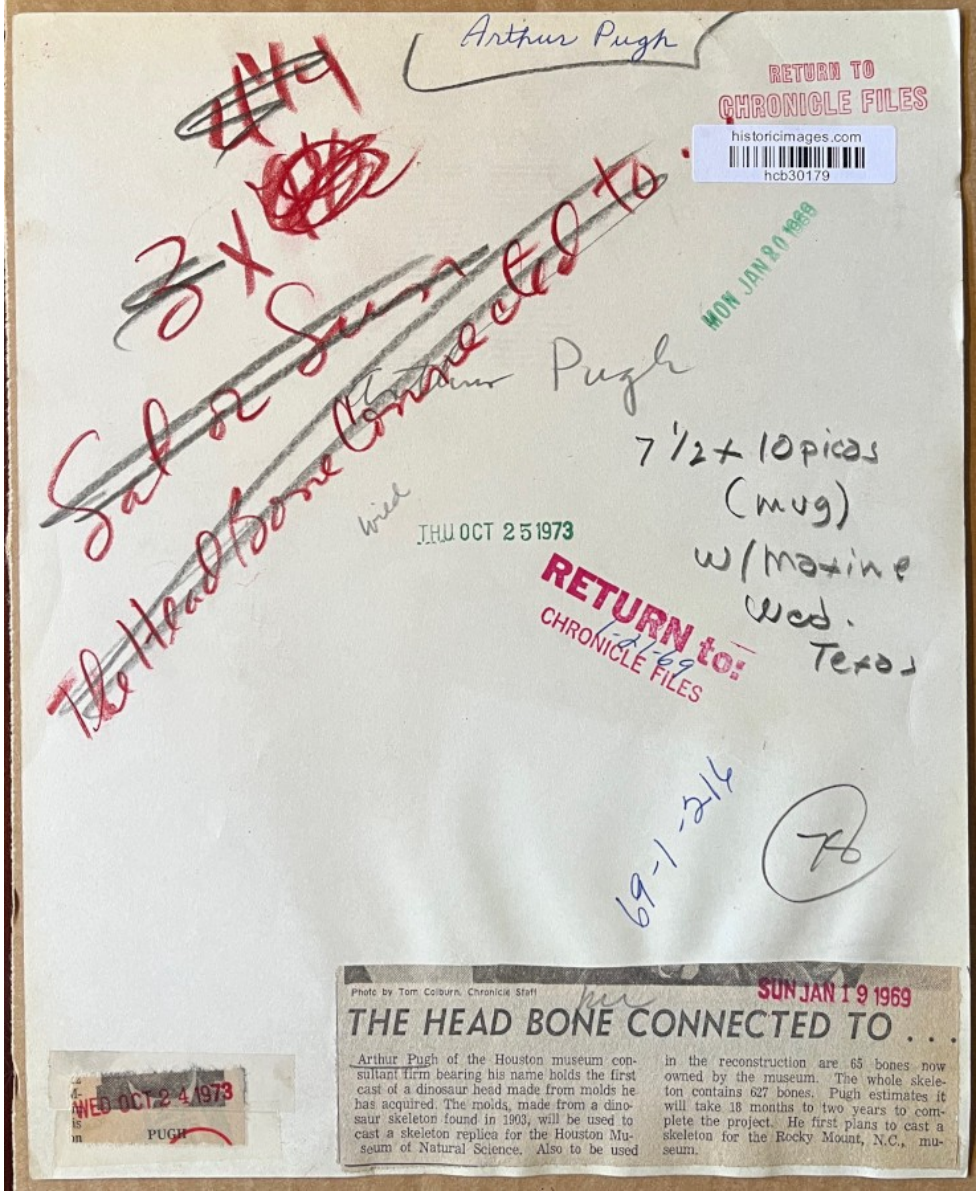
Peter H. Laraba, Curator
Utah Field House of Natural History State Park
235 East Main
Venal, Utah 84078

Dear Mr. Laraba :

In responce to your letter of August 21, 1985 I have gather all the information possible on the Diplodocus molds. Unfortunately we do not have the molds nor do I know where they went after they left the Children's Museum. I also want to apologize for the time this response has taken to get to you. I am the "New" Director here just having started three weeks ago so please understand the delay.

The molds have been traced to Houston!

The molds have been traced to Houston!



The molds have been traced to Houston!

Photo by Tom Colburn, Chronicle Staff

SUN JAN 19 1969

THE HEAD BONE CONNECTED TO . .

Arthur Pugh of the Houston museum consultant firm bearing his name holds the first cast of a dinosaur head made from molds he has acquired. The molds, made from a dinosaur skeleton found in 1903, will be used to cast a skeleton replica for the Houston Museum of Natural Science. Also to be used in the reconstruction are 65 bones now owned by the museum. The whole skeleton contains 627 bones. Pugh estimates it will take 18 months to two years to complete the project. He first plans to cast a skeleton for the Rocky Mount, N.C., museum.

The molds have been traced to Houston!

1989: concrete cast crumbling

The Vernal climate ranges from
–40˚F to 100˚F (–40˚C to 38˚C).

By the late 1980s it was coming apart.

Episode VI: The Return of the *Diplodocus*

In 1989, new molds were made from the concrete cast.

DINOLAB

AGREEMENT

THIS AGREEMENT, is entered into effective June 30, *1989, by and* between DINOLAB, INC., a Utah corporation [hereinafter referred to as "DINOLAB"], THE STATE OF UTAH, by and through the UTAH FIELD HOUSE OF NATURAL HISTORY STATE PARK [hereinafter referred to as "the State"], and THE CARNEGIE MUSEUM OF NATURAL HISTORY [hereinafter referred to as "The Carnegie"].

RECITALS

The Carnegie originally authorized 11 replicas (10 plaster and 1 concrete) of a Diplodocus skeleton (the original skeleton remains in The Carnegie's possession), one of which is now owned by the State. The State's replica is now in need of repair but The Carnegie no longer has the molds. DINOLAB has agreed to undertake to repair the State's concrete replica and to make an

1994: Lightweight cast at the old Field House, Vernal

1994: Lightweight cast at the old Field House, Vernal

2004: Lightweight cast moved to the new Field House

Other second-generation casts

These now inhabit
Japan (five copies)
Canada,
and several locations
in Florida.

What happened to the concrete cast?

Ten years in collections
at the Prehistoric Museum
in Price, Utah.

What happened to the concrete cast?

Currently on exhibition at the Prehistoric Museum in Price, Utah

What happened to the concrete cast?

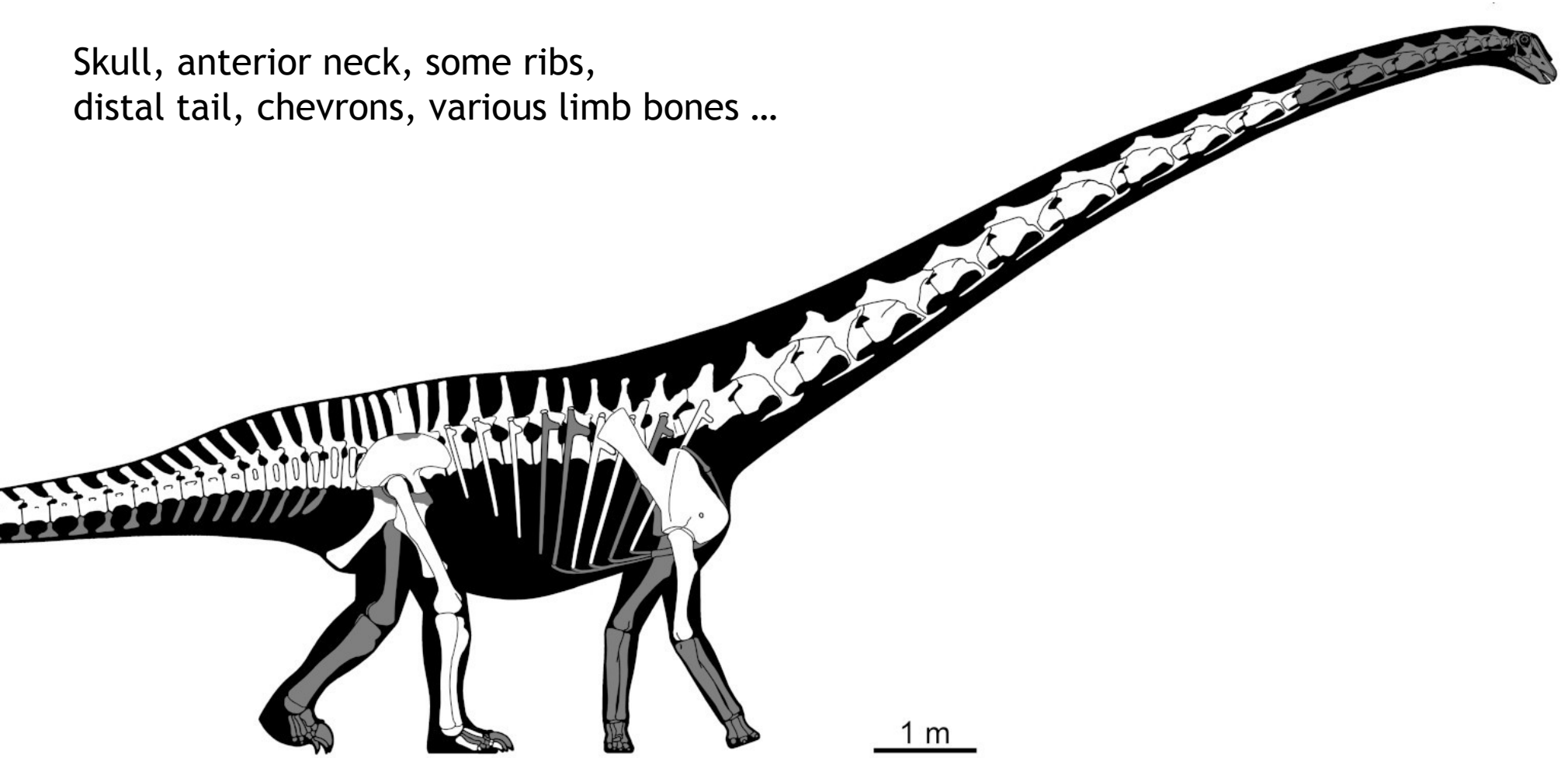
Currently on exhibition at the Prehistoric Museum in Price, Utah

… and finally …

Elements cast from these molds are used in other mounts

The AMNH's rearing *Barosaurus*

Skull, anterior neck, some ribs,
distal tail, chevrons, various limb bones …



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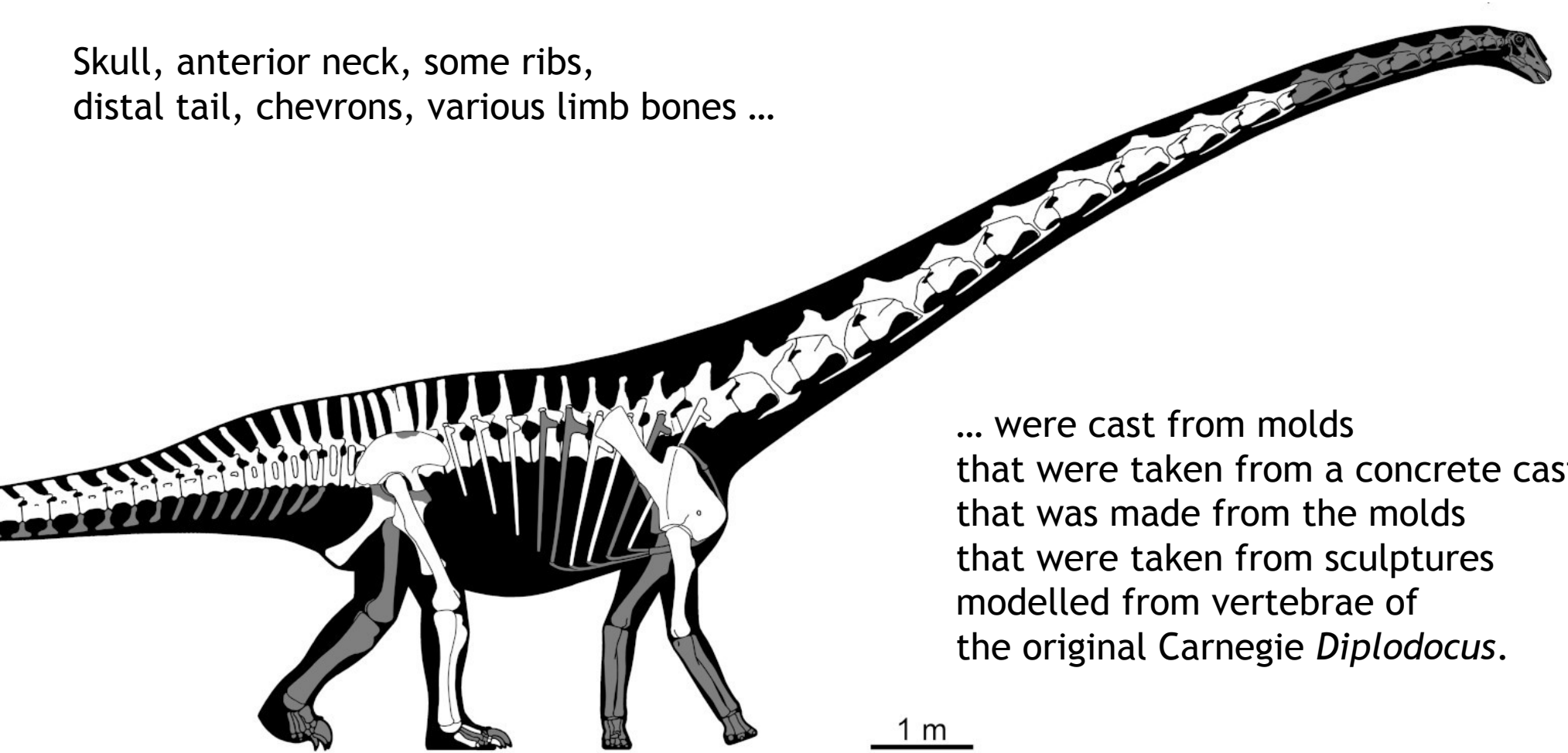

… were cast from molds
that were taken from a concrete cast
that was made from the molds
that were taken from sculptures
modelled from vertebrae of
the original Carnegie *Diplodocus*.

For much, much, much more information …

Taylor, Michael P., Amy C. Henrici, Linsly J. Church, Ilja Nieuwland and Matthew C. Lamanna. 2025. The history and composition of the Carnegie *Diplodocus*. *Annals of the Carnegie Museum* **91(1)**:55–91. doi: 10.2992/007.091.0104

Taylor, Michael P., Steven D. Sroka and Kenneth Carpenter. 2023. The Concrete *Diplodocus* of Vernal — a Cultural Icon of Utah. *Geology of the Intermountain West* **10**:65–91. doi:10.31711/giw.v10.pp65-91

The skeletal reconstruction of *Barosaurus lentus* in the American Museum of Natural History. In prep. Taylor, Michael P., Peter May, Lowell Dingus, Eugene S. Gaffney, Mark A. Norell and John S. McIntosh†. Manuscript and illustrations at https://github.com/MikeTaylor/palaeo-baromount

The Untold Story of the Carnegie *Diplodocus*

Mike Taylor[1,*], Matt Lamanna[2], Ilja Nieuwland[3], Amy Henrici[2], Linsly Church[2], Steve Sroka[4] and Ken Carpenter[5]

1. University of Bristol, Bristol, UK
2. Carnegie Museum of Natural History, Pittsburgh, PA, USA
3. Royal Netherlands Academy of Arts and Sciences, Netherlands
4. Utah Field House of Natural History, Vernal, Utah, USA
5. University of Colorado Museum, Boulder, Colorado, USA

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All these co-authors!

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