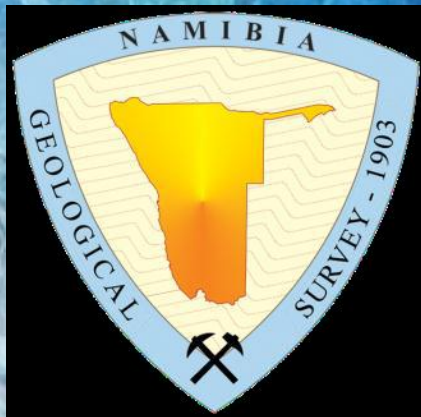


Curiosity Rules! The Importance of Early Childhood Education in the Earth Sciences

Prof Patricia Vickers – Rich

7th Conference of the African Association
of Women in
Geosciences (AAWG) Nov. 2014, Namibia



A blue-toned illustration of a prehistoric underwater scene. On the left, a large, bipedal dinosaur-like creature with a long neck and tail is shown. In the center, a large fish with its mouth open is visible. The background is a deep blue, suggesting an underwater environment. The text "A Personal Journey....." is overlaid in the center in a bright yellow font.

A Personal Journey.....

• *Rangaea* specimen from the Neoproterozoic of southern Namibia – one of the first animals on Earth – 545 million years old! Perhaps never found unless I had the opportunity of an education from childhood.....



Rangaea_movie2.mpg

A blue-toned illustration of a child's face and hands holding a grasshopper. The child's face is in the foreground, looking down at the grasshopper held in their hands. The background shows a landscape with a tree and a grasshopper on a leaf. The overall mood is nostalgic and naturalistic.

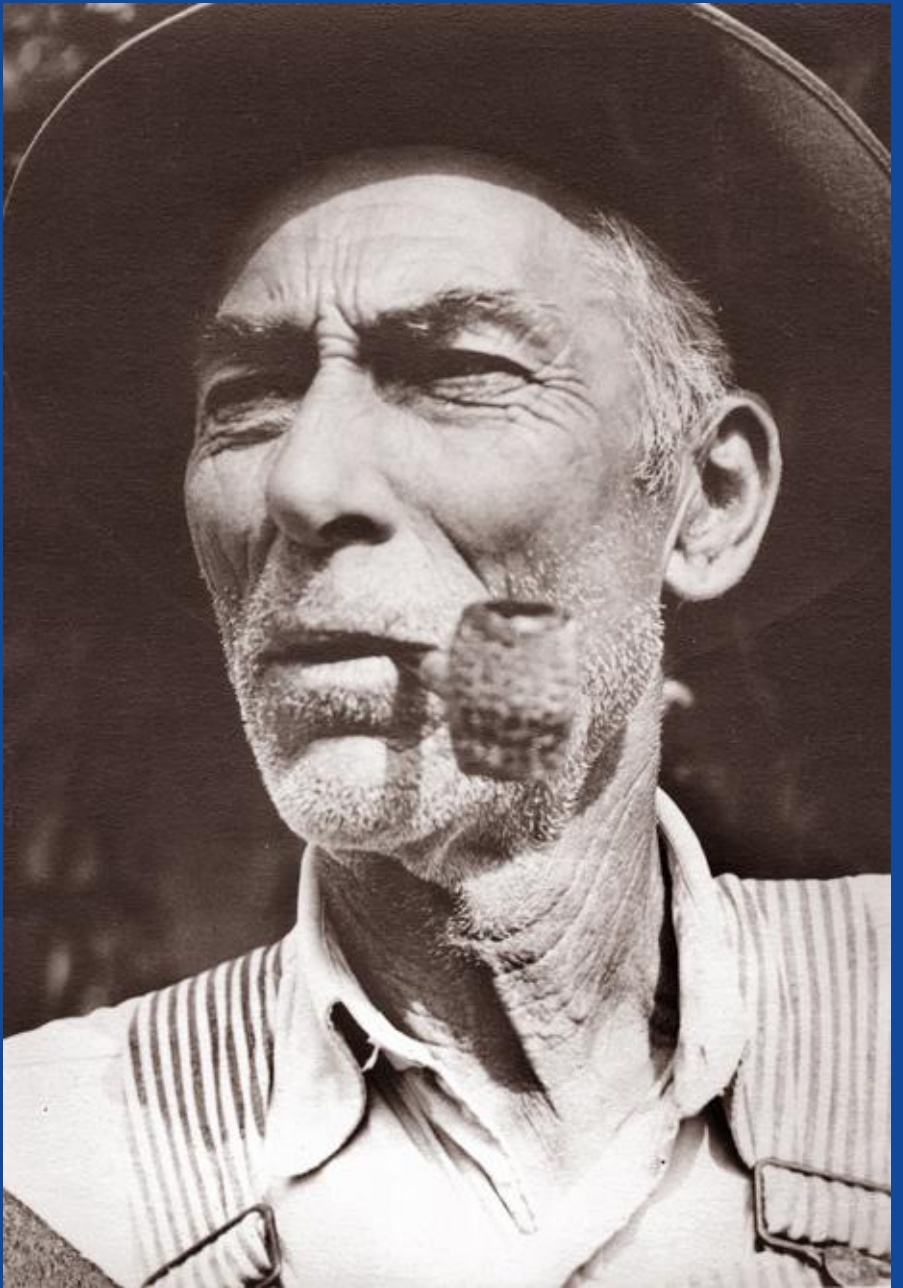
Childhood

- **Life Began with Grasshoppers** (@1947 or 1948)
– a fascination with nature and so lucky to be surrounded by a complex and varied environments
- **An Indigenous (Cherokee) Family History** – A love of the land and a long connection with it (1940's to now)

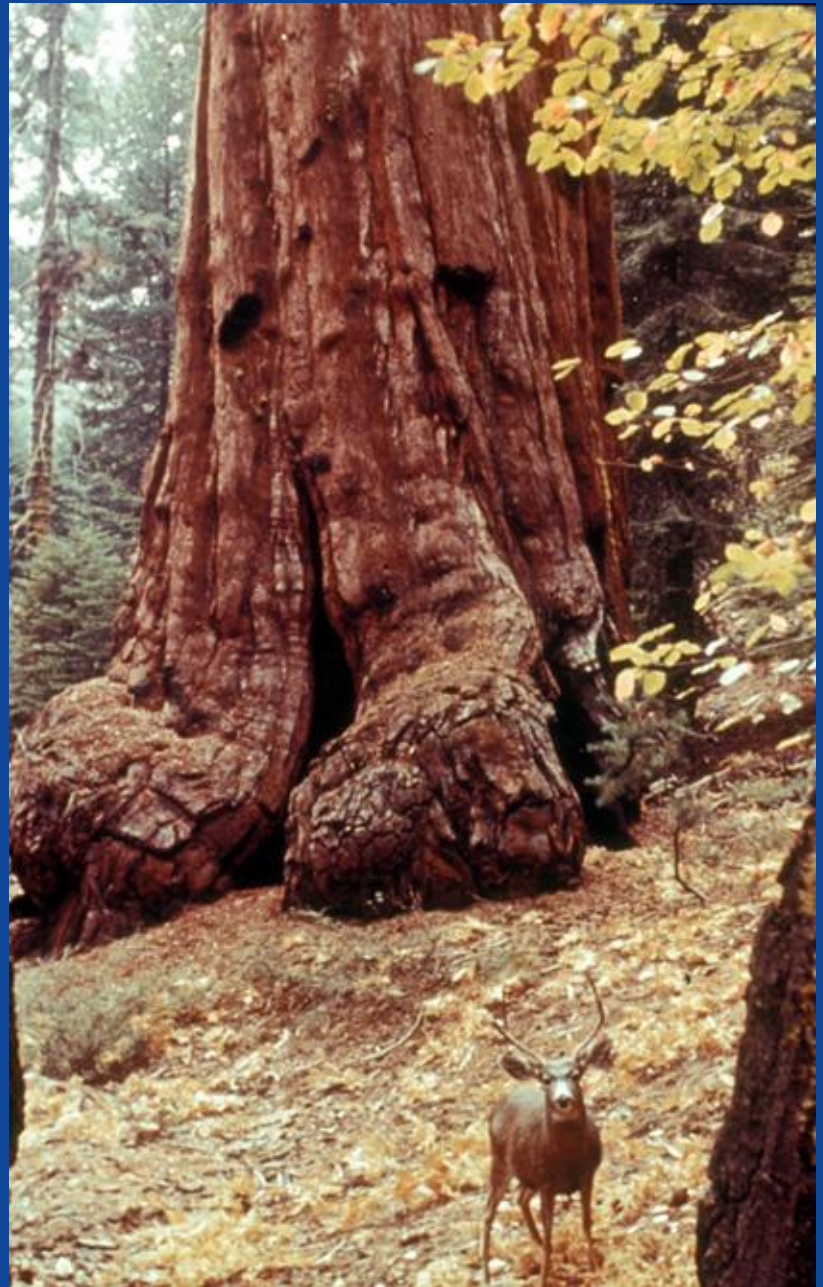


















The background of the slide features a detailed illustration of two whales. On the left, a blue whale is shown in profile, facing right, with its long, wrinkled baleen visible. On the right, a sperm whale is shown in profile, facing left, with its characteristic large, rounded forehead (melon) and a small, pointed dorsal fin. The illustration is rendered in shades of blue and white, set against a dark blue background.

- **Primary, Secondary and University Years**

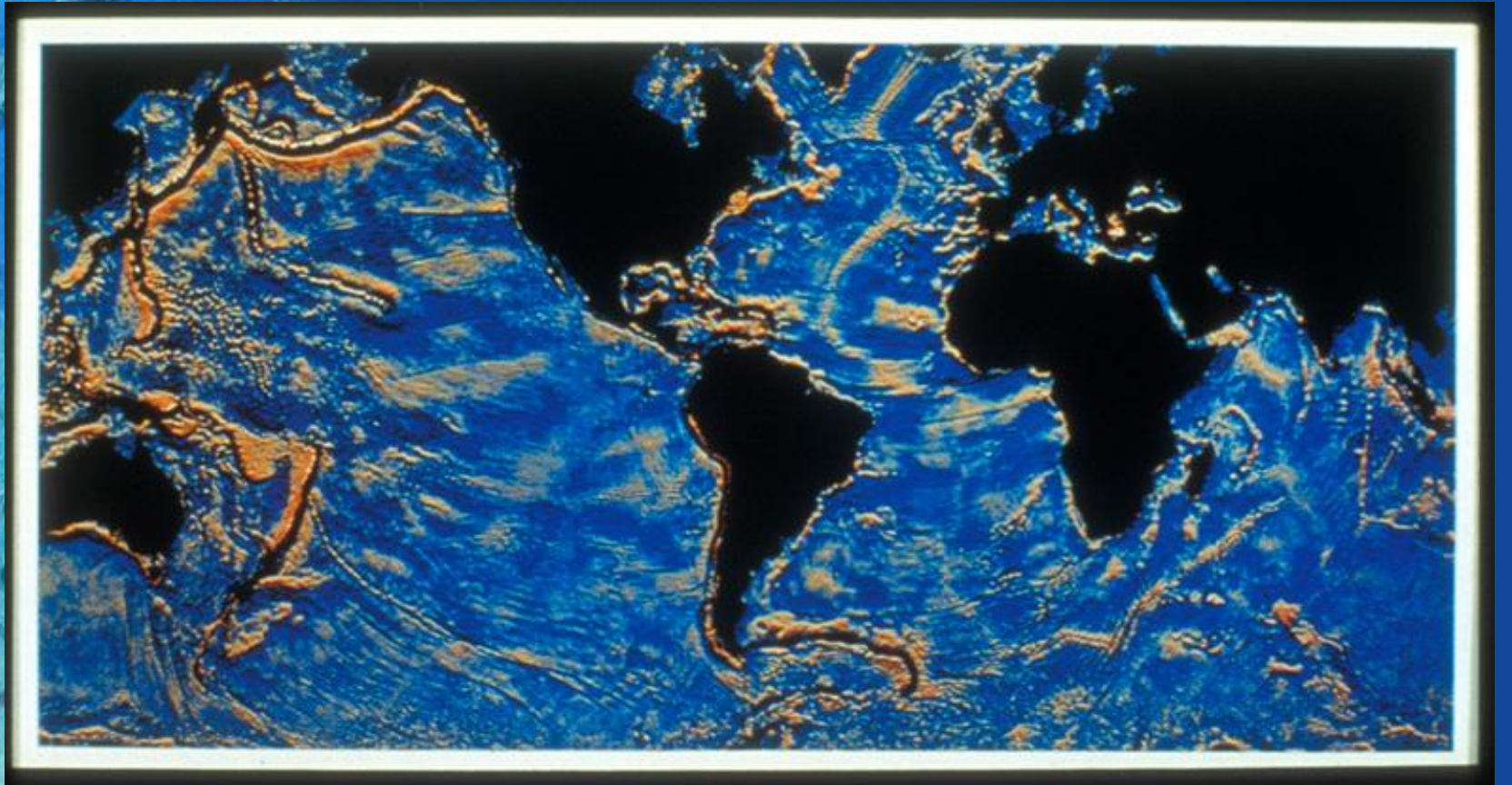
- **The Space Race and Brilliant Science in Pre-Tertiary Schools** (1950's and Early 1960's)
- **The Nobel University** (U.C. Berkeley) (1960's)
- **The Ivy League – Columbia Uni/Lamont:** the Plate Tectonics Revolution (late 1960's-early 1970')





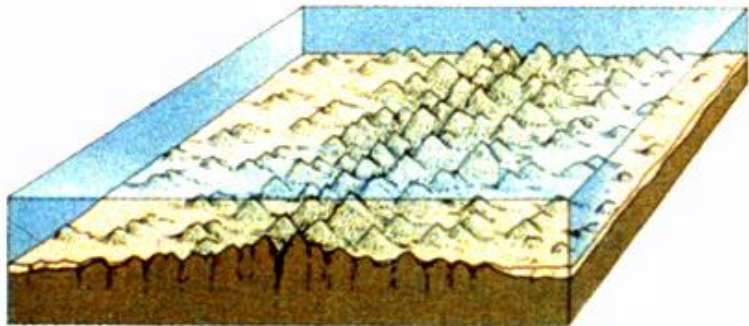
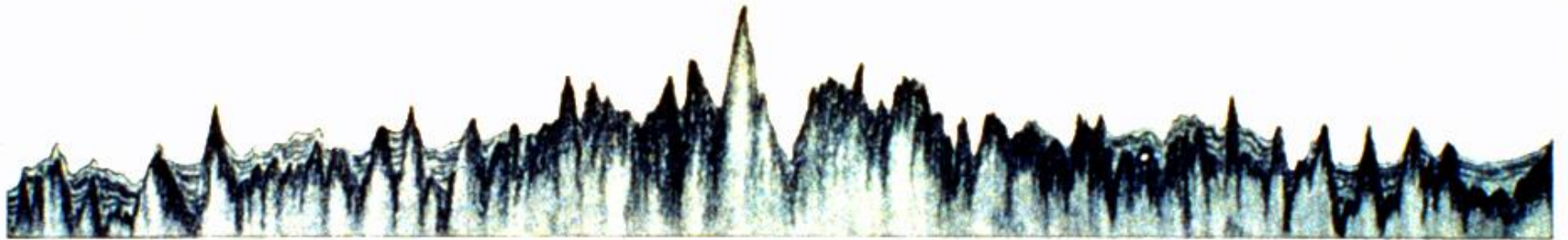


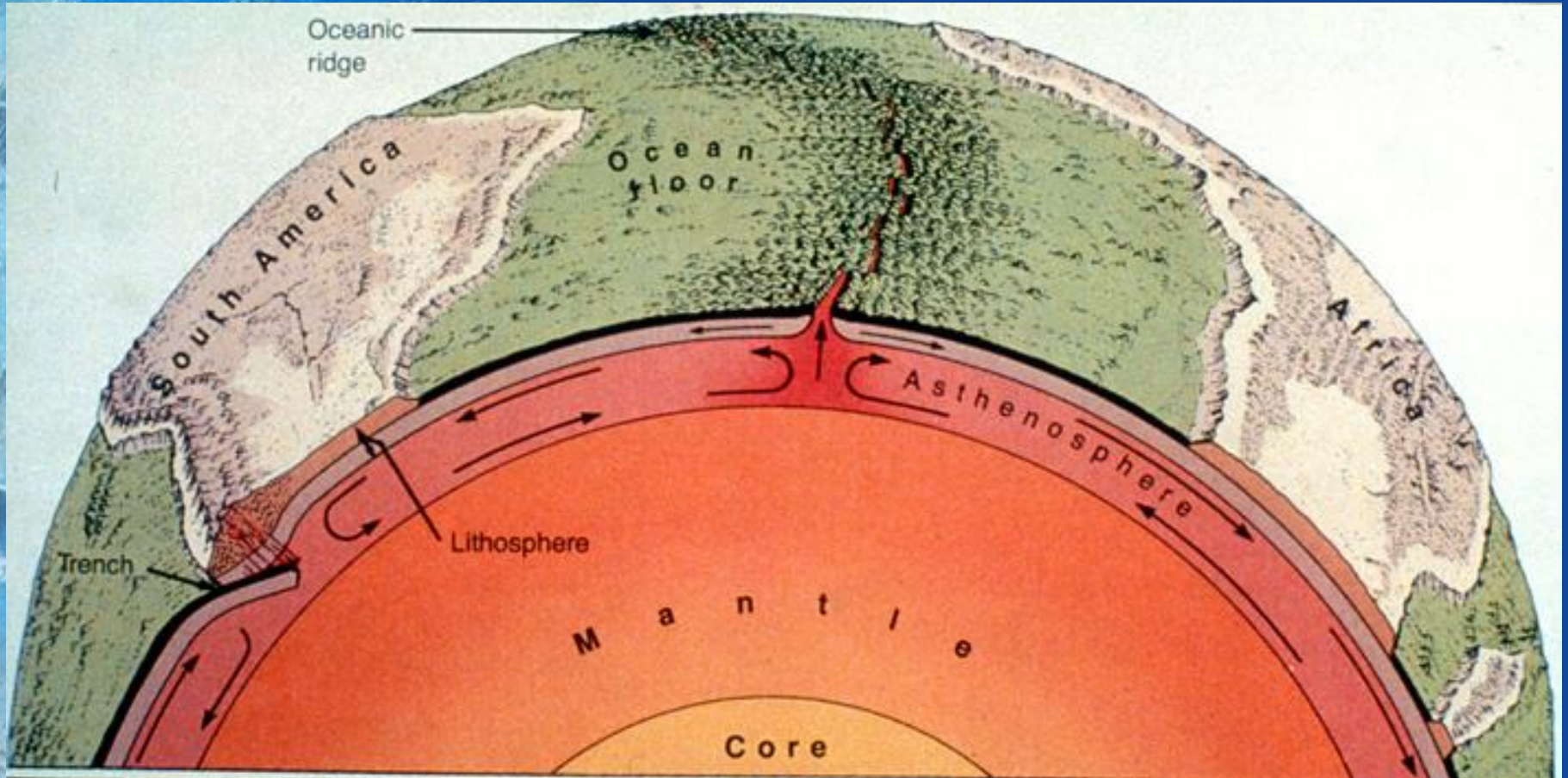


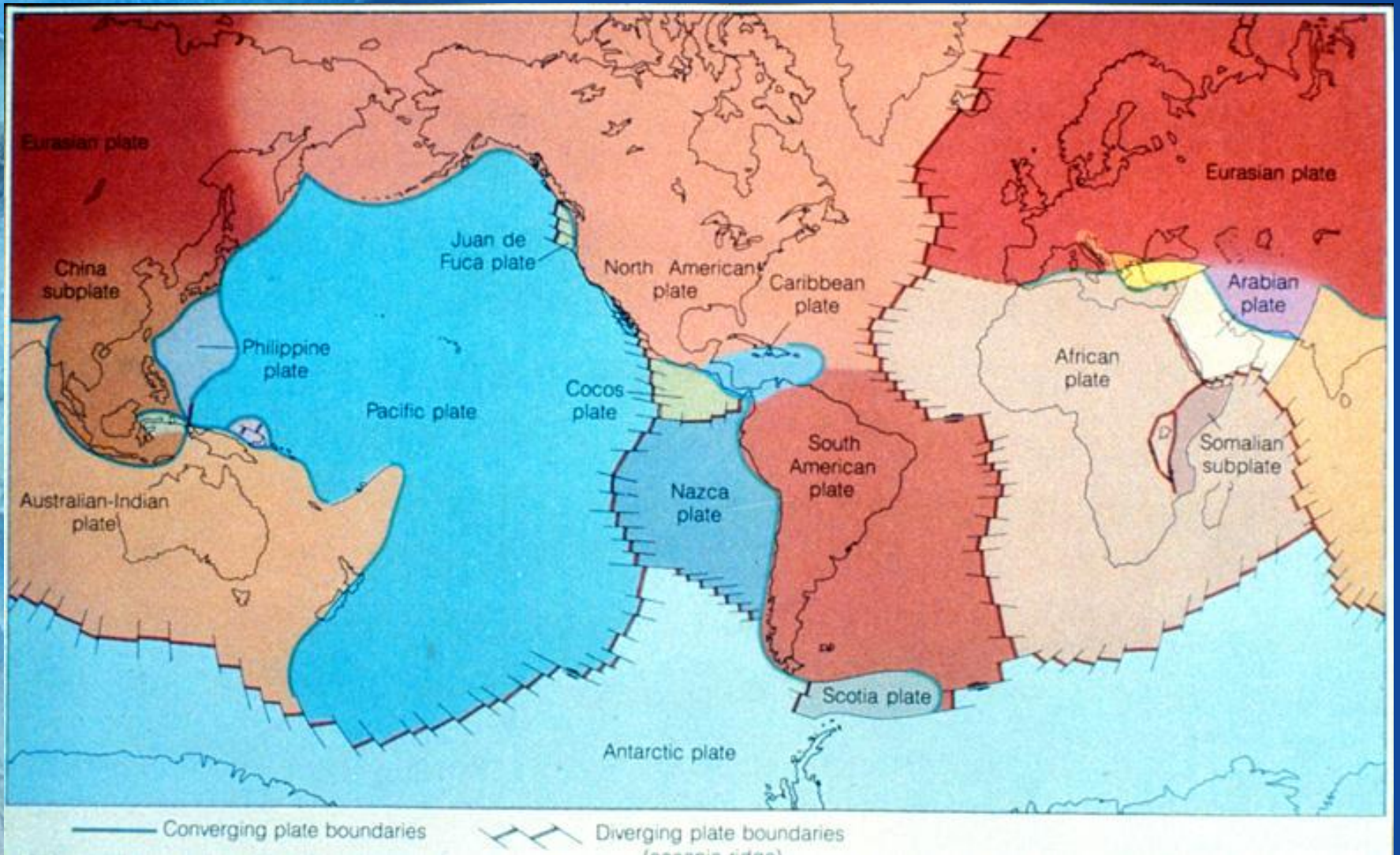












- 
- **Costa Rica** – A Riot of Biodiversity and Complexity, on the Edge of a Tectonic Plate (1970)











ORNITHOPHILY AND EXTRAFLORAL COLOR PATTERNS
IN *COLUMNEA FLORIDA* MORTON (GESNERIACEAE)

C. EUGENE JONES, JR. AND PAT VICKERS RICH

Reprinted from

SOUTHERN CALIFORNIA ACADEMY OF SCIENCES

BULLETIN

Volume 71

Number 3



pp. 113-116

November 1972

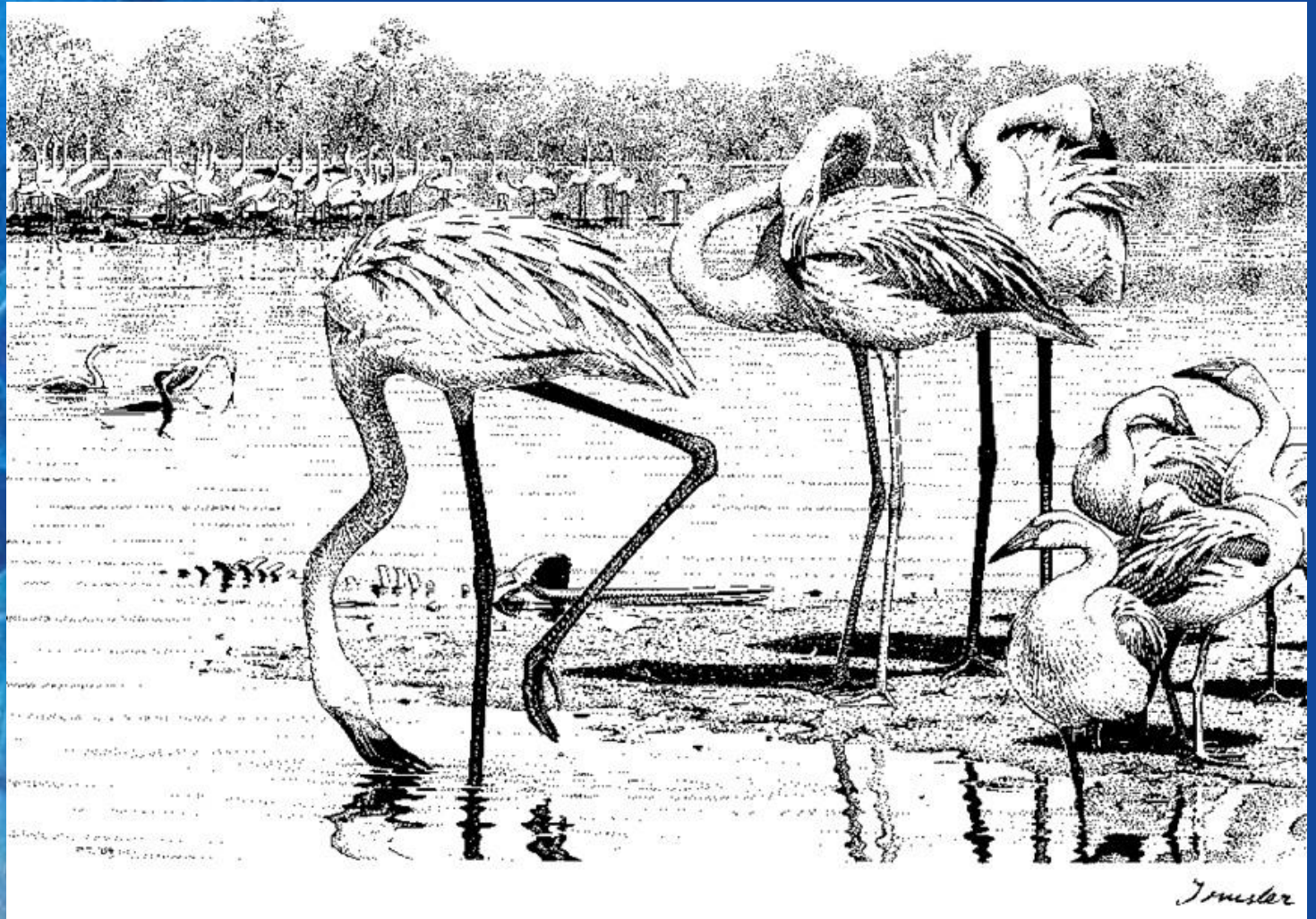


- **Australia's Dead Heart – A Biogeographic Enigma:**

The South Australian Museum/American Museum of Natural History Expedition (1971)





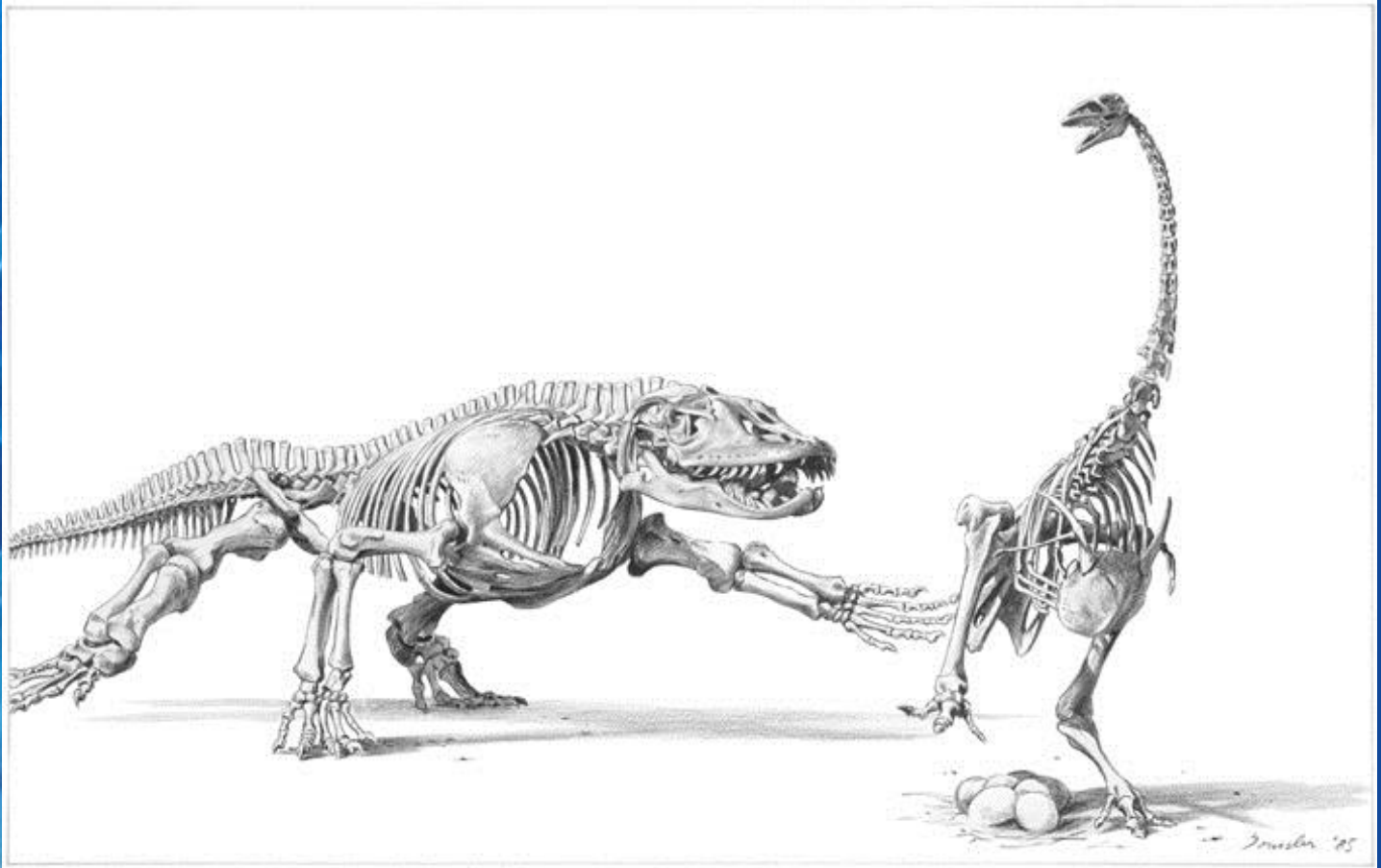










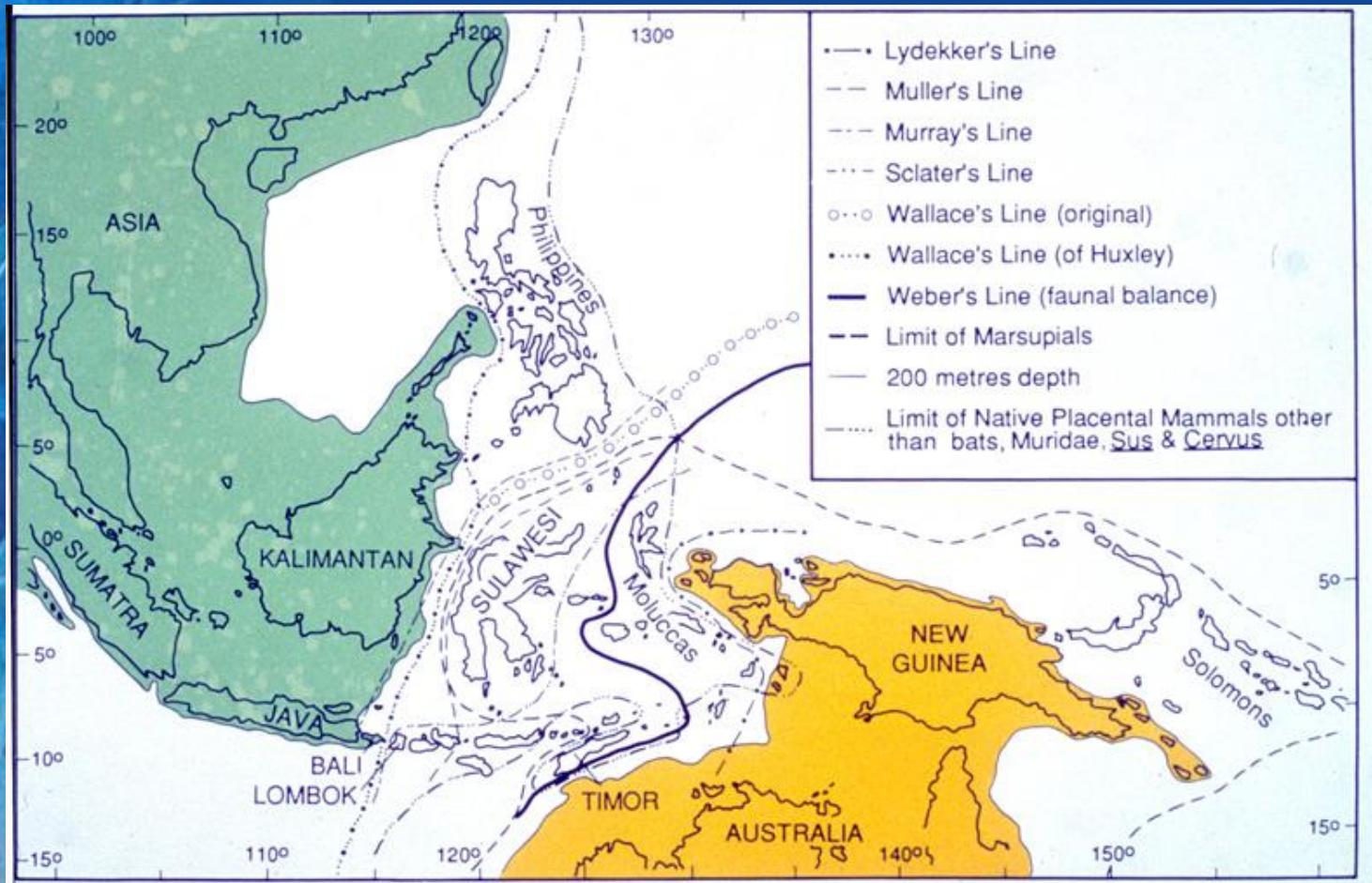


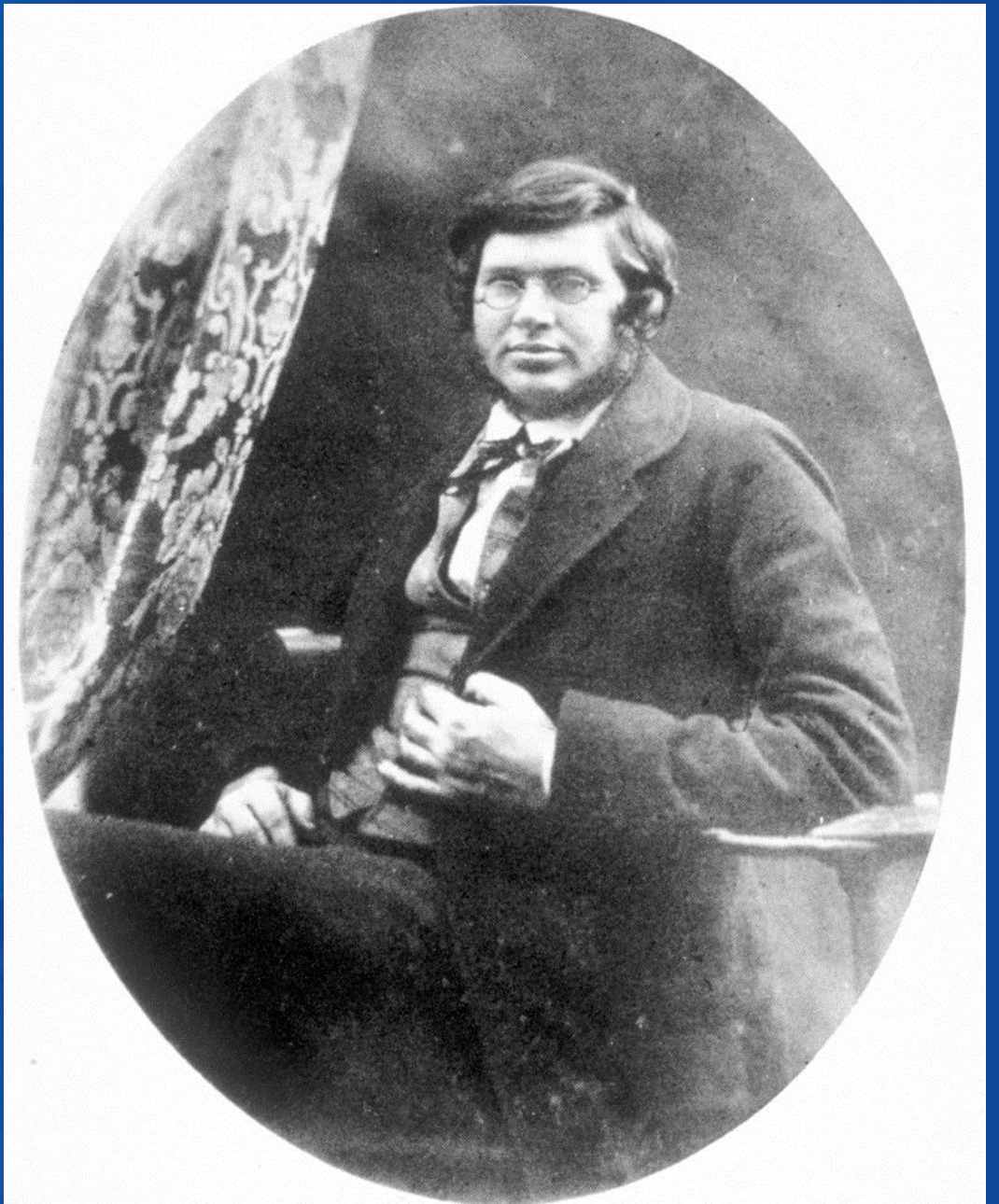






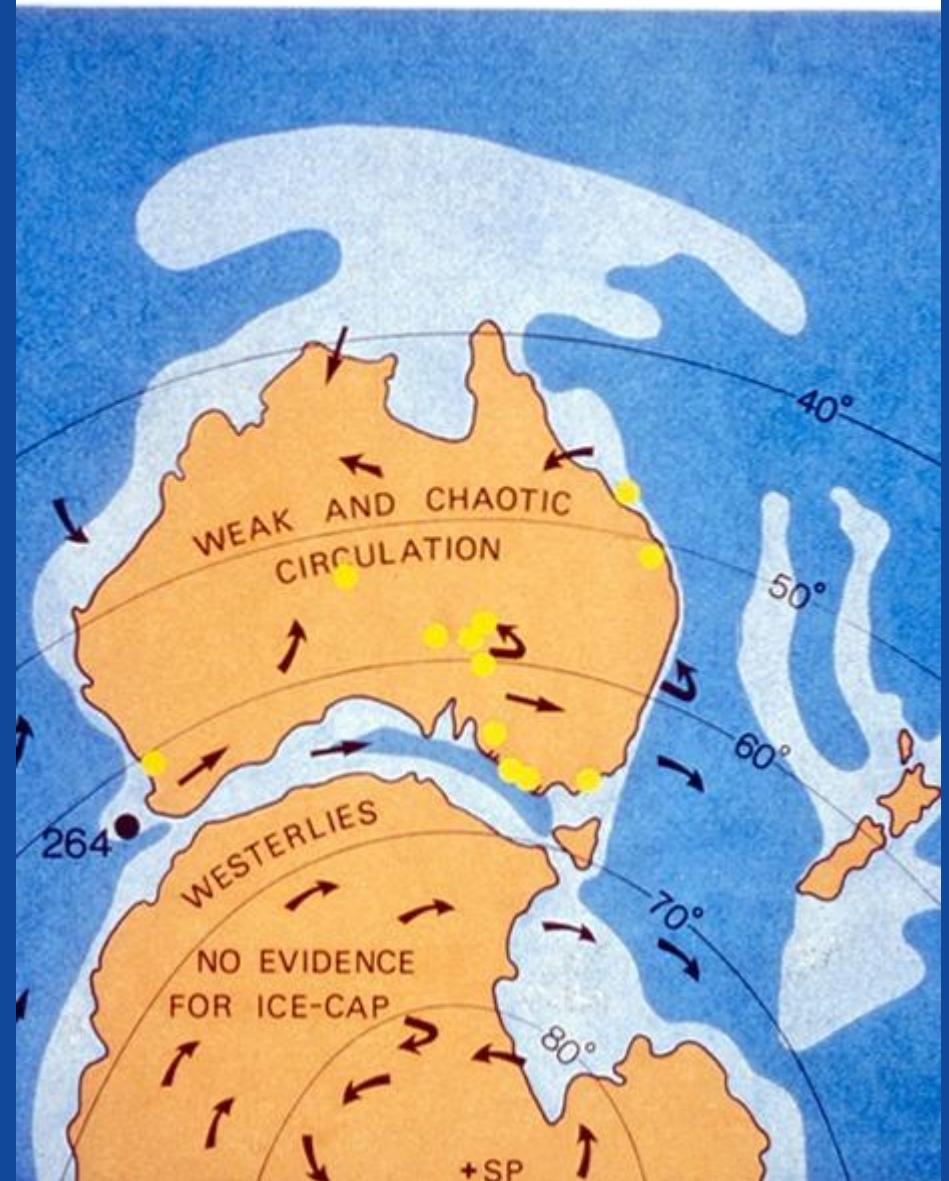


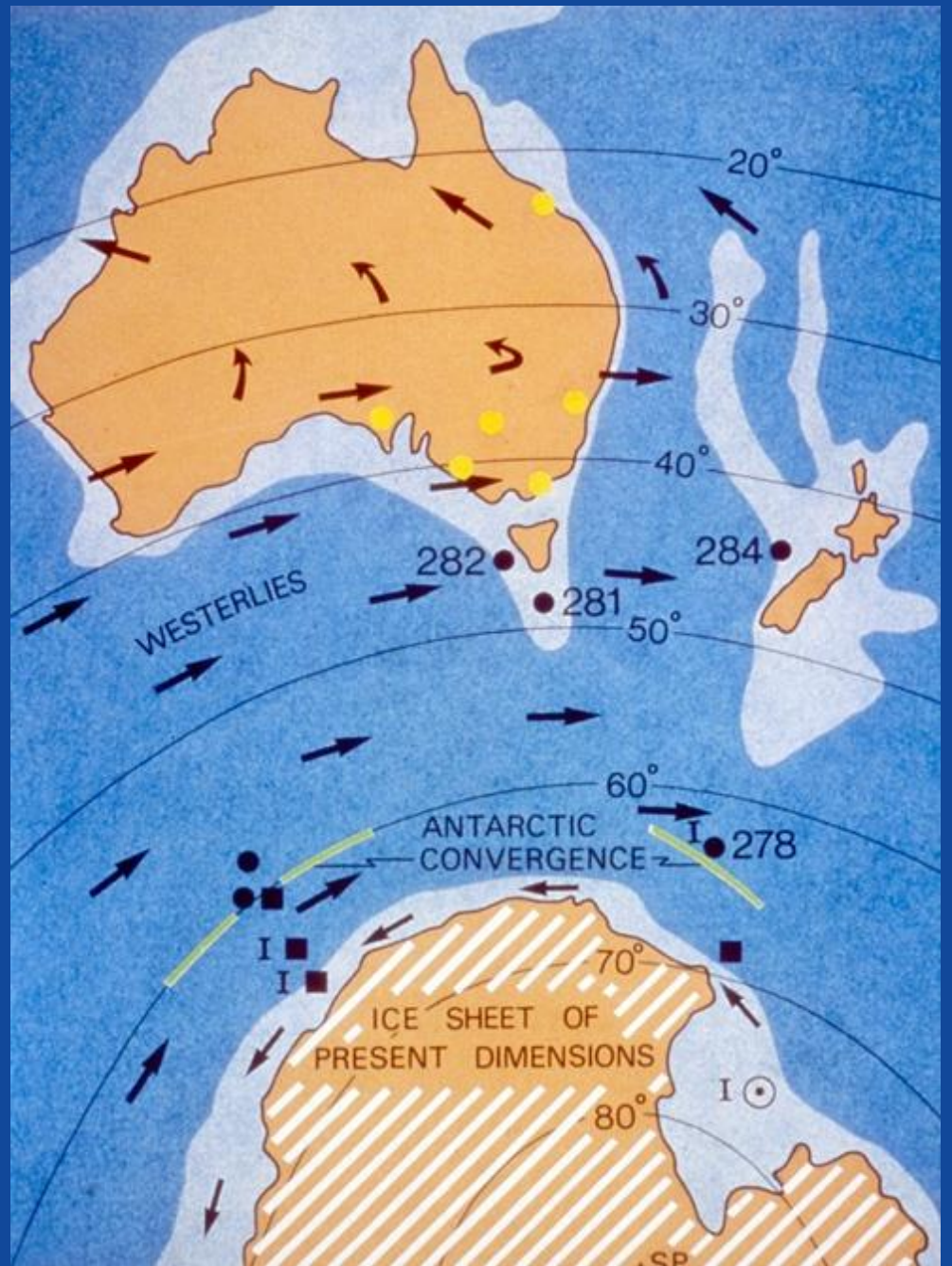






MIDDLE PALAEOCENE
58 m.y.





A blue-toned illustration of a woman's face and hands holding a child, with various fossils overlaid. The woman's face is in the foreground, looking down at the child. Her hands are visible, holding the child. The background is a deep blue, and there are several fossils, including a large, curved, segmented fossil (possibly a trilobite) and a smaller, more complex fossil (possibly a brachiopod or bryozoan). The overall style is artistic and scientific.

Career and Motherhood (a good mix)

- **The Mesozoic of Victoria:** A Trip to the PalaeoPolar Latitudes 100 Million Years Ago (1974 to now)
- **Motherhood and Lots of Apple Pies (and Rocks!). Kids in the Field – a great place to grow up.** (1977-now)

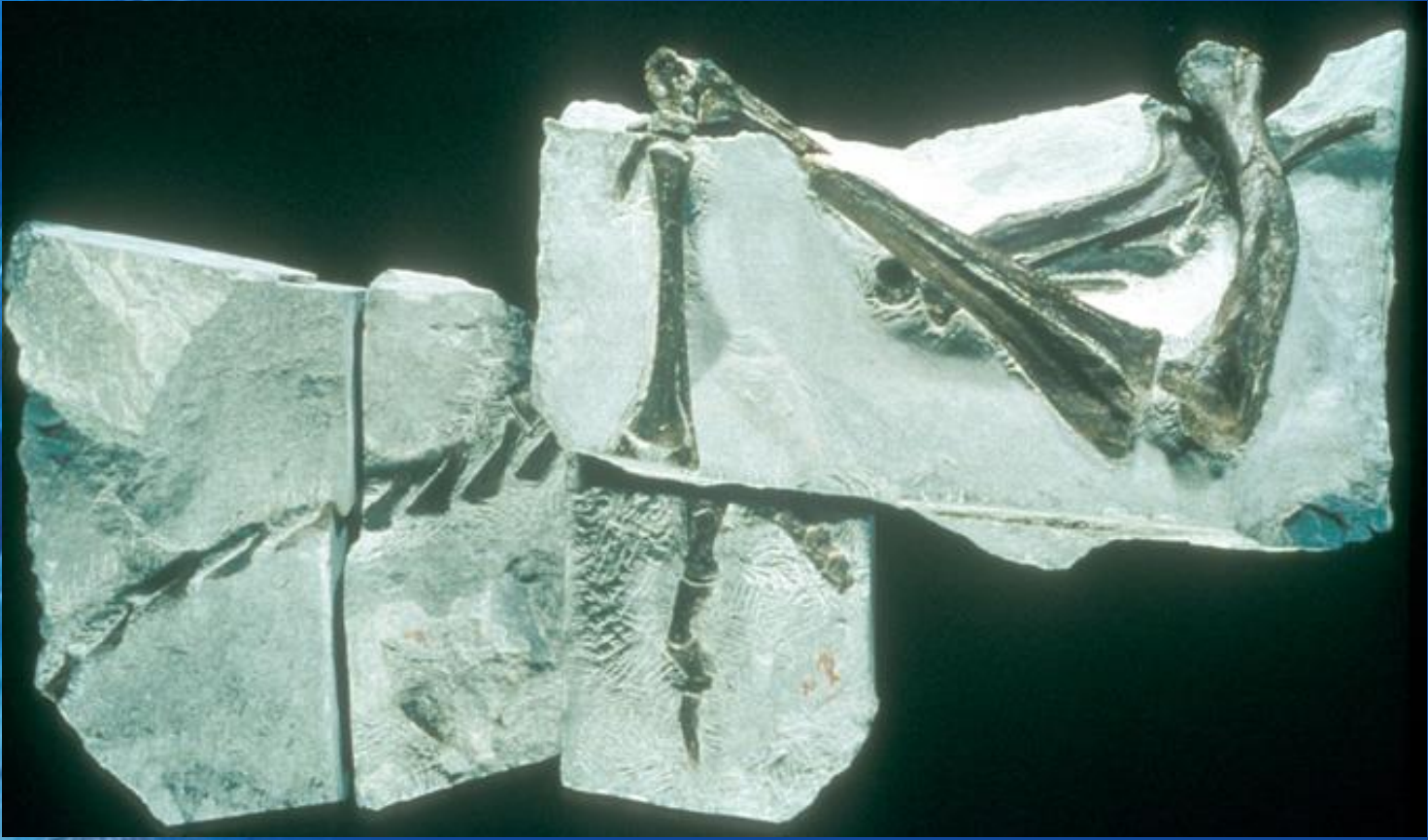






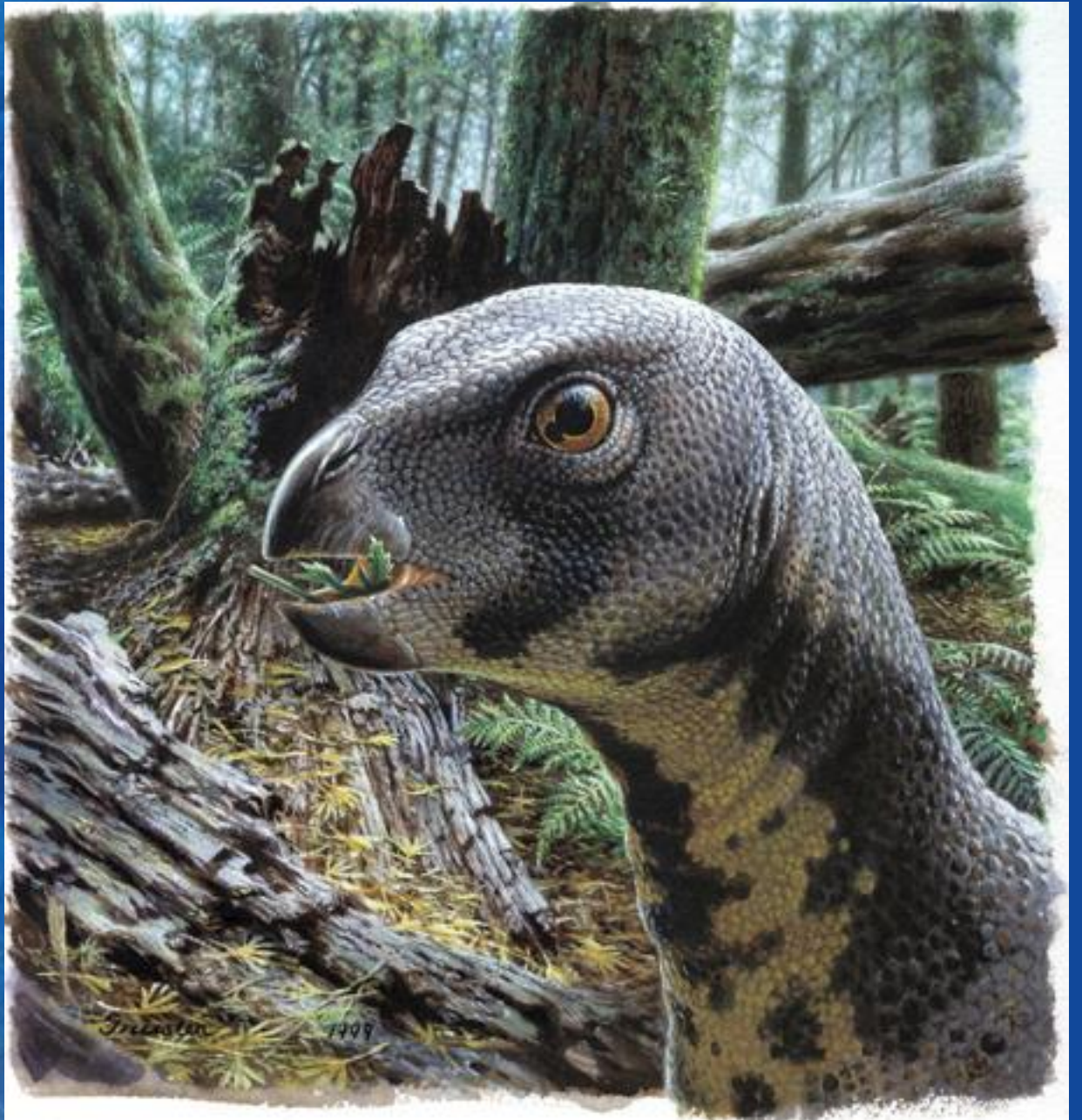












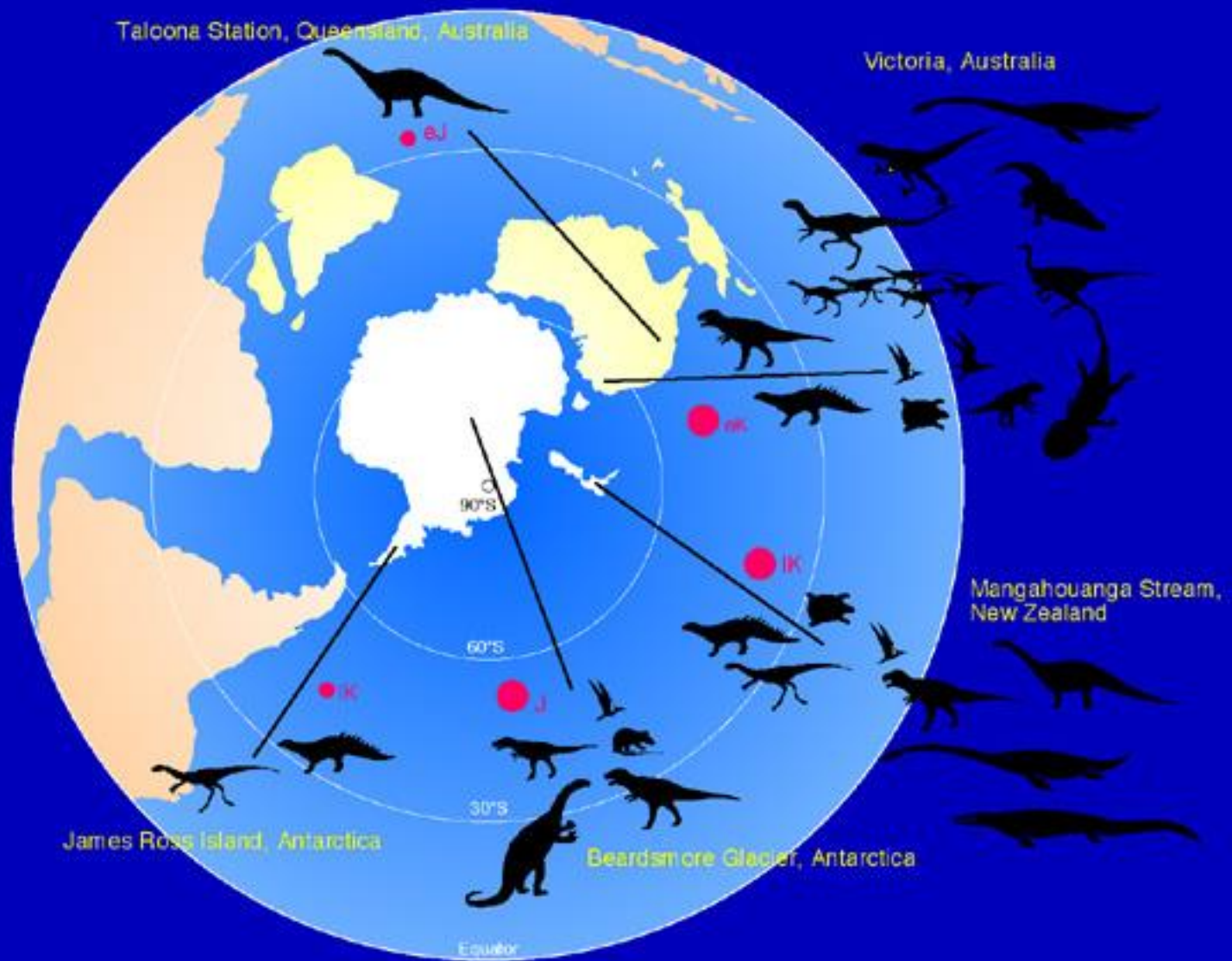


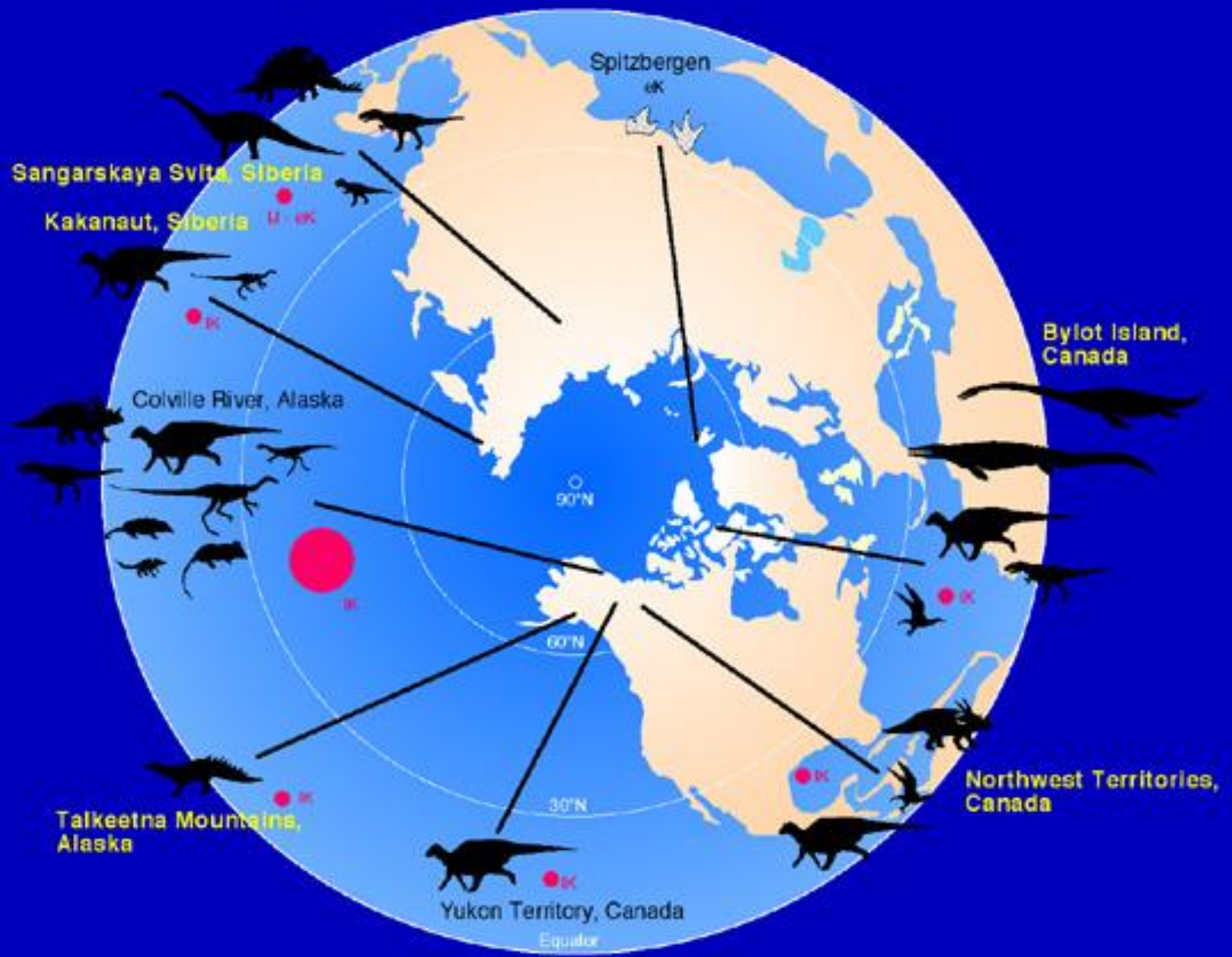




A U S T R A L I A ' S D I N O S A U R E R A

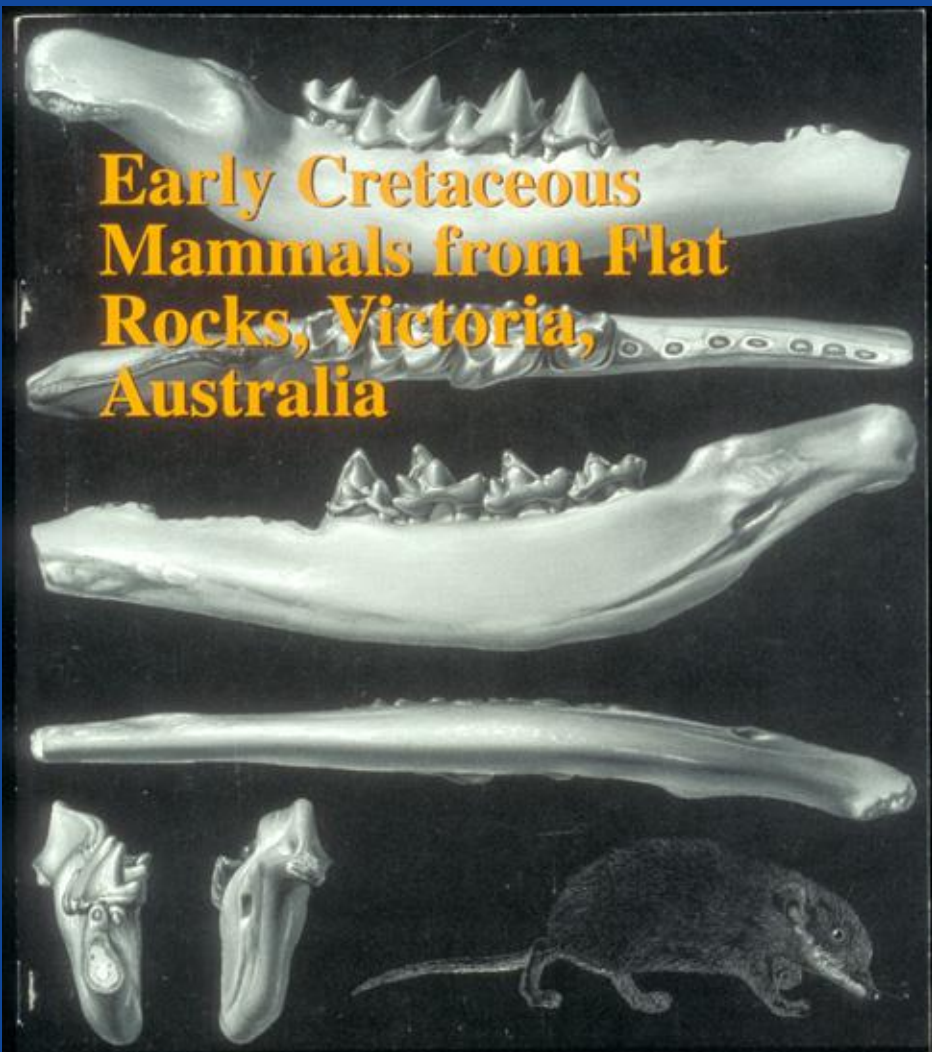












**Early Cretaceous
Mammals from Flat
Rocks, Victoria,
Australia**

**Records of the
Queen Victoria Museum
Launceston**



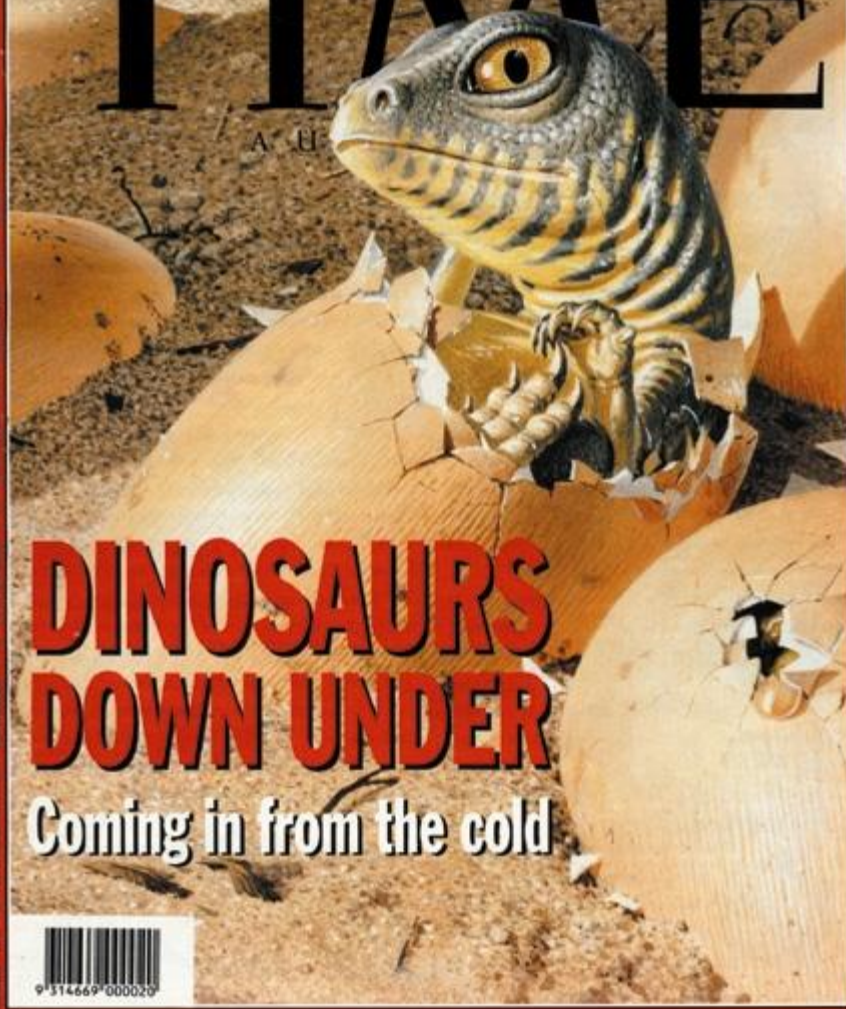




AUGUST 5, 1991 No. 32

TIME

A. H.

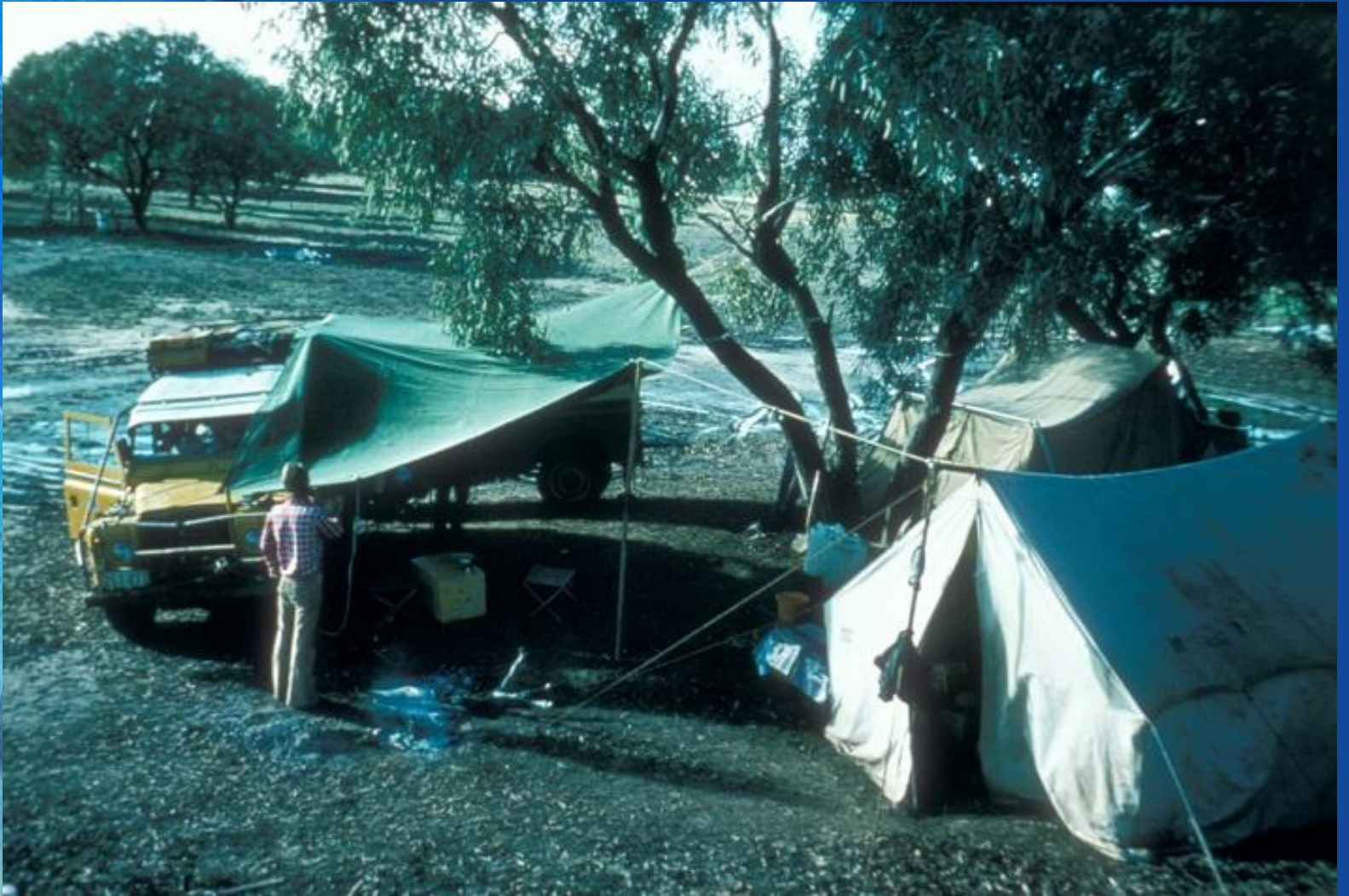


DINOSAURS DOWN UNDER

Coming in from the cold











Raising Funding and Traveling Exhibitions – International Joint Ventures with Research Colleagues

- **Behind the Iron Curtain – the Gang of Four and Peristroika:** Science in China and Russia (1979 to now)



中国民航
CAAC

出站飞机

DEPARTURES

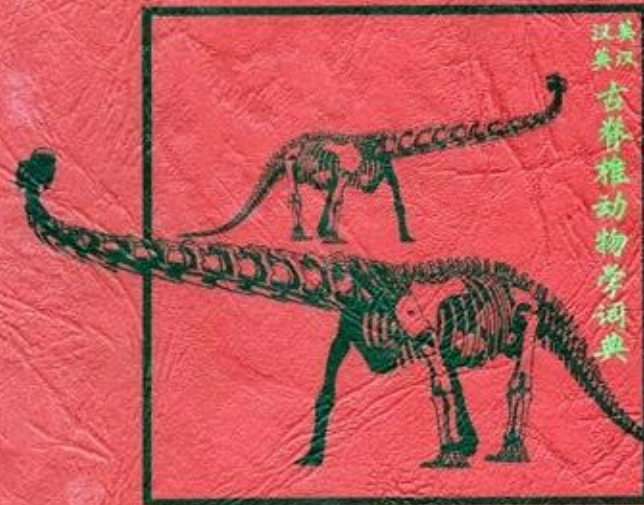
航班号 FLIGHT NO.	飞机号 AIRCRAFT	终点站 DESTINATION	经停站 STOP	起飞时间 SCHEDULED	变更 REMARKS	门号 GATE NO.	备注 REMARKS
CA 518	488	上海SHANGHAI 莫斯科MOSCOW	济南, 合肥	8:15			天气低于标准 BAD WEATHER
CA 151	2408	上海SHANGHAI		8:45			
CA 208	424	西安SIAN	太原, 延安	8:05			机械故障 MECHANICAL TROUBLE





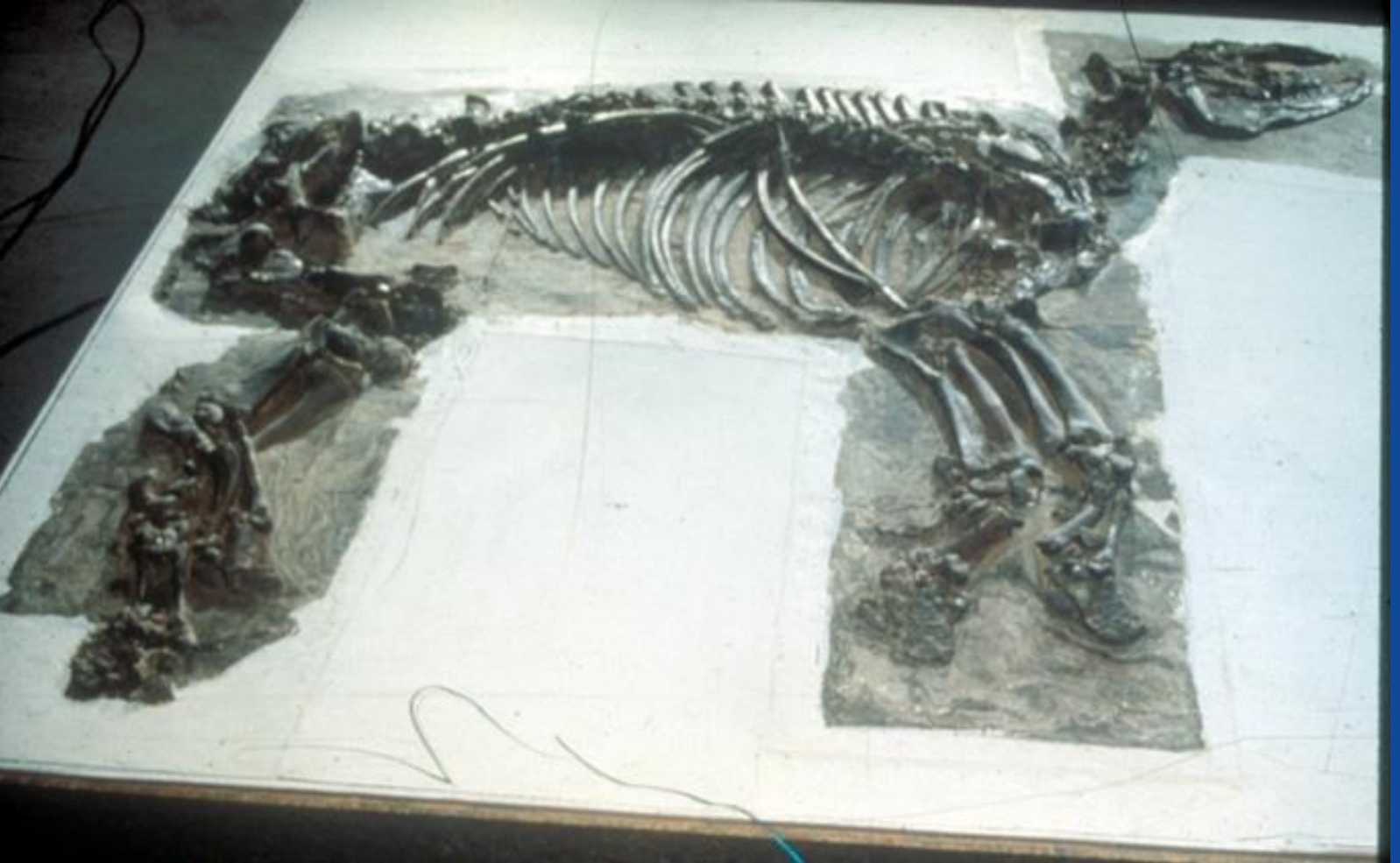
A CHINESE-ENGLISH
AND ENGLISH-CHINESE
DICTIONARY OF VERTEBRATE
PALAEOLOGY TERMS

P.V. RICH, Y.P. ZHANG,
M.C. CHOW, B.Y. WANG,
R. SLOSS, J.K.M. MOODY,
J. DAWSON, P. KOMAROWER



汉英
古脊椎动物学词典









See THE
**DINOSAURS
FROM
CHINA**

at the **NATIONAL MUSEUM of**
PROUDLY SPONSORED BY

285 321











The background features a blue-toned illustration. On the left, a large blue whale is depicted, its head and tail visible. On the right, a child's face is shown in profile, looking towards the whale. The overall scene is set against a dark blue background with light rays or water currents.

Building Museums/Science Centres and Traveling Exhibitions

- **The Monash Science Centre - Outreach to the Public and pre-Tertiary Education:**
Communicating the Depth and Delight of Science and Encouraging Individuals to Make Their Own Informed Assessments (1993 to now)



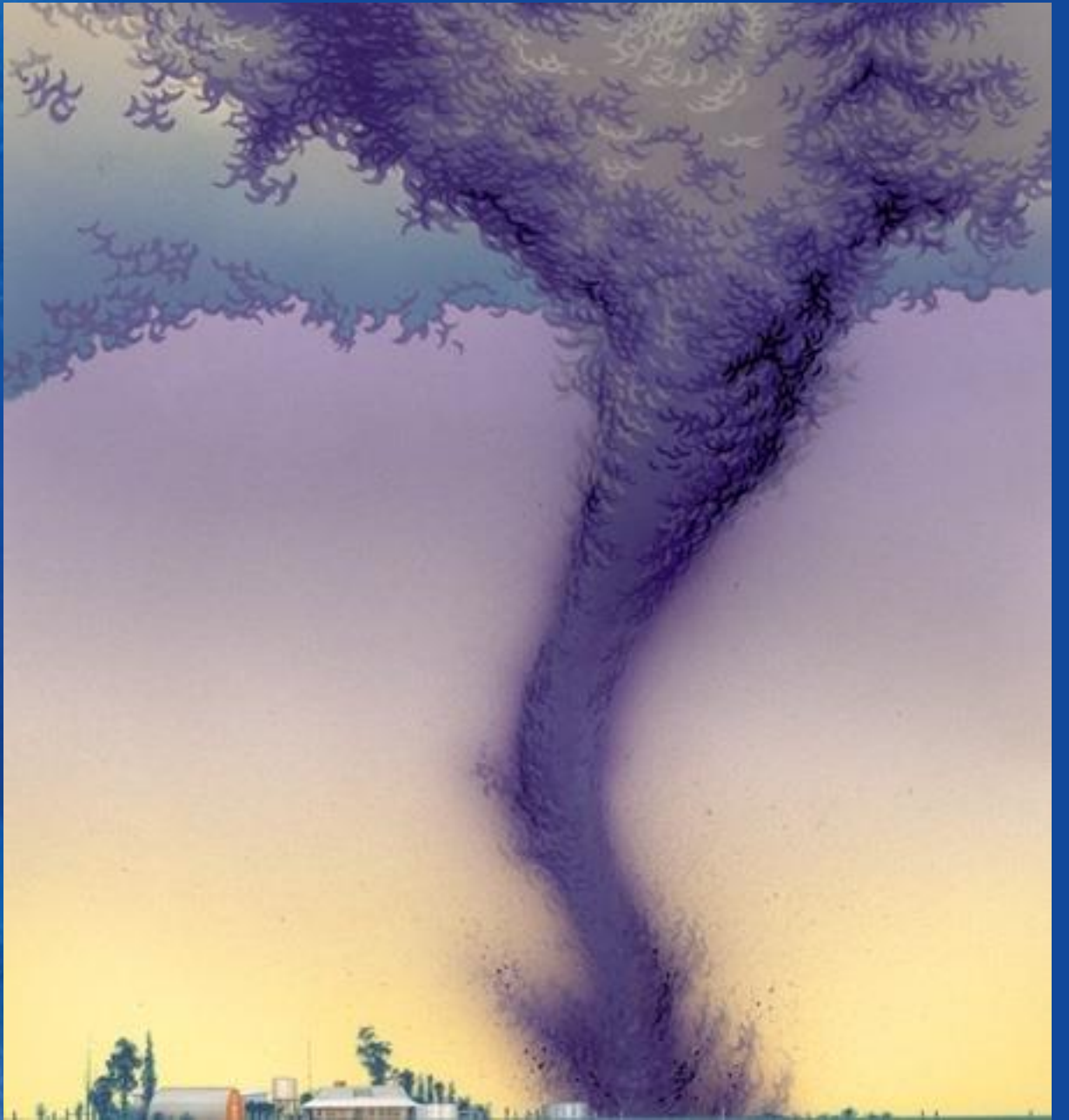




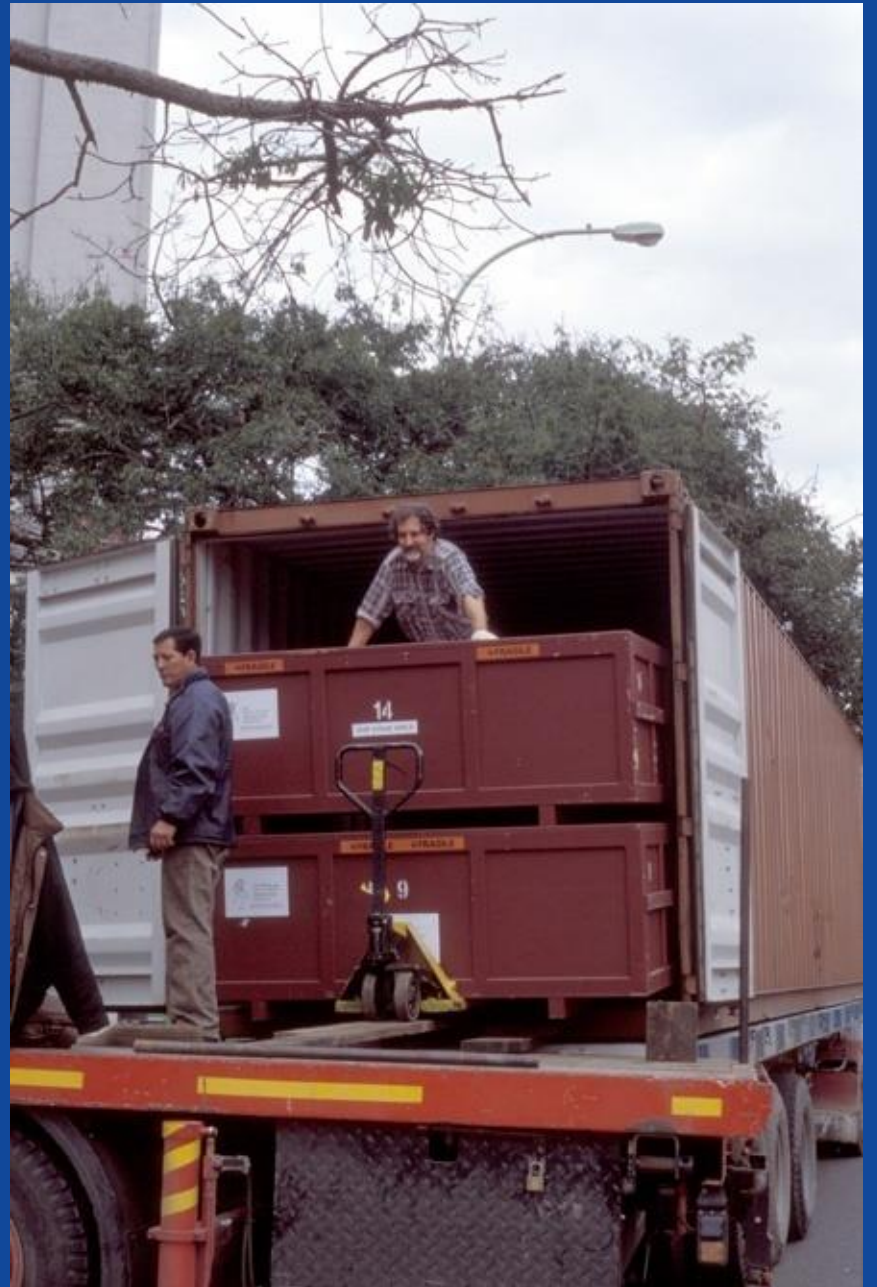


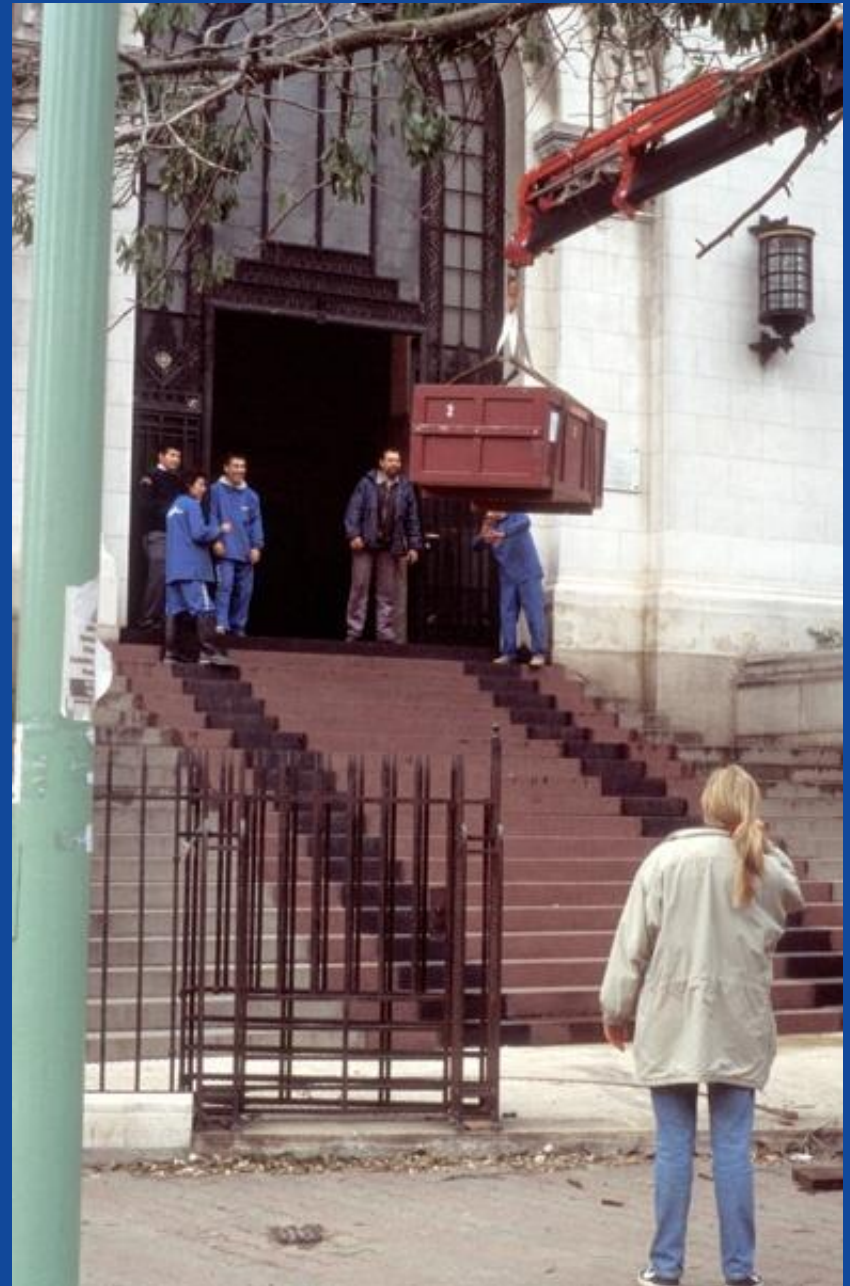
















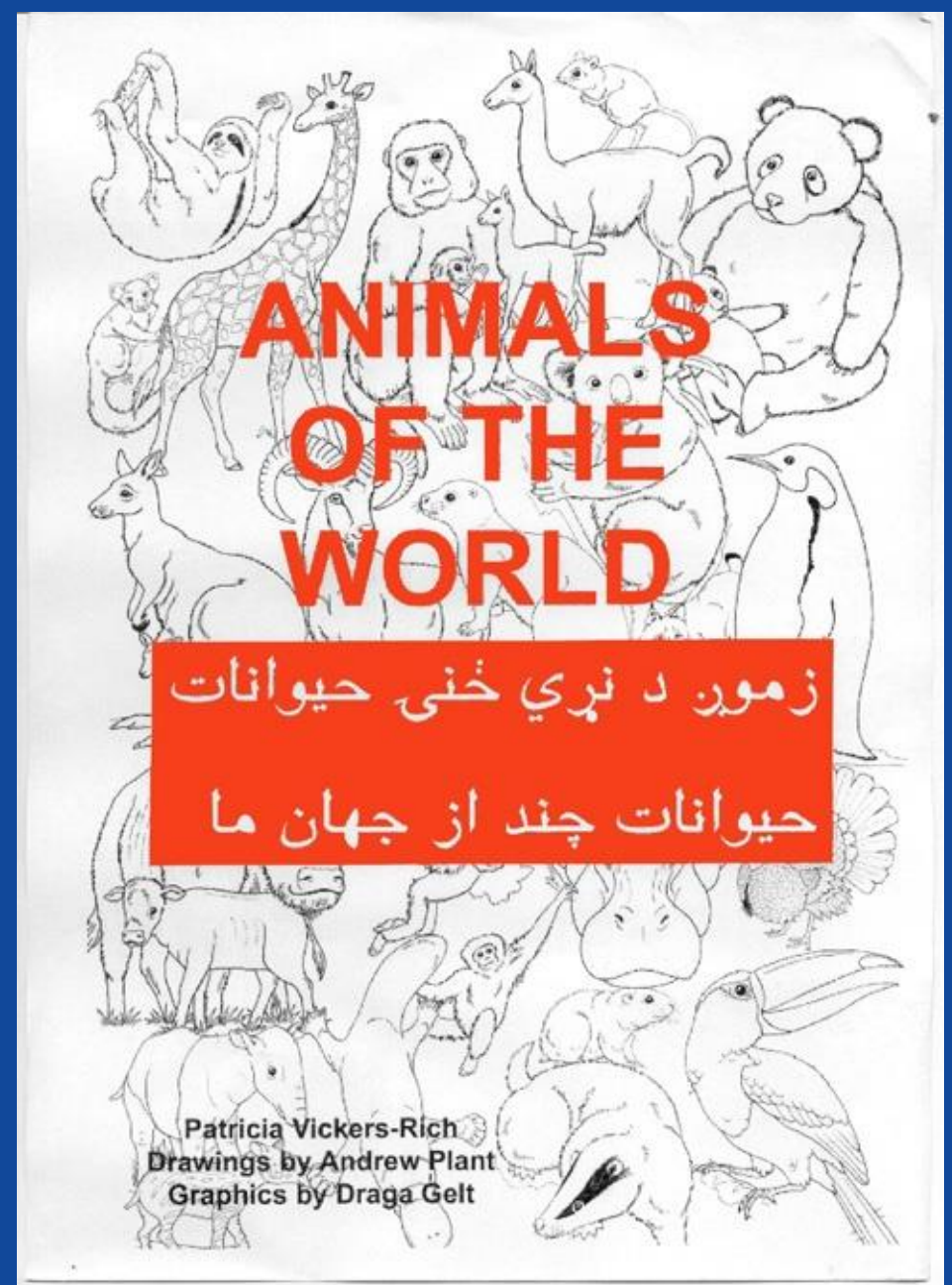




Afghanistan

- **Project Providing Teaching Materials** on language, geography and biology in cooperation with graduate students from Afghanistan and National Geographic photographers.





ANIMALS OF THE WORLD

زمون د نړي ځنې حيوانات
حيوانات چند از جهان ما

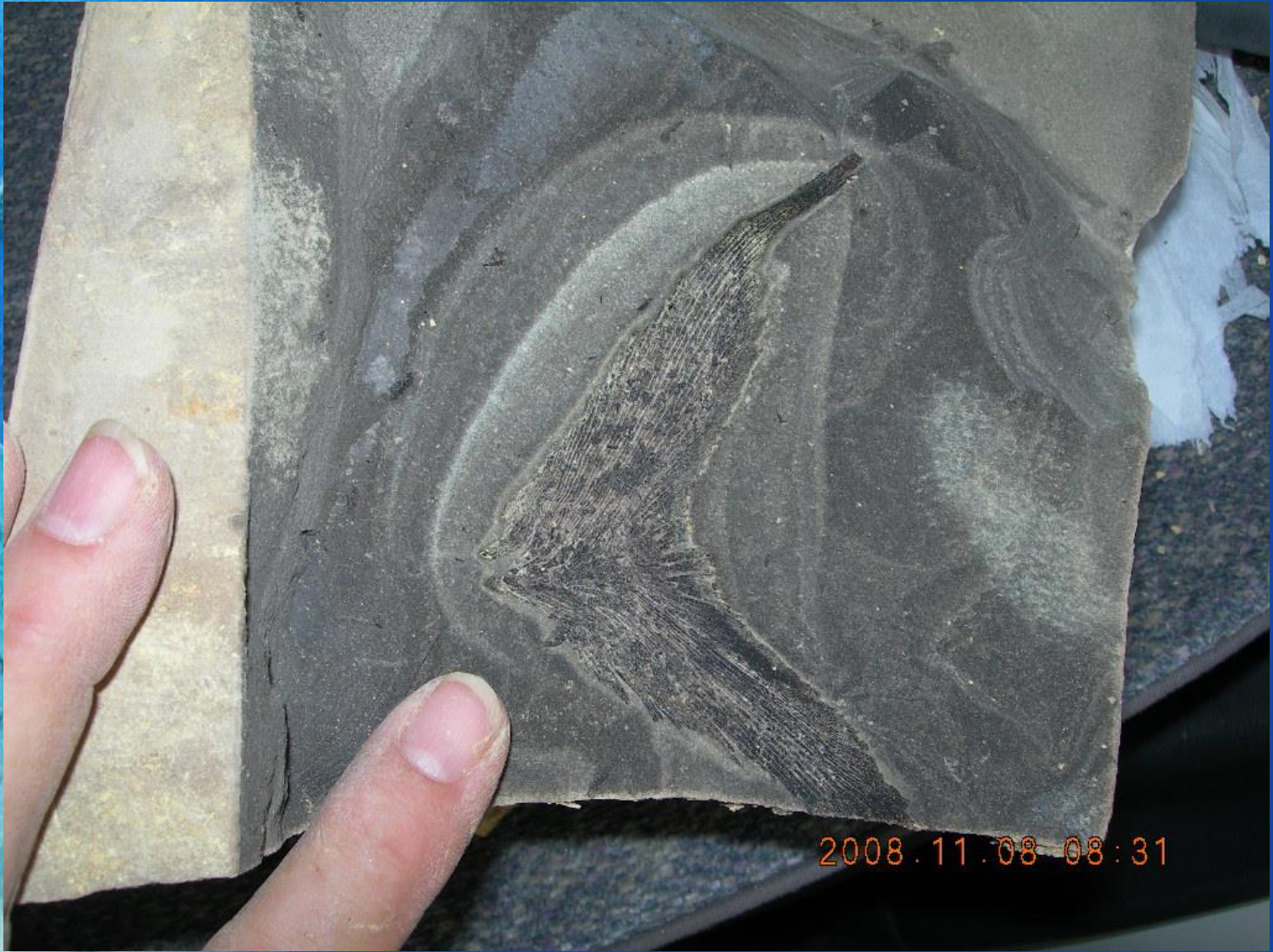
Patricia Vickers-Rich
Drawings by Andrew Plant
Graphics by Draga Gelt

Timor-Leste (2005- now)

- **Rebuilding of the National Museum** post 1999 destruction
- **Provision of Primary and Secondary Teaching Materials** in Concert with National Government of Timor-Leste, the Australian Defence Force, ConocoPhillips, Plan-International, Care and the Timorese People
- **Training of Tertiary Geosciences and Ecotourism Students** in cooperation with Timorese Government and UNESCO/Monash University/Univ. Western Australia



2009.11.08 04:32















2008.11.19 08:33





2008.11.19 08:26



2008.11.21 06:58



2008.11.24 00:54



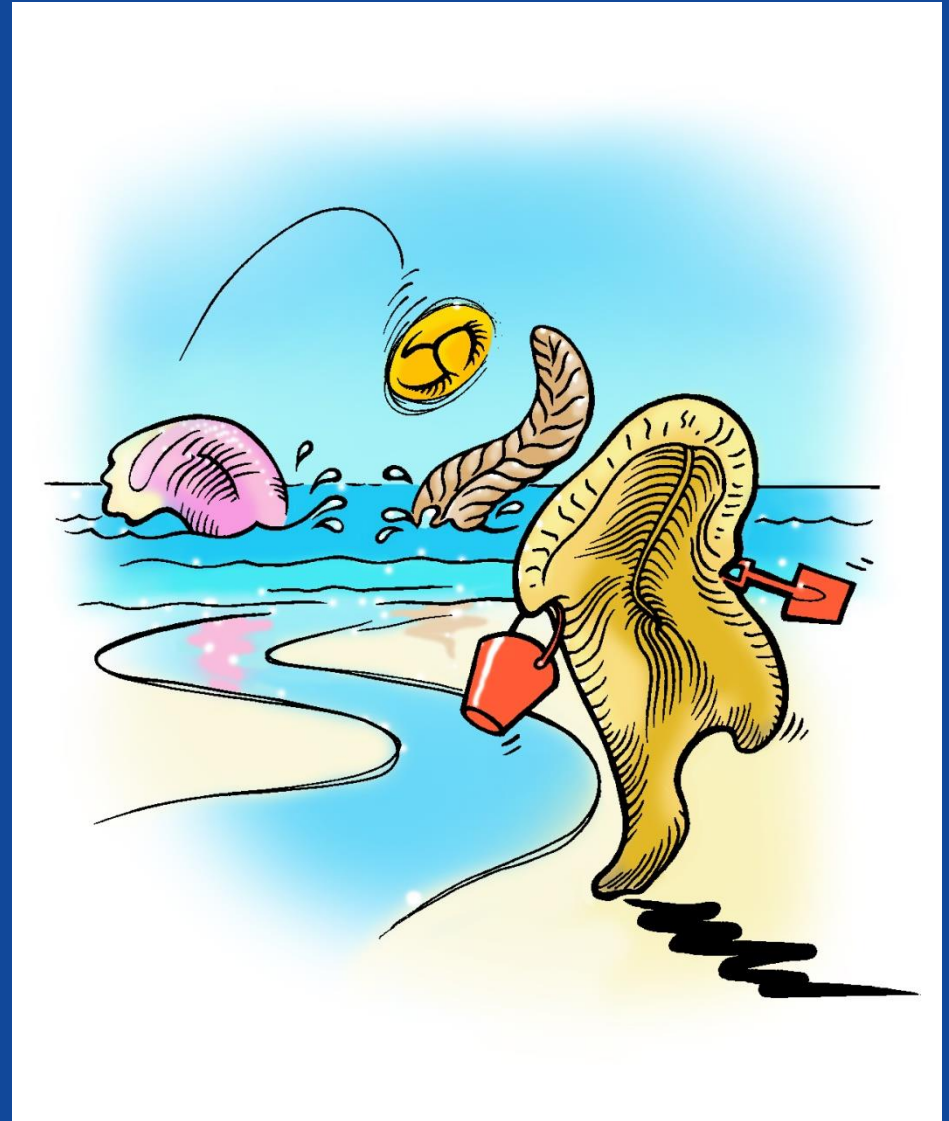
Research Provides the Base for Early Childhood Education in Field Areas - Namibia

- **The Search for the Beginning of Animal Life**
 - Work on the Precambrian in Russia, Siberia, Namibia, Arabia, Newfoundland and Australia (2001 to now)





**Global playgrounds
for animals
(metazoans)- when
the seas got sweet?
Namibia's ancient
oceans provided a
welcoming home!**

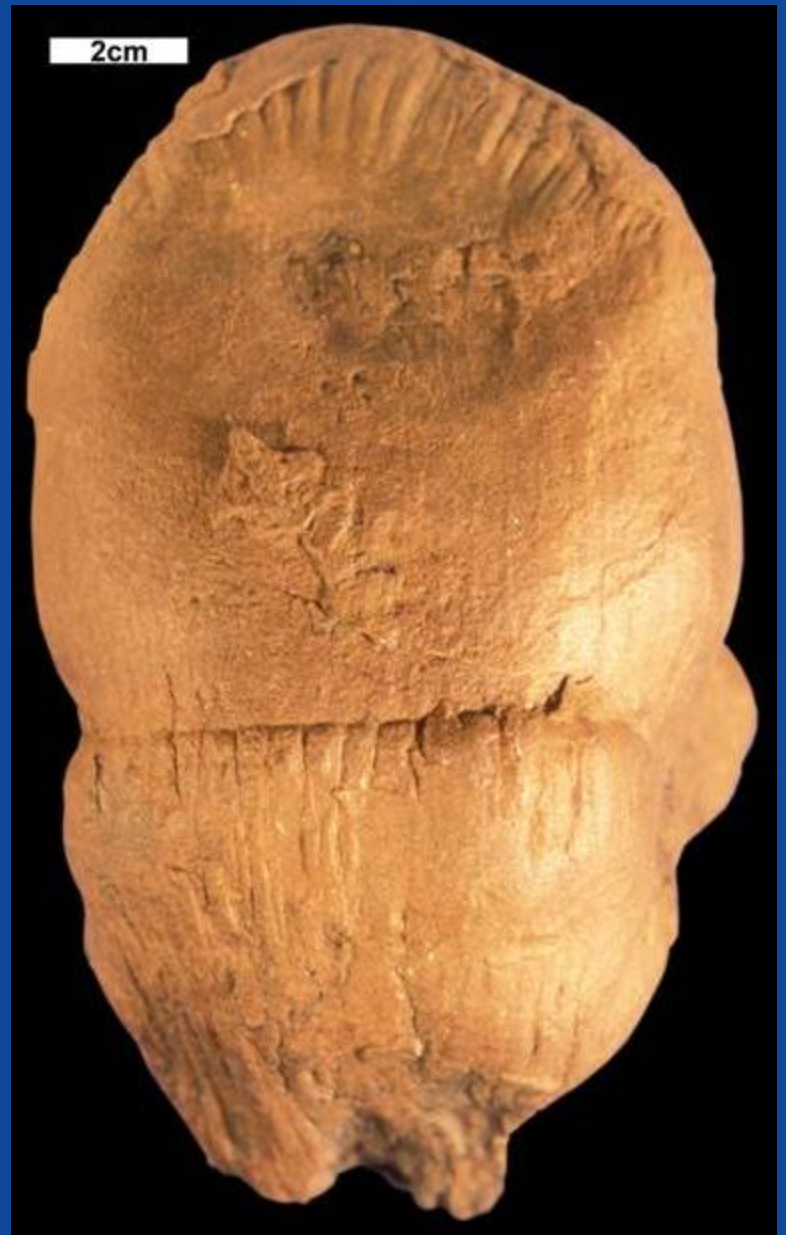








***Ernietta*, also a strange morphology when compared to modern forms. New discoveries in Namibia have helped us to reconstruct this ancient animal.**





Arctic circle

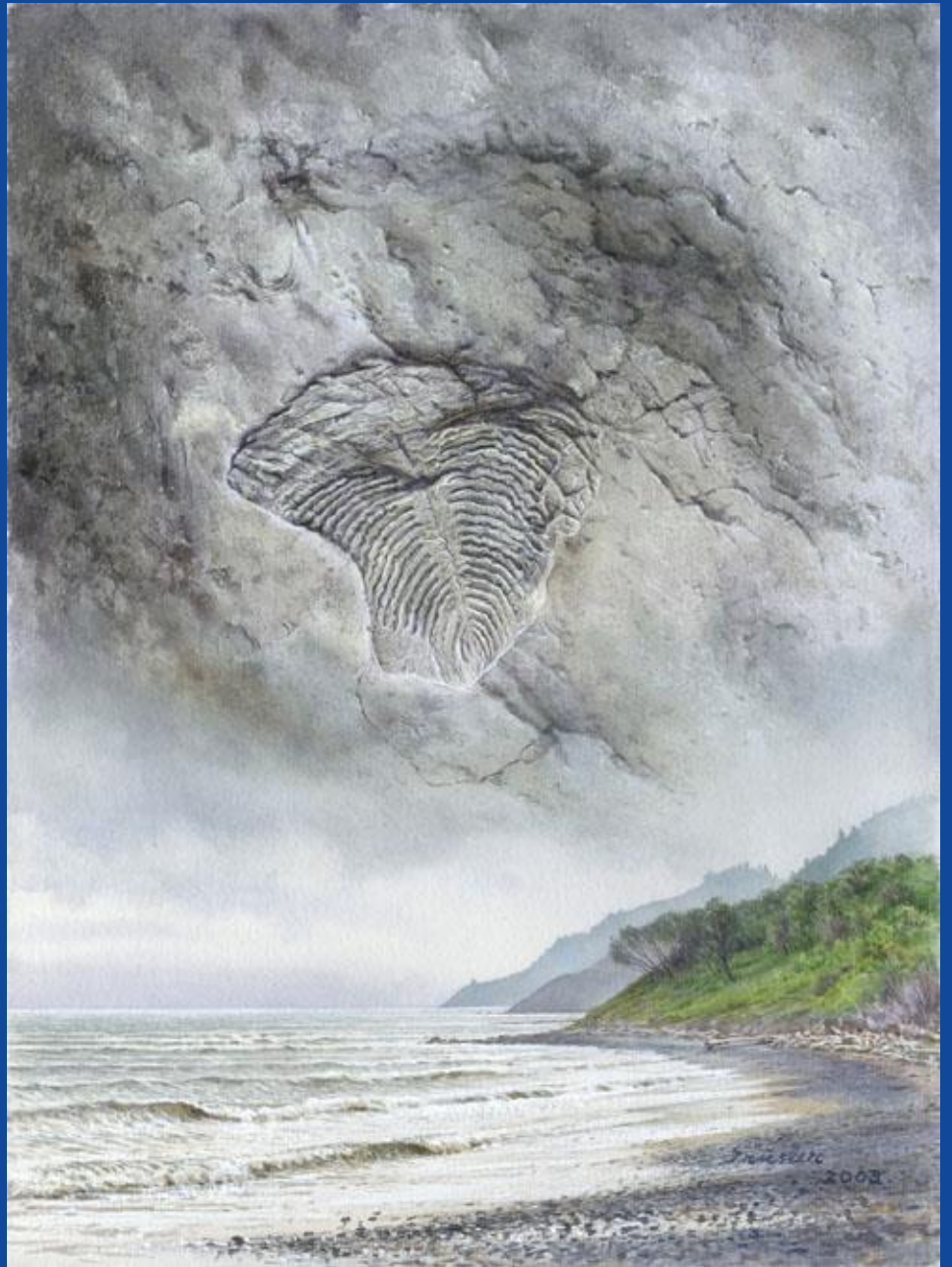
Site where
Kimberella
was found

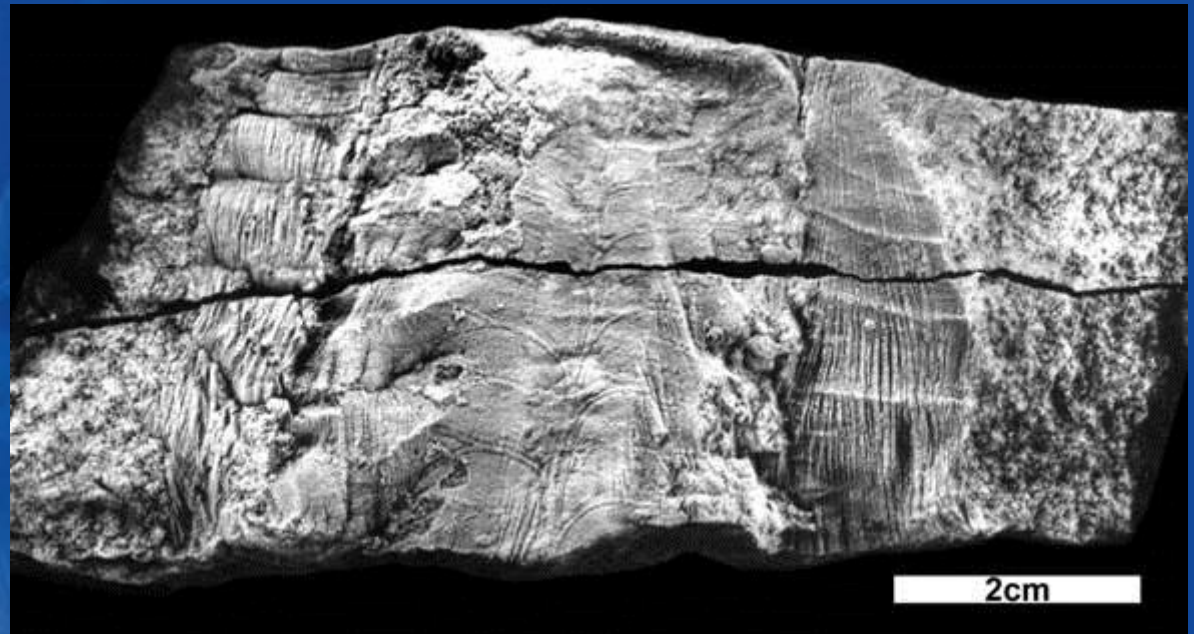
R U S S I A

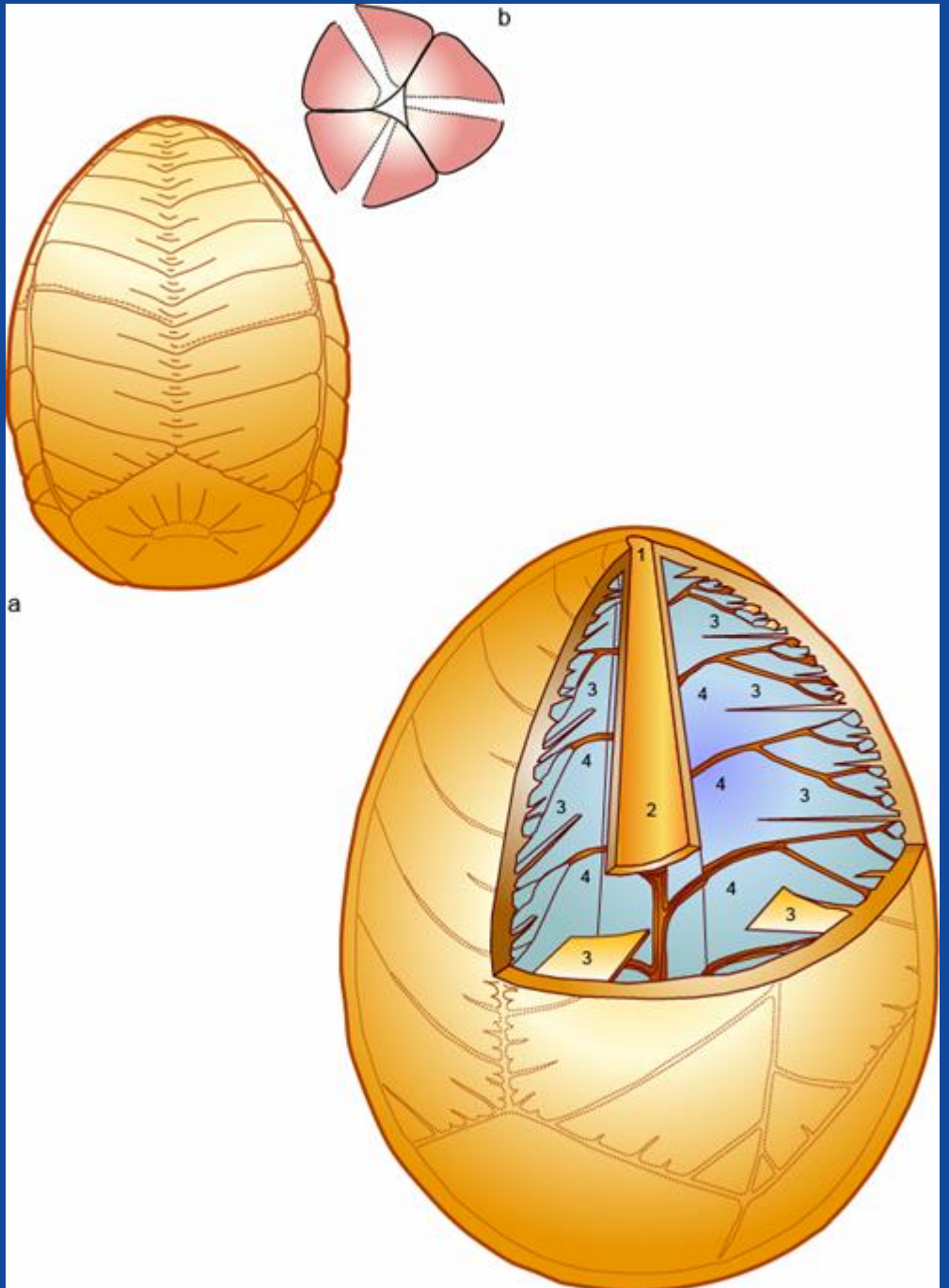








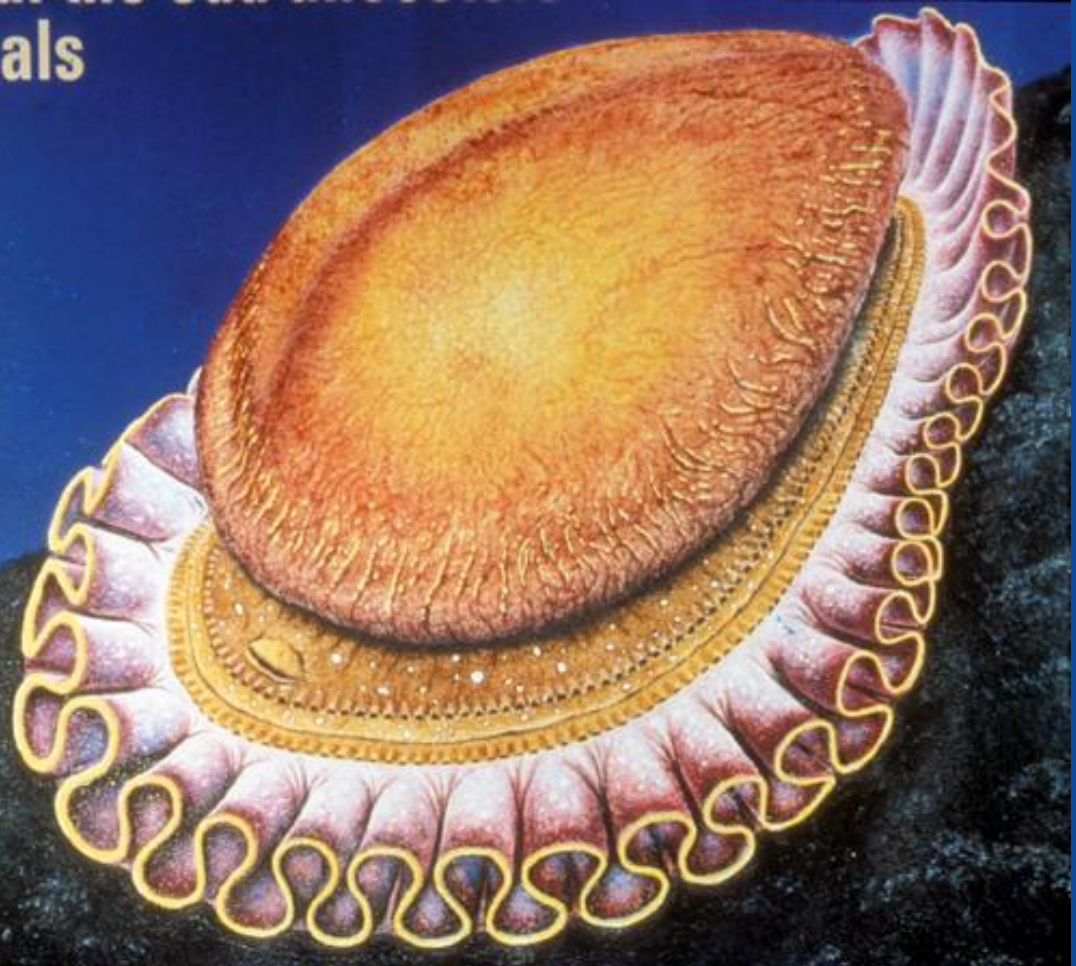








modern animals





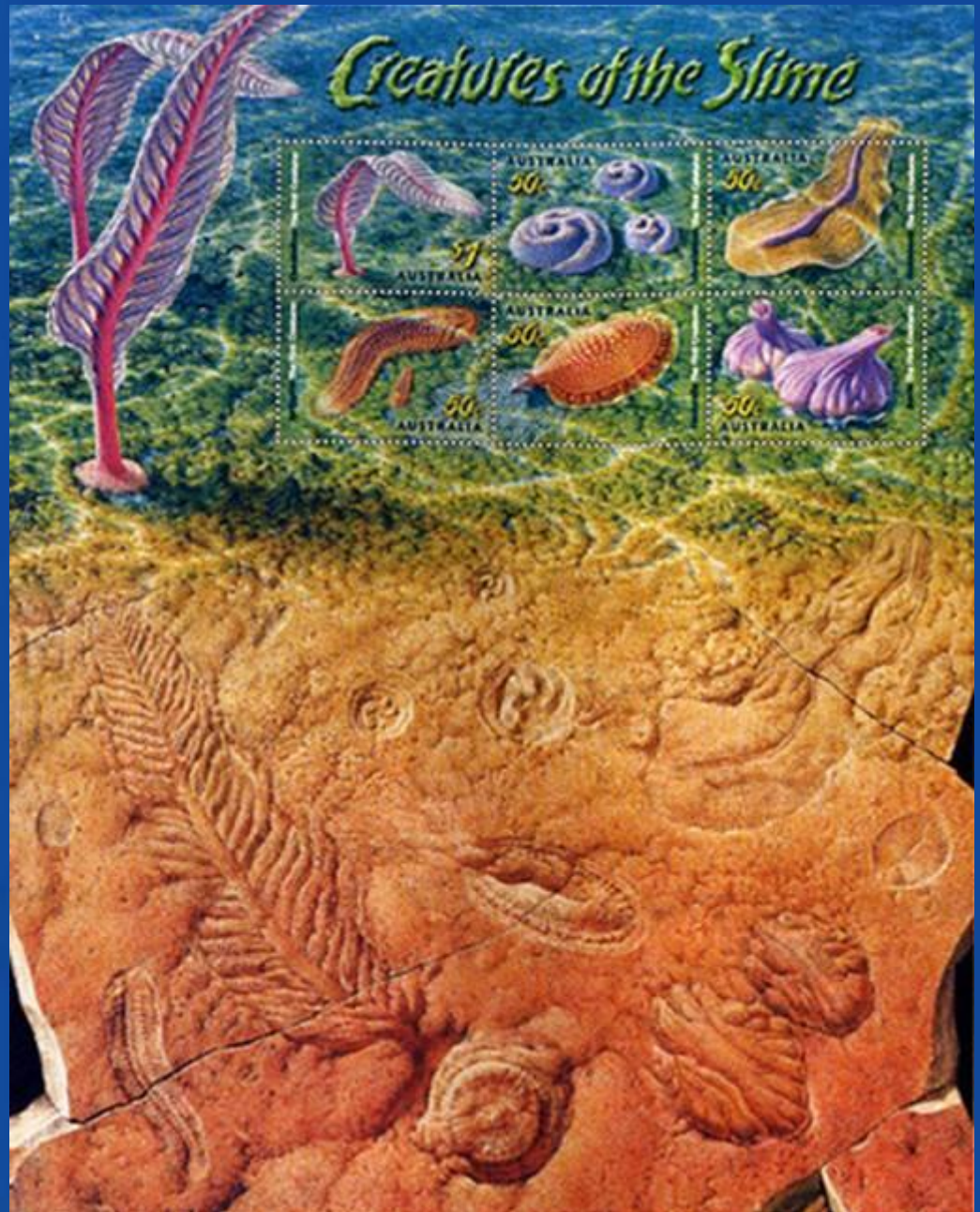




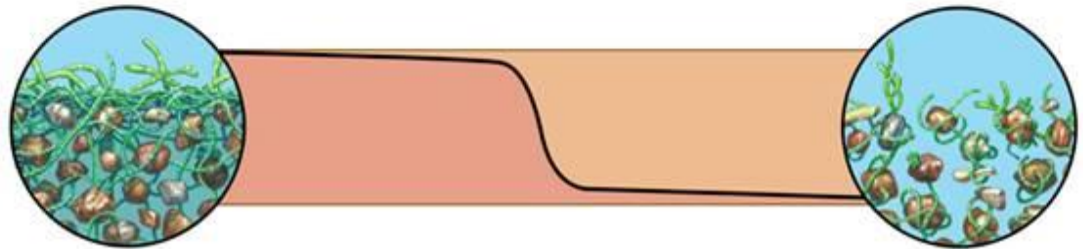
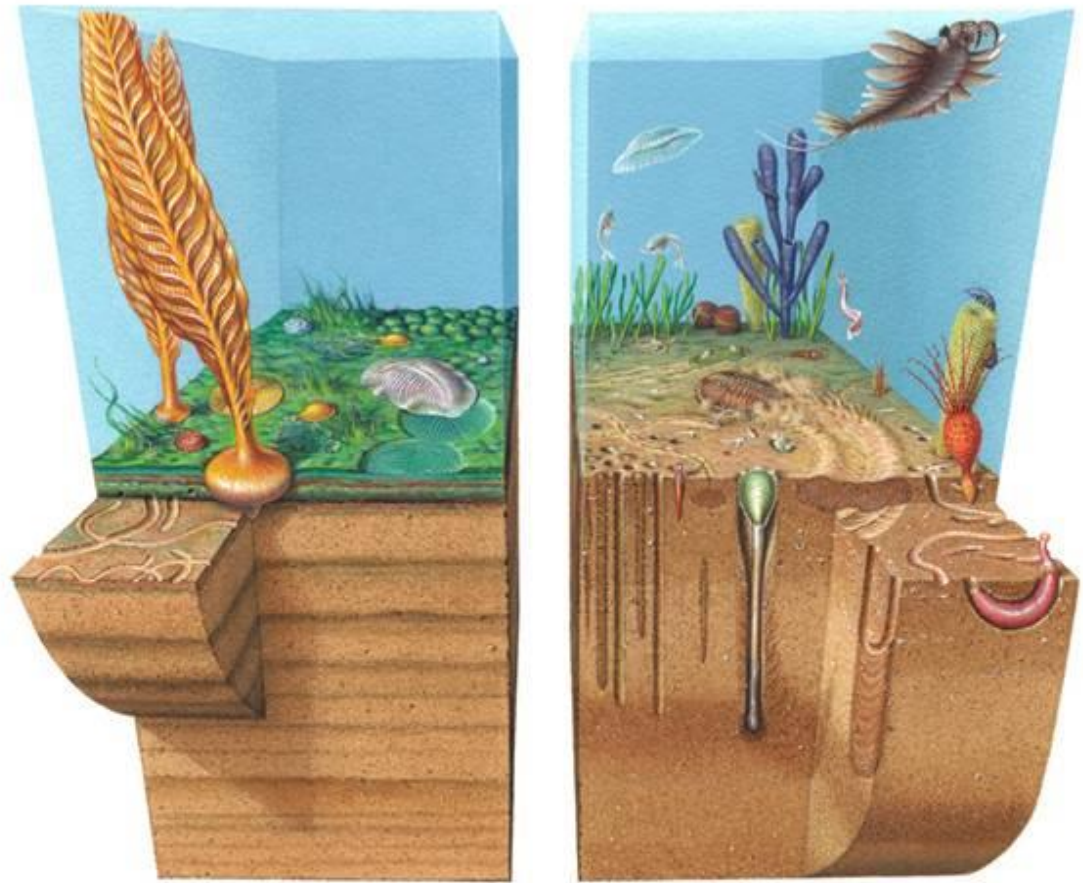




**Reconstruction of
the Ediacara Biota
in 2008 by Peter
Trusler**



**Nature of the
sea floor in the
Neoproterozoic
(left) and the
Phanerozoic
(right)**







Trilobites, another very successful colonizer of the oceans in the early Phanerozoic, lasting until the end of the Palaeozoic (from 541 to around 250 million years ago)

An illustration of a prehistoric underwater scene. In the foreground, a long, segmented worm-like creature with a long, thin, trailing appendage is shown. In the background, a large, open-mouthed fish with sharp teeth is visible. The scene is set against a blue background with light rays filtering down.

Skolithos,
deep
diggers to
get away
from
predators!



**An early
Palaeozoic sea
floor (500
million years
ago), different
from the past
(Precambrian).**

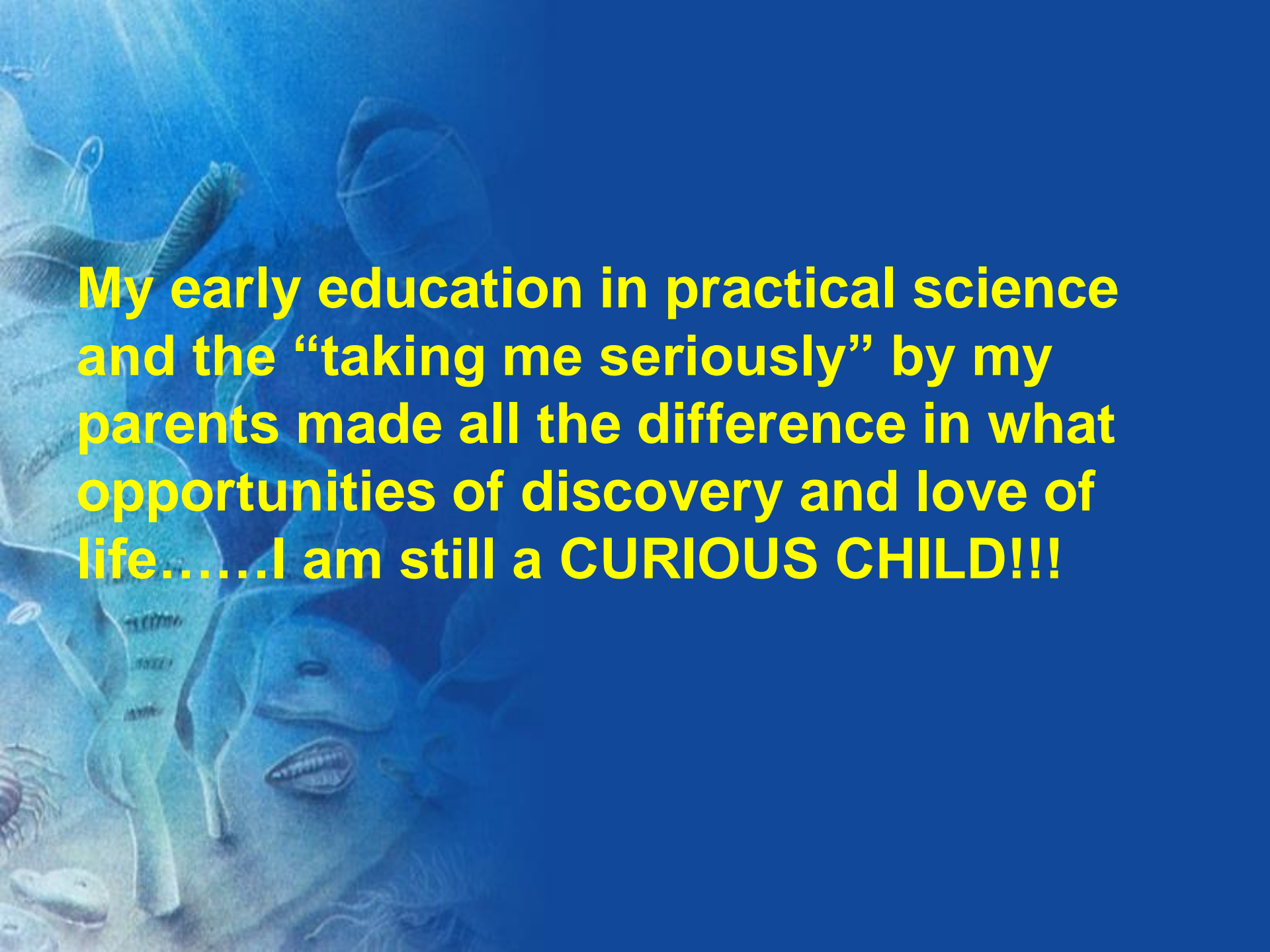


LESSONS LEARNED

The background of the slide features a faint, artistic illustration. On the left, a woman in a long, light-colored dress stands holding a book. In the center, a child is visible, and at the bottom, a dog is depicted. The overall scene is set against a dark blue background with a subtle pattern of light rays or lines.

- Intellectual curiosity should be subsidized from the moment a child is born – for life!
- People should be nurtured to follow their dreams
- Quality should never be compromised
- George Washington was right!

“There is nothing which can better deserve our patronage than the promotion of science and literature. Knowledge is in every country the surest basis of public happiness” (1776)



My early education in practical science and the “taking me seriously” by my parents made all the difference in what opportunities of discovery and love of life.....I am still a CURIOUS CHILD!!!

MITCHELL ON THE BUDGET



"We seem to be fresh out of money—would you mind paying?"

