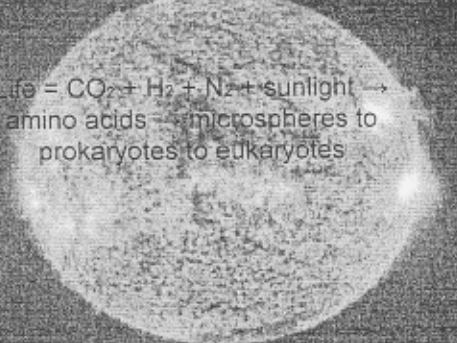


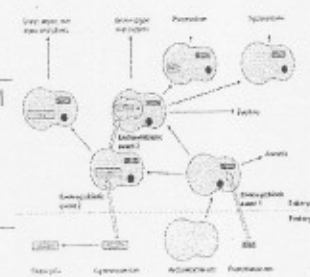
BIODIVERSITY

Life = $\text{CO}_2 + \text{H}_2 + \text{N}_2 + \text{sunlight}$ →
amino acids → microspheres to
prokaryotes to eukaryotes




BIODIVERSITY

- Basis of life. Chemical evolution
- The endosymbiont hypothesis



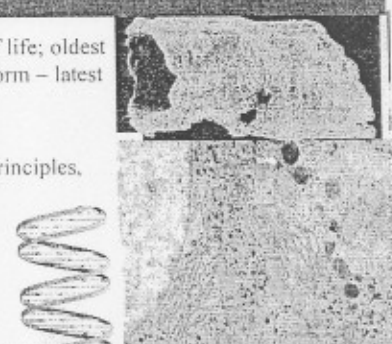
BIODIVERSITY

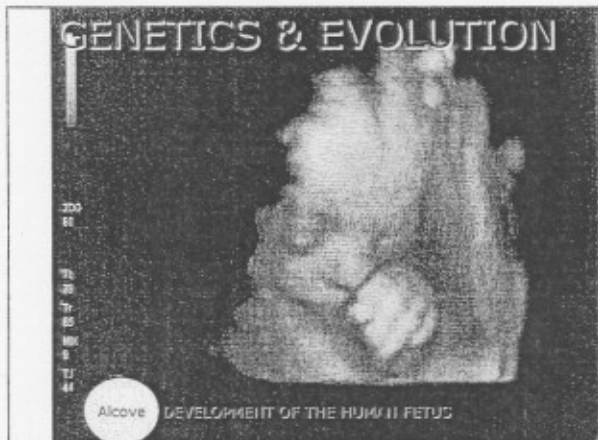
- Food production - Photosynthesis
(interactive)
- Nutrient cycle - display food web -
(interactive)
- Colour in nature. Light effects - represent sunlight
(interactive)



GENETICS & EVOLUTION


- Beginning of life; oldest known life form - latest research
- Cells
- Evolution: principles, processes





GENETICS & EVOLUTION

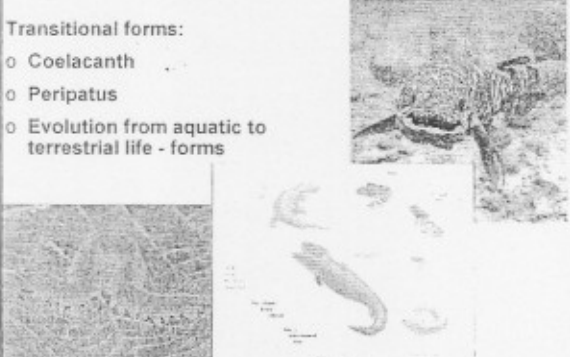
- Human Evolution
- Common Ancestors
- Speciation



GENETICS & EVOLUTION


Transitional forms:

- o Coelacanth
- o Peripatus
- o Evolution from aquatic to terrestrial life - forms



GENETICS & EVOLUTION

- Tree of Life
- Classification
(Interactive)



→ where ur.

Phylogenetic Tree

GENETICS & EVOLUTION

Alcove **Manipulating genes**

Arabian

Przewalski

Mustang
Clydesdale

Curlypony

Basotho

MINI

Rocking

Egyptian

GENETICS & EVOLUTION

- Convergence in insects, fishes, birds & mammals
- Adaptations for survival
- Camouflage for protection: insects, fishes, reptiles, birds, mammals
- Instincts, senses (interactive)

VARIETY OF LIFE ON EARTH

Alcove **Prokaryotes, protists, fungi, plants & animals**

Diagram illustrating the diversity of life forms, including a tree diagram showing relationships between groups and a detailed diagram of a cell.

VARIETY OF LIFE ON EARTH

Alcove **MICRO-ORGANISMS AND DISEASES**

HIV

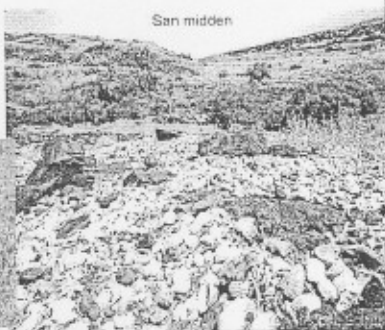
Single-celled micro-organisms

EBOLA VIRUS


Ebola virus

MAN & NATURE: TRADITIONAL USES OF ANIMALS

- ✓ Molluscs
- ✓ Arthropods
- ✓ Fishes
- ✓ Amphibians




San midden



MAN & NATURE: TRADITIONAL USES OF ANIMALS MYTHOLOGY

- ✦ Reptiles
- ✦ Birds
 - Mythology - owl symbol of death
 - A new initiative towards rodent control was launched seeking of encouraging farmers to provide opportunities for owls to control pest rodent populations - "Owl Weekender" Research WCRH
 - Birds as both academic and agricultural tools: Investigating the Barn Owl as a model of life history theory and an agent of bio-control.
 - Research Team: Leigh Porter & Andrew Jettison
 - The Barn Owl (*Tyto alba*) is one of the most widely distributed species on earth, and has been well-studied in many parts of its extensive range. As such, it offers a unique opportunity to conduct a phylogeny-revealed assessment of current avian life-history theory, by collating and analysing a comparable sample of breeding data across the broadest possible spectrum of environmental conditions. On a more applied level, the Barn Owl is essentially a rodentivore, and the success of breeding Barn Owl populations in closely tied to rodent population cycles in many areas. This propensity to track rodent numbers suggests that, where nest sites are utilised in the environment (e.g. where an excess of suitable, artificial nest boxes is provided), Barn Owls may be capable of responding to, and controlling, small mammal outbreaks associated with commercial monocultures, offering a sustainable alternative to toxic pesticides.
 - The scream of an owl is a bad omen in Kenya, taken as a sign that death will strike soon. However, in Kenyan village near Mount Kenya, Paul Murty, 30, has defied his community's cultural and traditional norms to rear owls as a tourist attraction.
- ✦ Mammals

MAN & NATURE: TRADITIONAL USES OF ANIMALS



Traditional Medicine


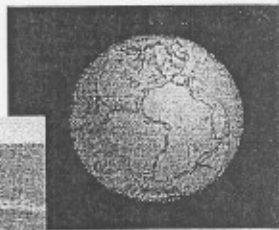
Traditional Medicine & Conservation

A comparative study between African Traditional Medicine and modern medicine

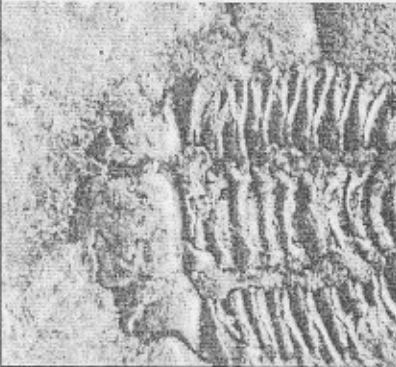

EXTINCTIONS

- Natural causes for extinctions: climate change, continental drift, impacts & eruptions

(interactive)





EXTINCTIONS

Fossils in the Museum:
ammonites,
trilobites,
echinoderms,
amphibians,
fishes & reptiles



EXTINCTIONS: Dinosaurs *(interactive)*



EXTINCTIONS:

Man-made causes for extinctions

- Indiscriminate hunting
- Over-exploitation *(interactive)*
- Habitat destruction *(interactive)*



The Dodo

LIVING WITH NATURE

Alcove

PERPETUATION OF LIFE

- > Reproduction
- > Fertilization
- > Animal sounds *(interactive)*

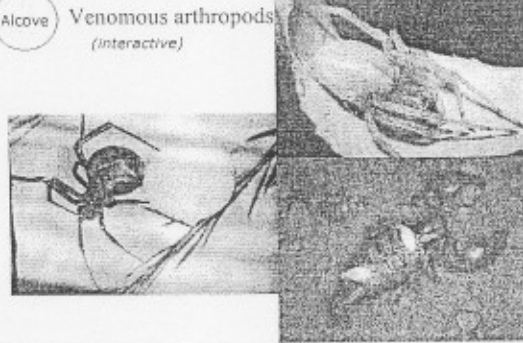
LIVING WITH NATURE

- Balance in nature
- Food pyramid
(interactive)
- Arthropods – Importance & Variety
 - Aschids
 - Insects
 - Variety, smallest – largest, sounds, metamorphosis, importance
 - Centipedes
 - Millipedes
 - Crustaceans



LIVING WITH NATURE

Alcove Venomous arthropods
(interactive)



LIVING WITH NATURE

BALANCE IN NATURE:

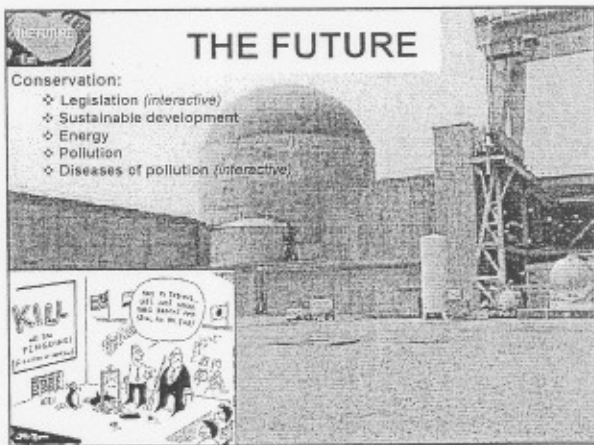
- Fishes
- Amphibians
- Reptiles
 - Alcove Venomous reptiles
(interactive)
- Birds
- Mammals

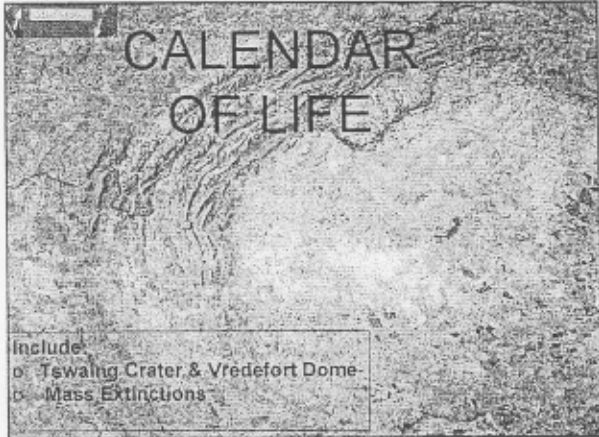


THE FUTURE

Conservation:

- ❖ Legislation *(interactive)*
- ❖ Sustainable development
- ❖ Energy
- ❖ Pollution
- ❖ Diseases of pollution *(interactive)*





Tswaing Meteorite Crater

The Development principles:

- Conservation of the environment
- Economic sustainability
- Benefit to the local community

Tswaing Meteorite Crater

• Development Zones:

- Environmental education
- Environmental conservation
- Museum and education complex
- Conference Centre
- Cultural complex
- Restaurant
- Picnic area
- Demonstration farm
- Environment education centre
- Outdoor educational, recreation and creativity complex

Impact Crater, Climate Change and People's Exhibition

- What is Tswaing?
220 000 years ago a blazing meteorite , size of a half football field , slammed into the earth's crust.
- Geological foundations
- Impact Crater or Volcanic Crater ?
- Resolve the riddle – drilling the crater

will be exhibited

Tswaing Meteorite Crater Exhibition

- Salt and Soda Mining exhibition
- Agricultural Research exhibition
- Communities of Tswaing Meteorite Crater – Oral History of :
 - » Winterveld
 - » Nuwe Eerste Rus
 - » Soshanguve
 - » Etc.

Tswaing Meteorite Crater Exhibition

- Geological foundations exhibition
- Plant life exhibition
- Animal life exhibition
 - » 250 species of birds
 - » 40 mammal species
- People at Tswaing Meteorite Crater
 - » Middle stone Age (150 000 to 30 000 years ago)

NORTHERN FLAGSHIP INSTITUTION

GaMohle Oral History Project



Bantu Commissioner's Office known to the Tshwane people as GaMohle.

GAMOHLE PASS OFFICE FOR NEARLY A 100 YEARS DURING THE COLONIAL AND APARTHEID ERA

- From the 1900s the police station became known as the Old Native Pass Office
- In the 1930s, after the new Urban Areas Act (1923) better administration was needed and a new office for the "Native Commissioner" was built on the same site.
- During the 1950s it became the "Bantu Commissioner's Office Building" (BCO)
- From the 1950s to the 1980s, during the Apartheids era, Pass laws were enforced at gaMohle.
- In the 1980s the Pass Office was non-existing and the building was transferred to SA Murder and Robbery Squad.

ORAL HISTORY PROJECT OBJECTIVES

- To develop gaMohle as a Centre of Living Heritage and
- To develop an Oral History Training Centre
- Development of Resource Centre for access to information of pass laws enforcement
- Skills transfer and job creation for the youth in the heritage sector
- Nation Building through the engagement of the youth and the elderly

GAMOHLE PILOT PROJECT 2004 OBJECTIVE

- The gaMohle Building is of cultural significance because its tangible, documentary and living heritage tells the story of pass laws over a hundred years
- To record the memories of pass laws and influx control as experienced by the people who lived in and around Tshwane
- Training of 4 TUT students as Oral History Research Practitioners
- 39 Narrators from townships around Tshwane were interviewed at their homes by Oral History Practitioners.
- Community engagement and access to their own heritage – for 39 elderly people fostering national identity

NARRATORS VISITING GAMOHLE

- "Sizakhuluma emarubhini"
– "we will talk at the ruins...!"

In 2005 the Narrators from the different Townships visited gaMohle to enhance their living memories hands on at the historic site.

NARRATORS FROM ATTERIDGEVILLE AND GA-RANKUWA AT GAMOHLE



ORAL HISTORY TRAINING AT CHIEF ALBERT LUTHULI MUSEUM

- In March 2006 gaMohle team was requested by Luthuli Museum to assist and provide training for their Oral History Research Project.
- A three days full training course was conducted and NFI awarded the participants with certificates.
- Approximately 20 people took part in this training including the Luthuli Museum Staff

GAMOHLE ORAL HISTORY PROJECTS 2006/7

GAMOHLE / NATIONAL ARCHIVES ORAL HISTORY PROJECT ON "1956 WOMENS ANTI-PASS MARCH"

- Dept of Arts and Culture initiated the 50th year celebration of the 1956 Women's anti-pass march to the union buildings
- gaMohle Oral History team in partnership with NARS was responsible for the Oral History Research

The aim was:

- To identify women at grass roots level who participated and supported the 1956 march
- To preserve and document their experiences and memories of the march

GAMOHLE ORAL HISTORY TEAM



GAMOHLE TEAM

CONSISTS OF:

- 4 Oral History Practitioner who were capacitated from the previous project
- 6 Oral History Assistants – graduate from TUT who were engaged in internship and were retained as casual workers
- Cascade model
 - Ongoing skills transfer from experienced Oral History Practitioners to their assistants
 - this enable the team of young people to assist DAC with recording of intangible heritage

NATIONAL WOMAN'S DAY: 2007

THE LAUNCH
OF
GAMOHLE / NATIONAL ARCHIVES PROJECT

1956 WOMEN'S ANTI- PASS MARCH