

B.

The second great series of Reptiles
that the (Verrovoic) begins with the
major system which requires much more
included in one group with the Permian deposits —
The reason of this was, that there are groups
on the termination of the Permian the commencement of a new
Era — ~~the Permian~~ groups really extend to a
much later in the districts where they were
first examined. The fact being that in
some of the latest of these countries the two groups
form a great series of Sandstones & limestones deposits
without any perceptible break at a period
when a very great change occurred in the
forms of organic life.

In America no Permian — and therefore
needs to come to make an abrupt transition

(Transfer just sent to my instruments)

1 The most marked change which
occurred in this period was the introduction
of reptiles — and this class appears
on the stage of life not in small and
imperfect forms but in large creatures
large and diverse indeed from existing
reptiles but just as perfect as ~~complex~~
~~in structure~~ still often with the head of the lobe
to which they belong.

One of the most regular ones is of the *Sabzetta*
class - which just wonderfully runs to
geology of the species in the sandstones
of some of the Carboniferous in paper
of which one of the 12 feet long and
not unlike the impression of a human
hand from the cerebellum & which
the ~~bone~~ *cranium* *chondrium* -
it just - being a creature could be tracing
respecting the history of the animal but the
whenever discuss the same rock of
the teeth and bones would be
just that there was the points of
view - closely related to the type - but of
the magnitude of an a. and which
by the ~~more~~ *more* complicated structure
of its teeth was named *Sabzetta* -
In addition to this genus we have the
~~Palaeosaurus~~ ^{*marginatus*} and *Rhynchosaurus* The latter
apparently the tortoise in its structure

~~*Protosaurus* broad like - *Mastodons* of *Pharus* size~~

I Birds but appear in the Traps
a at least footsteps appear what it
is impossible at present refer to any
other class. The rocks of Traps are mostly
but in footsteps - and had it not
been for the circumstance of the clays and
mud preserving the impressions of the animals
which have walked over them we
should have known nothing of the existence
of birds at so early a period. These
impressions have been found in the great
abundance in red sandstone of Connecticut
They all show the presence of several
species. The largest leg of enormous dimensions
is not more than 15 inches in length and
the length of its step leg from 4 to 6 feet -
all these impressions belong to woody
lands and it is probable that the
creatures which made them were like
or much more so like the apteryx
of New Zealand.

3 In this system we lose several Pol.
arion - pus -

No species common -

Genus Proclitus & Spizella lost

For his cutting distinct, they still survived & flourished

4 Vegetation wholly different

No species common

Many pus lost Plants scarce however

~~Syllabus~~
New pus Africa Equatorial Asia



Colitic System

Perverts in general a further development of the characters of the
rhyolite — It is most easily developed
in England & Europe but is rarely seen
in America — (Asia?)

In a rounded part of new des. displaying
of the great number - magnitude and uses of
reptiles - Reptiles then last class - and we
turned to us to see all the species of the
mammals and birds made this -

Thyris plenisanus n. sp.

C' Cēho saunus,

Iguanodon terrestris & *Iguanodon* of West India - a synonym?
Iguanodon - 70 feet long?

Megalosaurus gigante, 40 to 50 feet Common

Crocodiles & hands ~~small~~

Teleosaurus Steleosaurus (Cuvierites like genus
with narrow Sinter, — as early as Pithysaurus.
In some numerous

Intus murens

3 Pterodactyles flying around camp as well
as bats fed on insects —

Cephalopods — ^{Mus & Splenda} crinoids and bryozoans
Murchies holds its ground.

Pentamerus appears for first time — still early
Schizotha & Stelleria also like existing

Fishes, shells all Placed a general

Mammalia Shrews field specimens and two
specimens — not quite certain — Mammalia.

Birds — remains of a Water hen of Heron in
Woolden.

Vegetable Kingdom in ~~texture~~ White

Cycas a new form of plants — like recent
characteristics of Cycas, a new
plants intermediate between palms and pines

Parsons a green pine fruit found at
Pallant, one of Parsons in nature,

Palms also,

Impatiens also about more Pure & more
arancium.

Leaves ferns

Plants abound in some parts of arctic
very small depth of coal
Sports of this kind at Richmond
Virginia —

Can afford a warm climate in temperate
parts of earth

'Cretaceous period

so called for the chalk of England & France
being the deposits in it. Various parts of Europe
rocks of same age occur in America without chalk,
excluding Marine
Reptiles

Quartz None

Birds

Reptiles

Icthyosaurus continues, *Plesiosaurs* also
Iguanodon also Crocodilian reptiles like white
Isotomes —

New forms
high are ~~the appearance of Bull and water~~ *Trilophosaurus*
~~many reptiles in bands of the chert~~ (except one
Vertebra in chert of N Jersey which is like a crocodile)

Some small lizards like recent but different
species

Mosasaurs gigantic *Mame* *amure* 25 feet
long. Similar in habits to *Icthyosaurus*
Up like (also found in New Jersey)

Fishes — *Apeltes* part of *Plac* & *Sauris* dropped
and *Ctenoid* and *Cyclon* are introduced

Cephalopoda retain white forms some new genera
introduced.

Cretaceous fossils in America & India more dissimilar from European than in older
system.

Plants — *Pinus*, *Abies* — *Taxia*

Reluctant to leave the Secondary system
in a gradual approach to recent times
intolerably with single exception of Shrewsfoot
mammals to no higher than reptiles - Thus
the exceptions in which they filled all the
higher orders of creation - ~~especially~~ even on
the domain of birds which existed with the
like the Pterosaur and the great development
of Cephalopoda and greater of Pterosaur
than the present and like the Ophiura
fishes were all gone and Placoid - except
the actinoptera system

Agassiz on Polacanthus is equal and
modern characters - and so.

Textary

Plus the third great geological period but it is
more closely for Mesozoic than the latter for Palaeozoic
(quite distinct in memorandums)

All textary steps show a greater extent of change
at least in regions explored - and in fossils the very
eldest textaries present an immense advance
to recent state of fossils.

+ 8 in the

In the lowest textaries we find massive
millions of recent species - In the oldest textaries
less than about 3% present of the species as we find
in the late about 95 - and intermediate
steps present intervening proportions

His has reported the number of bodies into

species Placene 95 Pac -

Stela Or 41 -

Miocene 18

Eocene 32

Textary most of European almost wholly changed from the fossils
and much like than recent species

2 Fossils are nearly related to each other
in the lower tertiary 2/3 of species belong to genera
now existing but no tertiary species preserved
up to the present. — Chalk and 1/3 recent genera
white lime

3 Reptiles are all the same secondary fossils
Placodermi — and no reptiles are common
fossils in the

4 Insects now appear as perfect clasp —
and most of extinct species but only a few
extinct genera —

— Whales now instead of Man heads
and Pachyderms instead of terrestrial

Eocene
Palaeotherium — char of Rhinoceros Head & tip
Some as large as Rhinos, other as small as hog
found in swamps

Amphitherium a lighter creature & smaller

Lophoceros — Like a tapir

Anthracotherium (Hog & Hippopotamus)

Cheropotamus (Like hogs)

Edaphus between *Pachyderms* & *insectivores*.

These genera found in coal fields of Paris
The oldest Eocene formation. Besides them we
extract species of wolf, fox, civet, racoon, genet
opossum, mongoose, squirrel, (various birds), tortoise
livewholes, all in Paris Eocene.

Eocene Miocene.

Amotherium (18 feet long)

Tapirus & allied genus

Rhinoceros

Musteloides in Mio of N. States & China

Lekocaulodon like *musteloides*

Hippotherium allied to horse

dis *Felis* *guler* *Macharodon* (like bear), (*Hippotherium* like dog)

East Indies *Amotherium* diff species — *Groff*, *Brachatherium* (like *Groff*)

Sivatherium like *Groff*, *Canis* & *Pachyderms*.

Pliocene

Lox *Palaeotherium* genus.

existing genera of *Pachyderms*, Elephant *Hippo* *Rhino*
Ruminantia (oxen & deer),

Whales *Dolphin* seals *Walrus* be in Mio & Pli.

Megatheriidae — South America — Remnants of its pre-
sent fauna ancient are an exaggeration of it. *Panoplos* fossils in
their clay Eocene of La Plata, *Megatherium* a gigantic sloth
Myodon or (Owen's theory of *Megatheriidae*)

Scelidotherium as large as *Rhino* but like ant-eater & *Armadillo*

Mast^{an}ocheria a tapir with a long neck like a camel

Gorodon a huge pachydermatous animal probably
aquatic but with rodent teeth

Tertiary plants

Early green stands ~~the~~ palms Willows poplar
Elms Chenopods & grasses the first species,
on the whole in Europe a new analogy to
Tertiary and warm climate flora now.

Summary of tertiary Vol. Philip 2 P 13.

Dulworn can

Itase - New species also in the state - leads to interesting
inquiries - Darwin says that in learning, in most parts,
we must consider how little we know of causes of ruins
and extinction of animals and plants but then for the
quest to infer Cataclysm but it may be that - animals have
been destroyed not because unsuitable to them but for the
benefit purposes of busy agents, ex delictu, and
Hence a Schmeidler,

Testing period closed in a change of a
most extraordinary nature. The Placem as revealed
by the Boulder section a sheet of mud stones
and gravel spread over all within hemisphere
and indicating a period of general subsidence
by unity and a great degree of rock at least
The fossiliferous part within cells have an arch
character. Can be no doubt that this was a
great and general change and destroyed many of
the tertiary mammalia

At same time more often mud and
crump. Marlstone in N. States also considerably

containing information in detail
concerning negative chambers & Page Smith

Geology & Topography
Pictorial

A Succession, a graduation, but—
each forming a distinctness after
years at and in perfection