

**KEY TO THE
GEOLOGY OF THE
GLOBE: AN ESSAY**

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Key to the Geology of the Globe: An Essay by Richard Owen

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RICHARD OWEN

**KEY TO THE
GEOLOGY OF THE
GLOBE: AN ESSAY**

KEY

TO THE

Geology of the Globe:

AN ESSAY,

DESIGNED TO SHOW THAT THE PRESENT GEOGRAPHICAL, HYDROGRAPHICAL,
AND GEOLOGICAL STRUCTURES, OBSERVED ON THE EARTH'S CRUST,
WERE THE RESULT OF FORCES ACTING ACCORDING TO
FIXED, DEMONSTRABLE LAWS, ANALOGOUS TO
THOSE GOVERNING THE DEVELOPMENT
OF ORGANIC BODIES.

BY

RICHARD OWEN, M.D.,

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The sum of wisdom is to know the laws by which the universe is governed; the sum of virtue is to obey them.

ILLUSTRATED BY MAPS AND DIAGRAMS.

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Dedication.

HAD not academic and other duties forbidden, the writer would have at once submitted, in person, the results of his labors to the great patriarch of Physical Geography and Geology, Alexander Von Humboldt; and, with his sanction, if obtained, would have dedicated this Essay to him, as a guaranty to the Public that it was worthy of perusal; but in default of these facilities, the writer throws himself on the generosity of those "Searchers after Truth" who will not adhere to established suppositions merely because they are old and respected; nor reject newly-advanced opinions, without due examination, simply because they are new or startling; provided such opinions are brought forward with sincerity, and with deferential regard for the final decision of that enlightened and impartial body of readers.

To an enlightened PUBLIC, then, with all due hesitation regarding the propriety of obtruding on them assertions sometimes not fully proved, and with many apologies for the imperfect manner in which the original design has been carried out, this Essay is consigned for kind approval, if deemed worthy; or, if found wanting, for a rejection at least not unkind, it is hoped, inasmuch as so little is assumed by

The Author.

ERRATA.*

1. Errors in Writing:

At page 24, line 14th from top, for "encountering the earth's diurnal motion," read, "following the earth's diurnal motion;" and two lines farther on, for "produces vibratory motion from east to west," read, "produces vibratory motion in the same direction."

At page 26, line 17 from bottom, for "there be," read, "there is."

The use of the term "placental type," on page 87, is liable to be misunderstood, as applied to a country containing chiefly animals usually denominated implacental; unless with the qualification that materials, in the placental animals *deciduous*, are here supposed to be *retained* for the formation of a permanent extra-uterine source of fetal nourishment and protection.

At page 122, omit the words, "and the conversion of gelatin into albumen by oxygenation:" in this connection read observations on page 168.

In *Mercator's Map* (No. 1) insert the word "stratified" before the words "protogenic, serpentine, and eurite," among the Metamorphic rocks, otherwise they would appear to be Plutonic.

Ibid: In the parenthetical portion of the title given to this Map, interpose the word "chiefly" between the words, "the latter" and "by dotted lines."

2. Errors in Typography:

On page 11, for "Johnson," read "Johnston."

On page 25, for "phoenogamia," read "phaenogamia."

On page 89, for "Furca, Pass," read "Furca-Passa."

In note to page 41, for "Johnson," read "Johnston."

On page 71, for "X," read "XIV."

On page 92, for "clearage," read "cleavage."

On page 96, for "systematic," read "systemic."

On page 136, for "efferent," read "affarent."

* It was found that there was room to place the *Errata* in the first sheet, containing title-page, etc., as that was not struck off until the remainder of the work was printed. The table of errors was, therefore, assigned to this position, as presenting to the eye the furnished corrigenda, before the reader had been unfavorably impressed by seeing inadvertencies, which might be supposed unnoticed and uncorrected on the part of the writer.

On page 164, for "pinacle," read "pinnacle."

On page 208, for "medula," read "medulla."

3. *Errors in Lithographing:*

Mercator's Map of the World. Consider this as "Map No. 1" of the text, the number having been omitted in lithographing.

Ibid: The Great Circles A^I, A^{II}, A^{III}, are not executed with mathematical accuracy, and enclose, consequently, somewhat more space than they should do, north of the points W, T, and V.

Ibid: For "palæozoic," read "paleozoic."

Ibid: For "quarternary," read "quaternary."

Ibid: For "A^I, B^I," etc., read "A^I, B^I," etc.

Map 2: For "quarternary," read "quaternary."

Ibid: For "palæozoic," read "paleozoic."

Diagram I: The curved line indicating the end of the Tertiary Period is, by mistake, brought only as far south as Cape Sable, in Florida, instead of curving round by the Caribbean and Mediterranean Seas.

Diagram II: For "Anglo-Teutonic," read "Anglo-Teutonic."

Diagram III: For "fig. 8," on the left, denoting the germination of seed, read "fig. 6."

Diagram F: A few impressions were struck off before it was observed that the largest Circle, embracing the whole animal kingdom, was omitted.

Ibid: In the Circle of Mammals, for "8000," read "2000."

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