

Alexander von Humboldt



*Views of Nature -
Contemplations
on the Sublime Phenomena
of Creation with
Scientific Illustrations*

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Published by Good Press, 2022

goodpress@okpublishing.info

EAN 4064066458577

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Specialities on the plant-forms already enumerated. Physiognomy of plants discussed from three different points of view: the absolute difference of the forms, their local preponderance in the sum total of the phanerogamic Floras, and their geographical as well as climatic dispersion—pp. 296-346. Greatest height of arboral plants; examples of 223 to 246 feet in *Pinus Lambertiana* and *P. Douglasii*,

of 266 in *P. Strobilus*, of 300 feet in *Sequoia gigantea* and *Pinus trigona*. All these examples are from the north-western part of the New Continent. The *Araucaria excelsa* of Norfolk Island, accurately measured, rises only from 182 to 223 feet; the Alpine palms of the Cordilleras (*Ceroxylon andicola*), only 190 feet—pp. 322-324. A contrast to these gigantic vegetable forms, presented not merely by the stem of the arctic willow (*Salix arctica*, two inches in height,) stunted by cold and exposure on the mountains, but also in the tropical plains by the *Tristicha hypnoides*, a phanerogamic plant which is hardly three French lines (quarter of an inch) in height, when fully developed—pp. 324-325.

Bursting forth of blossoms from the rough bark of the *Crescentia Cujete*, of the *Gustavia augusta*, from the roots of the Cacao tree. The largest blossoms borne by the *Rafflesia Arnoldi*, *Aristolochia cordata*, *Magnolia*, *Helianthus annuus*—p. 348.

The different forms of plants determine the scenic character of vegetation in the different zones. Physiognomic classification, or distribution of the groups according to external facies, is from its basis of arrangement entirely different from the classification according to the system of natural families. The physiognomy of plants is based principally on the so-called organs of vegetation, on which the preservation of the individual depends; systematic botany bases the classification of the natural families on the consideration of the organs of reproduction, on which the preservation of the species depends—pp. 348-352.

ON THE STRUCTURE AND MODE OF ACTION OF VOLCANOS IN DIFFERENT PARTS OF THE EARTH— pp. 353-375.

Influence of travels in distant lands on the generalization of our ideas and on the progress of physical orology. Influence of the conformation of the Mediterranean on the earliest ideas respecting volcanic phenomena.—Comparative Geology of Volcanos. Periodical return of certain revolutions in nature, the cause of which lies deep in the interior of the globe. Proportion of the height of volcanos to that of their cone of ashes in the Pichincha, Peak of Teneriffe, and Vesuvius. Changes in the height of volcanic mountain summits. Measurements of the margins of the crater of Vesuvius from 1773 to 1822; the author's measurements embrace the period from 1805 to 1822—pp. 353-365. Circumstantial description of the eruption in the night between the 24th and 25th of October, 1822. Falling in of a cone of ashes more than 400 feet high, which stood in the interior of the crater. The eruption of ashes from the 24th to the 28th of October, was the most memorable among those, of which authentic accounts are possessed, since the time of the elder Pliny—pp. 365-371.

Difference between volcanos that are of very diverse forms, with permanent craters, and the phenomena more rarely observed in historic times, in which trachytic mountains suddenly open, eject lava and ashes, and reclose, perhaps for ever. The latter phenomena are peculiarly instructive for geognosy,

because they remind us of the earliest revolutions that occurred in the oscillating, upheaved, fissured surface of the earth. In ancient times they led to the notion of the Pyriphlegethon. Volcanos are intermittent earth-springs, the result of a permanent or transitory connection between the interior and exterior of our planet, the result of a reaction of the still fluid interior against the crust of the earth; hence the question is useless, as to what chemical substance burns in the volcanos, and furnishes the material for combustion—pp. 371–373. The primary cause of subterranean heat is, as in all planets, the formative process itself, the separation of the conglomerating mass from a cosmic vaporous fluid. Power and influence of the calorific radiation from numerous deep fissures, unfilled veins in the primordial world. Great independence, at that period, of the climate (atmospheric temperature) in respect to geographical latitude, the position of the planet towards the central body, the sun. Organisms of the present tropical world buried in the icy north—pp. 373–375.

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Across the mountain wilderness of the Paramo de Yanaguanga the traveller descends into the beautiful embosomed valley or rather Plateau of Caxamarca (almost at an equal altitude with the city of Quito).