

ARTICLE XVI. <i>Of Volcano's and Earthquakes</i>	Page. 408
XVII. <i>Of New Islands, Caverns, perpendicular Fissures, &c.</i>	442
XVIII. <i>Of the Effects of Rains—Of Marshes, Subterraneous Wood and Waters</i>	473
XIX. <i>Of the Changes of Land into Sea, and of Sea into Land</i>	483
CONCLUSION	512

DIRECTIONS to the BINDER.

Place the Head fronting the title page.

Plate I. between page 134 and page 135.

Plate II. between page 136 and page 137.

P R E F A C E,

BY THE TRANSLATOR.

NATURAL HISTORY is the most extensive, and perhaps the most instructive and entertaining of all the sciences. It is the chief source from which human knowledge is derived. To recommend the study of it from motives of utility, were to affront the understanding of mankind. Its importance, accordingly, in the arts of life, and in storing the mind with just ideas of external objects, as well as of their relations to the human race, was early perceived by all nations in their progress from rudeness to refinement.

But, notwithstanding the great advantages to be derived from the knowledge of Nature, Aristotle is the only ancient writer on Zoology who merits attention. Instead of retailing fictions, or facts founded upon ignorance and credulity, he investigated the relations and differences which connect and distinguish the various tribes of animals. What had been only a chaos of detached, uncertain, and often fabulous, narrations and descriptions, he reduced into a scientific form, with a success so amazing, that, to this hour,

hour, no systematic view of animated beings has been attempted, the principles of which have not been adopted from Aristotle's history of animals. His analogies and distinctions are taken not only from the instruments of motion, the teeth, the eyes, the heart, and other external and internal organs of the body, to which the attention of our modern methodists has been chiefly confined, but from magnitude, figure, manners, faculties, and dispositions of mind. He attempted not to arrange and define every known species. This labour he left to men of less genius and more patience. His work consists entirely of philosophical dissertations on the general structure, manners, and dispositions of animals; and his particular facts are always employed to support the principles which he is endeavouring to establish.

Pliny and Ælian, though they had the illustrious example of Aristotle before them, produced nothing but crude collections, without discovering much taste, judgment, or knowledge of the subject.

From this period, till the voluminous Gesner and Aldrovandus appeared, the knowledge of Nature, like other branches of literature, was involved in the general gloom of ignorance and superstition. It was the object of these authors to amass every thing that had been said of animals by poets, shepherds, grammarians, philosophers, physicians, and old women. Their pro-

lixity, of course, is insufferable. Their labours, however, may be regarded as rude quarries, from which some valuable materials may be dug; but the expence of removing the rubbish will, perhaps, overbalance their intrinsic value.

In the same class, with little exception, may be ranked, Wotton, Belon, Rondeletius, Salvianus, Johnson, and a multitude of similar writers. They all transcribed, and sometimes abridged, the labours of their predecessors; but they uniformly lost sight of philosophy and science.

This race of phlegmatic writers was succeeded by our celebrated countrymen Mr. Ray and Mr. Willoughby, who were admirers of Nature, and lamented the slovenly dress in which she had been formerly exhibited. They knew the value of her treasures, and wished to show them in their native brilliancy. They rejected dubious and fictitious relations. They added, from observation and experiment, many new facts: They arranged animals under proper classes and subdivisions: They described with accuracy and precision: They pointed out the importance of the science, and recommended the study of it by the solidity and clearness of their views, and by the brevity and perspicuity of their compositions. This taste continued some time, and produced the Works of Reaumur, Trembley, Buffon, and similar publications.

From beginnings so prosperous, much was to be expected. But the excellency of method was

no sooner recognised, than the philosophy of the science was nearly extinguished by a profusion of new terms and arrangements. The justly celebrated Linnæus, by persevering industry, joined to the utility of his technical dictionary*, unfortunately turned the attention of most naturalists, though contrary to the learned author's design, from the great views of Nature to the humble ambition of system-making. It is needless to specify examples. Every philosopher must have observed, with regret, that inundation of methodical distributions which have successively appeared during the course of these last thirty or forty years. Since Linnæus's works were published, the attention of Naturalists has been principally occupied with criticising former arrangements, and fabricating new ones. The philosophy of the science has, of course, been almost totally neglected. Naturally history has been exhibited in its most forbidding aspect, which has limited the study of it to a few, and these often not of the most brilliant talents; for it has been remarked, that the parade of learning, resulting from technical phrases and definitions, allure some men to become what is called *great naturalists*, whose chief knowledge of Nature is the knack of being able to name, with facility, a great number of her productions.

* *Sytema Naturæ*, which, with regard to quadrupeds, can be considered in no other light.

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This propensity for multiplying methodical distributions, and disputing about their respective merits, has brought much obloquy on the science of Nature. Men of sense perceive the folly of discussions concerning the local situation of an animal in a book. They consider the authors as learned triflers; and, what is worse, they are apt to regard a subject, which affords no better entertainment or information, as barren and unprofitable. To no other source can we ascribe the following sentiments, so frequently expressed by men of no inconsiderable talents: 'That natural historians have seldom discovered extensive views; that they confine their chief attention to the mere technical part of the science; that they rarely take notice of manners and instincts, or the causes and economy of animal action; and that they never pursue these great and useful objects with a degree of taste and philosophical accuracy, proportioned to the importance of the subject.' These strictures are common: I wish that they had no foundation in truth.

In natural history, two ends only can be attained by system. Both of them are useful; but they are extremely different in their kinds. System may be employed either to facilitate the distinction of objects, or to ascertain their relations in the scale of being.

The first species of system, it is obvious, must consist entirely of a series of external or internal

nal characters. It is of little moment, whether the objects ranked under particular *ORDERS* be mutually connected; because, if we may judge from the many laborious, but abortive, attempts which have been made, Nature seems not to have expressed such connections in characters recognisable by our senses. A system so limited in its principles and design, can never assume any other form than that of a technical index or dictionary. If the general and particular characters be so marked, that a student, after learning the divisions and language of the author, can investigate the proper names of the objects presented to him, this system is perfect; because its sole and primary intention is fulfilled.

Were every naturalist of the same sentiments with regard to this point, many incumbrances, which now load the science, would be removed; the tyro would not be disgusted and retarded by an infinity of synonymes; natural history would acquire a more simple and intelligible form; and the number of its votaries would soon be augmented.

The second species of system is more elevated and sublime. But, as it includes the whole philosophy of Nature, it requires a depth of judgment, a superiority of genius, an extent of knowledge, which are seldom united in the same person. Natural objects are wonderfully diversified in their structure, oeconomy, and faculties. But, in these, as well as in many other circumstances,

stances, they are no less wonderfully connected. Here, then, are foundations for constructing the system of Nature. To mark the distinctions, to investigate the relations, to ascertain the great chain that unites the numerous tribes which people and adorn the universe, would demand talents superior, perhaps, to those of humanity. We ought not, however, to despair. Hardly any bounds can be set to the combined force of different minds acting successively upon the same subject. Something has already been done. More may in time appear: Nature, in some future period, may happily unite philosophy and Natural History, a phenomenon which has hitherto been but partially exhibited.

Among those authors, whether ancient or modern, who have contributed to unfold the philosophy of Natural History, the *COUNT DE BUFFON* holds the most distinguished rank. This learned and eloquent writer has introduced into his subjects a greater variety of disquisition, and given more comprehensive views of Nature, than any preceding or contemporary historian. His facts are, in general, collected with judgment and fidelity; and his reasonings and inferences are not only bold and ingenious, but adorned with all the beauties of expression, and all the charms of novelty. They every where lead to reflections which are momentous and interesting. They expand the mind and banish prejudices. They create an elevation of thought,
and

and cherish an ardour of inquiry. They open many great and delightful prospects of the œconomy of Nature, of the alterations and accidents to which she is liable, of the causes of her improvement or degeneration, and of the general relations that connect the whole, and give rise to all the diversities which characterise and constitute particular orders of existence.

The original work, of which I have attempted a translation, was undertaken and carried into execution under the munificent encouragement of a great monarch. The design was to compose a history which should record not only every phenomenon in the universe that was already known, but to examine, describe, and delineate from the life, all the animals which could be procured by royal influence. A plan so extensive required the joint operation of, at least, two persons: the one to compose the historical part, the other to dissect and minutely describe every animal, both native and foreign, that should be obtained. The literary character and philosophic talents of the COUNT DE BUFFON pointed him out for the execution of the first department; and the acuteness and anatomical skill of M. DAUBENTON recommended him for that of the second.

Three volumes of this great work were given to the public in the year 1749. These volumes exhibited such displays of learning, taste, genius, and eloquence, as procured to the author uncommon

common admiration, and excited a strong and general desire for the completion of his plan; which, however, from various causes, was not accomplished till the year 1767.

The COUNT DE BUFFON, in the year 1776, favoured the world with a supplementary volume to his history of quadrupeds, which, beside an ingenious dissertation on Mules, contains the history and figures of several new animals, and valuable additions to most of those described in the original publication.

It would be improper to enter more minutely into the history or contents of this magnificent work. Such is the fertility of the author's genius, and such his ardour for philosophic inquiry, that, when treating of the most common animals, he often astonishes his reader with the profoundness of his remarks, and the beauty of his analogical discussions.

But, though the publication was a great acquisition to literature; yet the high price of SIXTEEN GUINEAS, which was an unavoidable consequence of its splendour, and of the prodigious number of its elegant engravings, confined its utility to men of opulence. Sensible of this inconvenience, the COUNT DE BUFFON, a few years ago, published an edition in 12mo; and, to bring it within the reach of common purchasers, he excluded from it the long and minute anatomical dissections and mensurations.

After this short sketch of the COUNT DE BUFFON's History of Nature, it may seem strange

that no decent translation of it has hitherto appeared in the English language. To such an undertaking, the great expence of the engravings was one solid objection. Another arose from the vast variety of learning employed by the author. When to these are added the exuberance of his fancy, the eloquence and force of his diction, the delicacy and acuteness of his disquisitions, we should rather wonder how any man could reconcile himself to a task so laborious, and which required the union of such diversified talents.

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This translation comprehends what is contained in the original fifteen volumes in quarto, together with the supplementary volume to the history of quadrupeds, except the description of the King's cabinet, the dry and uninteresting anatomical dissections and mensurations, which can be of little use but to professed anatomists, and have been properly omitted by the author in the last Paris edition. The method of studying Natural History; the reprehension of methodical distributions; and the mode of describing animals, are likewise omitted. The chief intention of these discourses is to ridicule the authors of systematic arrangements, and particularly the late ingenuous and indefatigable Sir Charles Linnaeus, whose zeal and labours in promoting the investigation of natural objects merit the highest

applause.

applause. There is a stronger reason for this omission: The same remarks and arguments are, perhaps, too frequently repeated in the history of particular animals.

To render this English version more valuable, the translator has added short distinctive descriptions to each species of quadrupeds. For these he has been indebted to the labours of the learned and ingenious Mr. Pennant. Beside these useful additions, the synonymes, and the generic and specific characters given by Linnaeus, Klein, Brisson, and other naturalists, are subjoined to the description of each species.

Where the author commits mistakes, or where he recommends practices, regarding the management of particular animals, which differ from those observed in this country, the translator has taken the liberty of animadverting upon such passages in notes: But he has seldom taken any notice of peculiar theories or doctrines. These must rest upon the facts and arguments employed by the author. It was not the intention of the translator to write a commentary upon his original.

The great variety of subjects discussed by the Count de Buffon, has already been mentioned. It is almost unnecessary to remark, that every subject demands a peculiar style. A bare enumeration of facts, or descriptions of the dimensions, figure, and colour of animals, admit of no other ornament than that of perspicuity. Topics of philosophy and argument require a higher and

more figurative expression: And, addresses to the passions, and the finer feelings of men, give full scope to the exercise of genius and of taste. Of these different species of writing, the examples are numerous in the works of the COUNT DE BUFFON. The translator has endeavoured to follow the original, as far as his abilities would permit. The degree of success he has attained must be submitted to the impartial determination of the public. He shall only say, that his apprehensions, though he is conscious of no voluntary negligence, are much greater than his hopes.

N. B. Since the first edition was printed, the Count de Buffon has published another supplementary volume. It consists chiefly of curious and interesting facts with regard to the history of the earth. These the Translator has added in a separate volume, which, to accommodate the purchasers of the former edition, he has directed to be sold by itself.

* * In the dimensions of animals, the translator has retained the French measures. The differences between the foot or inch of England and France are so inconsiderable, when applied to individual animals, that he thought it unnecessary to reduce them to the precise English standard, especially as the dimensions are English in the descriptions added in the notes.

THE
HISTORY AND THEORY
OF THE
EARTH.

THE figure of the earth*, its motions, or the external relations which subsist between it and the other parts of the universe, belong not to our present inquiry. It is the internal structure of the globe, its form and manner of existence, which we here propose to examine. The general history of the earth ought to precede that of its productions. Details of particular facts relating to the oeconomy and manners of animals, or to the culture and vegetation of plants, are not, perhaps, so much the objects of natural history, as general deductions from the observations that have been made upon the different materials of which the earth itself is composed; as its heights, depths, and inequalities; the motions of the sea, the direction of mountains, the situation of rocks and quarries, the rapidity and effects of currents in the ocean, &c.

* See subsequent proofs of the theory of the earth, art. I.