

Three years ago being at Fulleron, an estate of the senator Cronstedt, I saw a fragment of rock left by the water upon the shore where the inhabitants embark: — Everybody can give evidence to this fact, and that such a stone had never been seen in that place before. If the Lake Melerus have force enough to move stones of a weight that many yokes of oxen are unable to draw, what must we expect from the ocean? — In the Dalic rocks, where Palmfjället borders upon the Lake Grusvelsjön, the eastern side of the mountain Wolen is annulated and worn away; a manifest indication of the effect of the waves once washing against it.

The sections of all rivers are wide at the surface, narrower at the bottom, and they every year excavate their beds deeper: the Simois and Xanthus which watered the meadows of Troy, so celebrated by the poets, are said by Bellonius now to be so diminished as not to be able to nourish the smallest fishes; they are quite dry in summer, and in winter "have scarce water enough to swim a goose." — At the Salmon leap at Luloa, in Lapmark, the height of the river has been every year constantly marked, and it appears annually decreasing.

From all these arguments I think we shall be justified in drawing the following conclusion, that the dry land is in a state of augmentation; that formerly it was much less than it now is, and at first a single, small island* in which, as in a compendium, all things were collected together which our gracious Creator had defined to the use of man.

We must now point out how it might have been effected, "that vegetables in a small tract of land might find their proper soil, and every animal its proper climate."

First let us conceive Paradise situated under the Equator; and nothing further is requisite to demon-

strate the possibility of these two indispensable conditions, than supposing a very lofty mountain to have adorned its beautiful plains.

The higher a mountain rises into the middle regions of the air so much the more intense is the cold it is exposed to. The mountain of Ararat in Armenia preserves an eternal snow upon its summit, as well as the rocks of Lapland in the Arctic circle: the same cold reigns on both; and on the tops and sides of such a mountain the same vegetables might grow, the same animals live, as in Lapland and the frigid zone; and in effect we find in the Pyrenean, Swiss, and Scotch mountains, upon Olympus, Lebanon, and Ida, the same plants which cover the Alps of Greenland and Lapland.

Tournefort, in his Journey to the East, makes one observation which deserves to be remembered on the present occasion: "I found," says he, "at the foot of Mount Ararat those plants which were common in Armenia, — a little further those which I had before seen in Italy; when I had ascended somewhat higher such vegetables as were common about Paris; the plants of Sweden possessed a more elevated region; but the highest tracts of the mountain, next the very summit, was occupied by the natives of the Swiss and the Lapland Alps." — By the plants growing upon the Alps of Dalecarlia, I was able to calculate how much lower these were than those of Lapland; for in Lapland I had accurately observed the heights at which I found every vegetable.

From the works of Cæsalpinus it is evident, that he reckoned all those plants that are common in the fields of Sweden under the title of Alpine plants, as he had found them growing in the mountains of Tuscany, which, however, are not Alps.

Hence we are authorized to conclude, that the height and elevation of the land exposes it to cold;

and that the coldest winter and perpetual snow might be found under the line, upon a mountain of such a height that its top ascended above the region of the clouds. [. . .]

Thus you have heard with how exquisitely wise and attentive a care the great Artificer of Nature has provided that every seed shall find its proper soil, and be equally dispersed over the surface of the globe.

We have seen the Winds, the Rains, the Rivers, the Sea, Heat, Animals, Birds, the Structure of Seeds, and Seed Vessels, the peculiar Natures of Plants, and even Ourselves, contribute to this great work. — I have shewn, that any one single plant alone would have been able to have covered the face of the globe: — I have demonstrated that the dry land has always been increasing, and dilating itself; and therefore once was infinitely less than it is at this present: — I have traced back the orders of animals and vegetables, and found them terminate in individuals created by the hand of God.

If we add to this the proportion which subsists between carnivorous animals, and those subsisting upon vegetables, among birds, fishes, and insects, and between the Animal and Vegetable Kingdom; if besides we strengthen these inductions by the analogy of our Conclusion with the history of the Deluge, no one I believe will be able to say, that I have asserted without foundation, that one individual of every species of plant, and one sexual pair of every species of animal, was created at the beginning: — Thus the Garden of Paradise is rendered the most beautiful imagination can conceive, and the infinite glory of the Creator exalted, not depressed. Let those of this Assembly to whom the Parent of Nature has given a more happy genius, who possess an erudition more cultivated, and are more acute in the discovery of whatever the rules of genuine demonstration lead us to, let those with superior

accuracy carry these enquiries to their ultimate end.—
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(D) Under the Equator no snow can lay upon the mountains unless at very great heights above the level of the sea: the top of the mountain in this Paradisiacal island must be as much higher than the Pike of Teneriffe, as the Alps are above the level of the sea. And no such mountain is known to geographers. — But admitting such a one to be discovered, the difficulty is not removed; for let us suppose the seeds of its Alpine plants to be lodged upon the tops of other rocks as soon as they appeared above the water, being carried by the sea winds, or any other cause; they must remain lodged there, until by the subsiding of the ocean, the rock becomes so much elevated above its bed as to be covered with perpetual snow; as the surface of the sea falls (according to this theory) less than five feet in a century, such seeds must lay there with their vegetable virtues unimpaired at least a thousand ages before they spring. As the place where they are deposited becomes perpetually more and more elevated it is continually growing colder, their vegetable juices therefore must be supposed not to be put in motion or destroyed by the vicissitudes of moisture and superior heat for that whole period, and only beginning to act in the regions of a polar climate at the end of that time. — Many parts of the world, as the Cape of Good Hope, produce numerous tribes of very singular plants; how comes it that they are found in the intermediate tracts between the Cape and the Paradisiacal Mountains? in traveling along the continent they must have rooted, and produced seed from distance to distance. Many land animals also inhabit cold mountainous regions, separated from each other, which, whether they be of the same, or a different species, furnish very strong objections against this Hypothesis.

From Carl von Linné, *Select Dissertations from the Amoenitates Academicæ*, trans. F. J. Brand (London: G. Robinson and J. Robson, 1781; repr., New York: Arno, 1977), 88–94, 113–15, 126–27.

*See Note (D) at the end of this Essay.