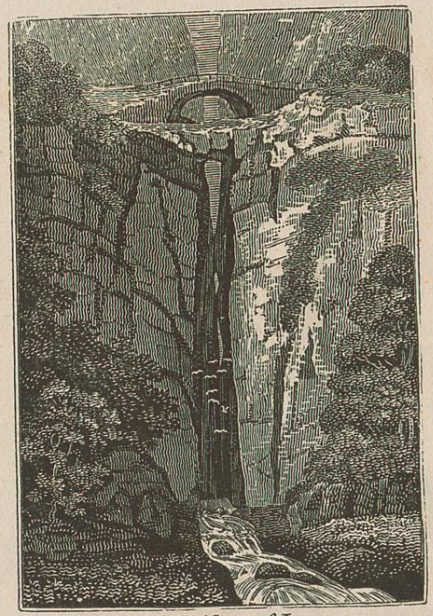
Natural bridges.

NATURAL BRIDGES.

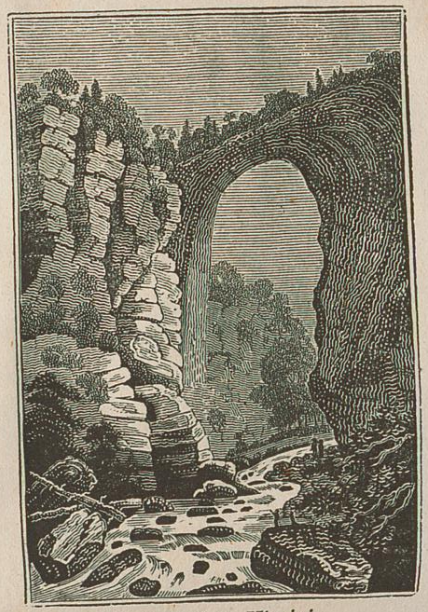
NATURAL BRIDGES OF ICONONZO.

Amid the majestic and varied scenery of the Cordilleras of South America, that of their valleys most forcibly strikes the imagination of European travellers. Their enormous height is not discoverable but at a considerable distance, and while the spectator is on one of those plains which extend from the sea-coasts to the foot of the central chain. The flats, or table lands, which surround the snow-clad summits of the mountains, are themselves, for the greater part, of an elevation of from seven to nine thousand feet, nearly a mile and three quarters, above the level of the sea. This circumstance diminishes, to a certain degree, the impression of greatness produced by the colossal masses of Chimborazo, Cotopaxi, and Antisana, when seen from the flats of Riobamba, or from those of Quito. It is not, however, with the valleys as with the mountains: deeper and narrower than those of the Alps and the Pyrenees, the valleys of the Cordilleras present situations still more wild than these, and more adapted to fill the soul with admiration and with terror. Fissures and chasms present themselves, having their bottoms and sides ornamented with a vigorous vegetation, and of such a depth, that Vesuvius and the Puy-de-Dome might be placed within several of them, and not show their summits above the edge of the neighbouring mountains. In passing along the back of the Andes, from Pasto to Villa d'Ibarra, and in descending the Loxa towards the banks of the river of the Amazons, the traveller reaches the celebrated fissures of Chota and Cutaco, the former of which is nearly a mile, and the latter upwards of three-quarters of a mile, in perpendicular depth. To give a more complete idea of the grandeur of these geological phenomena, it should be observed, that the bottoms of these fissures are by one-fourth only less elevated above the level of the sea, than the passages of St. Gothard and Mount Cenis.

The valley of Icononzo, or of Pandi, is less remarkable



Natural Bridges of Iconomo.



Rock Bridge, Virginia.

for its dimensions, than for the extraordinary form of its rocks, which appear as if shaped by the hand of man. Their naked and barren summits form the most picturesque contrasts with the tufts of trees and herbaceous vegetabl which cover the edges of the fissure. The little torrent which has worked itself a passage through the valley of Icononzo, bears the name of Rio de la Summa Paz. It descends from the eastern chain of the Andes, which, with the kingdom of New Granada, separates the basin of the river of Madelena from the vast plains of the Meta, Guaviare, and Oronoco. This torrent, confined within a bed almost inaccessible, could not have been crossed without many difficulties, had not Nature herself formed TWO BRIDGES OF ROCKS, which are justly regarded in the country as among the objects most worthy of the attention of travellers. These NATURAL BRIDGES are on the route from Santa-Fé de Bogota to Papayan and Quito.

Icononzo is the name of an ancient village of Muyscas Indians, situated on the south side of the valley, and of which scarcely any vestige now remains, except a few scattered huts. The nearest inhabited place to this remarkable spot is the little village of Pandi, or Mercadillo, distant about a mile. The road from Santa-Fé to Fusagasuga, and thence to Pandi, is one of the most difficult and least beaten to be met with in the Cordilleras. None but those who passionately love the beauties of Nature, would fail to prefer the usual road which leads from the flat of Bogota to the banks of the Madelena, to the perilous descent from the Paramo de San-Fortunato, and the mountains of Fusagasuga, toward the Natural Bridges of Icononzo.

The deep chasm through which the torrent of Summa Paz precipitates itself, occupies the centre of the valley of Icononzo. Near the first natural bridge, it maintains, for a length of nearly four-fifths of a mile, a direction from east to west. The river forms two fine cascades, the one at the spot where it enters the chasm on the west of Doa, and the other at that where it leaves it, in descending towards Melgar. It is possible that this chasm, which resembles, but on an enormous scale, the gallery of a mine, may have been the result of an earthquake, and that, at its formation, the compact bed of quartz, com-

posing the superior stratum of rock, had resisted the force which tore asunder these mountains. The uninterrupted continuation of this quartzose bed would thus form the bridge, which affords a passage from one part of the valley to the other. This surprising natural arch is forty-eight feet in length, forty in width, and eight feet in thickness at the centre. By experiments carefully made on the fall of bodies, its height above the level of the water of the torrent, has been ascertained to be about three hundred and twenty feet. The depth of the torrent, at the mean height of the water, may be estimated at twenty feet. The Indians of the valley of Icononzo, for the security of travellers, have formed a fence of reeds, which extends to the road leading to this first natural bridge.

At the distance of sixty feet below is another, to which the traveller is conducted by a path descending along the edge of the chasm. Three enormous masses of rock have fallen into such positions as enable them reciprocally to support each other. The one in the centre forms the key of the vault,—an accident which may have conveyed to the natives of this spot an idea of arched masonry, which was unknown to the people of the new world, as well as to the ancient inhabitants of Egypt. It is uncertain whether these portions of rock have been projected from a distance, or are merely the fragments of an arch which has been destroyed on the spot, but which was originally similar to the upper natural bridge. This last supposition is rendered probable by an analogous accident, observable in the Coliseum at Rome, where there are seen, in a wall half fallen, several stones which were arrested in their descent, because in falling they happened to form an arch. In the midst of this second natural bridge is an aperture of about twenty-five feet in every direction, through which the eye reaches the bottom of the abyss. The torrent appears to run into a dark cavern, whence a mournful sound proceeds, formed by the cries of an infinity of nocturnal birds which inhabit the chasm, and which at first sight may be taken for those bats of a monstrous size, so well known in the equinoctial regions. They can only be perceived by the help of lighted brands, thrown into the chasm to illuminate its sides; and thousands of them may thus be distinguished, skimming along the surface of the

water. Their plumage is uniformly of a brown grey colour; and M. Humboldt, from whose account these particulars are extracted, was assured by the Indians, that these hitherto undescribed birds are of the size of a chicken, with the eyes of an owl, and a curved beak. On account of the depth of the valley, it was impossible to obtain a near view of them.

The elevation of the bridges of Icononzo—these surprising productions of nature—above the level of the ocean, is two thousand seven hundred feet, somewhat more than half a mile. In concluding his description of them, M. Humboldt notices several other natural bridges, among which is that of Cedar-creek, in Virginia. It is an arch of limestone, having an aperture of ninety feet, and an elevation of two hundred and twenty feet above the level of the water of the creek. He considers this, as well as the bridge of earth, called Rumichaca, which is on the declivity of the porphyritic mountains of Chumban, in the South American province of Los Pastos; together with the bridge of Madre de Dios, named Dantcu, near Totonilco, in Mexico; and the perforated rock near Grandola, in the province of Alentejo, in Portugal, as geological phenomena, which have some resemblance to the natural bridges of Icononzo; but he doubts whether, in any other part of the world, there has yet been discovered an accidental arrangement so extraordinary as that of three masses of rock, which, reciprocally sustaining each other, form a natural arch.

ROCK BRIDGE IN VIRGINIA.

This Natural Bridge is described by Mr. Jefferson, late President of the United States, as one of the most sublime of the productions of nature. It is on the ascent of a hill, which seems to have been cloven through its length by some great convulsion. It is in height two hundred and thirteen feet, about fifty feet in breadth at the bottom, and at the superior part about ninety feet. The passage over it is about sixty feet in width, and the thickness of the mass at the summit of the arch about forty feet. A portion of this thickness is constituted by a coat of earth, which affords growth to many large trees. The residue,

with the hill on both sides, is solid rock of lime-stone. The arch approaches the semi-elliptical form; but the larger axis of the ellipsis, which would be the cord of the arch, is many times longer than its transverse. Although the sides of this bridge are provided in some parts with a parapet of fixed rocks, yet few persons have sufficient resolution to walk to them, and look over into the abyss. The passenger involuntarily falls on his hands, creeps to the parapet, and peeps over it. Looking down from this height, for the space of a minute, occasions a violent head-ache. If the view from above be so exquisitely painful as not long to be borne, that from beneath is delightful in the extreme. It is impossible for the emotions arising from the sublime to be felt in a greater degree than at this spot. The rapture of the spectator cannot be described, when he surveys an arch at once so beautiful, so elevated, and so light, springing up, as it were, to heaven!

This grand natural bridge is in the county of Rock-bridge, to which it has given name, and affords a public and commodious passage over a valley, which cannot be crossed elsewhere for a considerable distance.

PRECIPICES AND PROMONTORIES.

BESSELY GAUT.

The precipitous pathways which frequently occur in the Indian Appennines, a chain of mountains extending along the Western or Malabar Coasts of the Peninsula, are called Gauts; and of these abrupt and perpendicular precipices, Bessely Gaut is considered as the most romantic. It is admirably described in the travels of Lord Valentia, from which the following particulars are extracted.

On entering the defiles of the chain of mountains by which the table-land of Mysore is separated from the low country of Canara and Malabar, the scenery becomes extremely wild and romantic. Having reached Purneah Chuttoor, situated on the summit of this celebrated Gaut, his lordship began his descent at three in the morning, by a road formed with great labour out of a bed of loose rock, over which the torrents of the preceding winter had