found in the fullers earth. The river Braine is to the eaſt, and not above a gun-ſhot from this place. It runs in a meadow 80 feet lower than the ſite of the copper *.

M. de Grignon informed me, that, on the borders of the Marne, near St. Dizier, there is a bed of pyritous wood, the organization of which is apparent. This bed is ſituated under a ſtratum of free-ſtone, which is covered with a ſtratum of pyrites, and above the pyrites is a ſtratum of lime-ſtone. The bed of pyritous wood lies upon a blackiſh clay.

He likewiſe found, in the pits dug for diſcovering the ſubterraneous town of Châtelet, inſtruments of iron with wooden handles. He remarked that this wood was converted into a genuine iron-ore of the hematites ſpecies. The organization of the wood was not deſtroyed; but it was brittle, and its whole texture was as cloſe as that of the hematites. Theſe iron inſtruments with wooden handles had been buried in the earth ſixteen or ſeventeen hundred years. The converſion of the wood into hematites had been affected by the decompoſition of the iron, which had gradually filled all the pores of the wood.

* Lettre de Mad. la Comteſſe de Clermont-Montoiſon à M. de Buffon.

Of

IV.

Of Bones ſometimes found in the interior Parts of the Earth.

'IN the pariſh of Haux, which is ſituated 'between two ſeas, and about half a league 'from the port of Langoiran, a point of a rock, 'of 11 feet high, detached itſelf from the coaſt, 'which was formerly 30 feet high. By its fall 'it ſpread over the valley a great quantity of 'animal bones or fragments of bones, ſome of 'which were petrified. That they are bones is 'unqueſtionable; but it is difficult to aſcertain 'the animals to which they belong. The greateſt 'number conſiſts of teeth; ſome of them perhaps 'belong to the ox or horſe; but, without marking 'the difference in figure, moſt of them are larger 'than the teeth of theſe animals. There are 'likewiſe thigh or leg-bones, and a fragment 'of a ſtag or elk's horn. The whole are cover-'ed with common earth, and ſituated between 'two ſtrata of rock. We muſt ſuppoſe that the 'carcaſſes of animals have been thrown into a 'hollow rock, and, after the fleſh had corrupt-'ed, a rock of 11 feet high had been formed 'above them, which would require the opera-'tion of many ages. . . .

'The Gentlemen of the Academy of Bour-'deaux, who examined theſe bones with phi-

'loſophical

'losophical accuracy, discovered, that, when a 'number of fragments were put on a very 'brisk fire, they were converted into a fine Tur- 'quois blue; and that some portions became so 'hard, that, when cut by a lapidary, they 'received a fine polish. . . . It must also be 'remarked, that bones which evidently belong- 'ed to different animals were equally converted 'into Turquois *.'

'On the 28th of January 1760,' says M. de Guettard, 'there were found, 160 fathoms 'above the mineral baths, bones included in a 'rock with a gray surface. This rock was nei- 'ther laminated nor consisted of separate strata, 'but was one continued mass of stone. . . .

'After having, by means of gun-powder, 'penetrated five feet deep into this rock, we 'found a great number of human bones belong- 'ing to every part of the body, as jaw-bones 'with their teeth, bones of the arms, thighs, 'limbs, ribs, rotulæ, &c. jumbled together in 'the greatest disorder. Entire skulls, or por- 'tions of them, chiefly prevailed.

'Beside these human bones, we met with 'several fragments which could not be ascribed 'to man. In some places, they are in continued 'masses, and in others more dispersed. . .

'When we arrived at the depth of four feet 'and a half, we found six human heads in an

* Hist. de l'Acad. des Sciences, année 1719, p. 24.

'inclined

'inclined position. In five of these heads, the 'occiput with its appendages, except the bones 'of the face, were preserved. This occiput was 'partly encrusted with stone, its cavity was fill- 'ed with stone, and had assumed the same mould 'or figure. In the sixth head, the face is en- 'tire: It is broad in proportion to its length. 'We easily distinguish the form of the fleshy 'cheeks. The eyes are shut, pretty long, but 'narrow. The front is large, and the nose 'very flat, but well formed; the middle line 'is distinguishable. The mouth is well made, 'and shut; the upper lip is a little thick in pro- 'portion to the under. The chin is well pro- 'portioned, and the whole muscles are strongly 'marked. The colour of the head is reddish, 'and resembles those of the Tritons feigned by 'painters. Its substance is similar to that of 'the stone in which it was found; it is, pro- 'perly speaking, only the mask of the natural 'head.'

The above relation was sent by M. le Baron de Gaillard-Lonjumeau to Madame de Boisjourdain, who transmitted it to M. Guettard, with some specimens of the bones. That these bones were really human, is a very doubtful point; 'for every appearance in this quarry,' M. de Lonjumeau remarks, 'announces that it has 'been formed of relicks of bodies broken in 'pieces, and which had been long tossed about

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'by the waves of the ſeabefore they were collected into one heap. As this maſs of bones lies horizontally, and has been ſucceſſively covered with ſtony matter, it is eaſy to conceive how a maſk was formed on the faces of thoſe heads, the fleſh having little time to corrupt, eſpecially when the bodies were buried under the water. We may, therefore, reaſonably conclude, that theſe heads were not human.... They rather ſeem to be the heads of thoſe fiſhes, whoſe teeth are found in the ſame parts of the ſtones along with the bones ſuppoſed to belong to the human ſpecies.

'It appears that the collection of bones in the environs of Aix, are ſimilar to thoſe diſcovered ſome years ago by M. Borda near Dax in Gaſcony. The teeth diſcovered at Aix, by the deſcription given of them, ſeem to reſemble thoſe found at Dax, of which an under jaw is ſtill preſerved. This jaw unqueſtionably belongs to a large fiſh.... I muſt, therefore, conclude, that the bones in the quarry of Aix are ſimilar to thoſe diſcovered at Dax;.. and that theſe bones, whatever they are, ſhould be referred to the ſkeletons of fiſhes rather than to thoſe of man....

'One of the heads in queſtion was about ſeven and a half inches long by three and ſome lines broad. Its figure is that of an oblong globe, flat at the baſe, thicker at the poſterior than the anterior end, and divided in the broadeſt part by ſeven or eight bands from ſeven to twelve lines wide. Each band is likewiſe divided into two equal parts by a ſlight furrow. The bands extend from the baſe to the ſummit. Thoſe of one ſide are ſeparated from thoſe of the other by another and deeper furrow, which gradually enlarges from the anterior to the poſterior part.

'From this deſcription we cannot recognize the mould of a human head. The bones of man's head are not divided into bands. The human head is compoſed of four principal bones, the figures of which appear not in the mould above deſcribed. It has not an interior creſt which extends longitudinally from the anterior to the poſterior part, and divides it into two equal parts, which might give riſe to the furrow on the ſuperior part of the ſtony mould.

'Theſe conſiderations induce me to think, that this ſubſtance is rather the body of a nautilus than a human head. There are nautili actually divided into bands or bucklers like this mould. They have a channel or furrow which runs along the whole curvature, and divides them into two, from which the ſtony furrow might derive its origin *,' &c.

* Mem. de l'Acad. des Sciences, année 1760, p. 209—218.

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I am perſuaded, as well as M. le Baron de Lonjumeau, that theſe heads never belonged to men, but to animals of the ſeal kind, to ſea-otters, and to ſea-lions or bears. It is not at Aix or Dax alone, that the heads and bones of theſe animals are found in rocks and caverns. His Highneſs the preſent Prince Margrave of Anſpach, who to great affability unites a remarkable taſte for knowledge, has been ſo obliging as to give me, for the Royal Cabinet, a collection of bones from the caverns of Gaillenrente in his Margraviate of Bareith. M. Daubenton has compared theſe bones with thoſe of the common bear, from which they differ only by being larger. The head and teeth are longer and thicker; and the muzzle is longer and more protuberant than in our largeſt bears. In this collection, with which this noble Prince has enriched our cabinet, there is a head which naturaliſts have denominated *the head of M. de Buffon's ſmall ſeal;* but, as we know not the form and ſtructure of the heads of ſea-lions, bears, and large and ſmall ſeals, we ſhall ſuſpend our judgment concerning the animals to which theſe foſſil bones have appertained.

ADDITIONS to the Article, Of the Changes of Sea into Land, vol. i. p. 483.

IN traverſing the coaſts of France, we perceive that a part of Brittany, Picardy, Flanders, and Lower Normandy, have very recently been deſerted by the ſea; becauſe, through all this extent of country, we ſtill find great quantities of oyſters, and other ſhells, in their natural ſtate. We are certain, from experience, that, for a century paſt, the ſea has been retiring from the coaſt of Dunkirk. When the moles of this port were conſtructing in the year 1670, the fort of Good-hope, which terminates one of theſe moles, was built upon piles a great way beyond the low-water mark. But, at preſent, the water never advances nearer this fort than 300 fathoms. In 1714, when the new harbour of Mardik was deepening, the moles were likewiſe carried beyond the low water-mark; but now, when the tide is ebb, there is a dry ſpace of more than 500 fathoms. If the ſea continues thus gradually to retire, Dunkirk, like Aigue-mortes, will, in a few centuries, be no longer a ſea-port. If the ſea has loſt ground ſo conſider-