

XI. *Extract of a Letter of Mr. Abraham Trembley, F. R. S. to Tho. Birch, D. D. Secret. R. S. Translated from the French.*

S I R,

Hague, 1 Feb. 1757.

Read Feb. 17, 1757. **I** Wrote to you on the 26th of November last, concerning the earthquake felt some time before between the Rhine and the Meuse. I have been since informed by Professor Donati of Turin, that a slight shock had been perceived there on the 13th of August 1756, at a quarter after nine in the morning. It was likewise felt in other parts of Piedmont. He has also communicated to me an extract of a letter of a professor of Genoa, one of his friends, of which the following is a translation.

“ On the 9th of November we felt here two
 “ shocks of an earthquake; one at 20 $\frac{3}{4}$ hours, accord-
 “ ing to the Italian way of reckoning; the other at
 “ about 4 $\frac{1}{2}$ hours at night. I did not perceive the
 “ first, being then walking in the house; but I felt
 “ the second. I was then laid down, and going to
 “ sleep. The direction of the undulations was from
 “ north to south, as far as I could judge.”

Monf. Donati took last summer, according to his custom, a journey, in order to prosecute his researches into natural history. He was accompanied by Dr. Afcanius, Fellow of the Royal Society; who was still in doubt about coral's being a composition of animals. Monf. Donati carried him to the sea of Provence. He ordered coral to be fished up in his
 7 presence.

presence. He placed it in a large vessel full of water; and carried this vessel on shore; where he soon convinced Dr. Ascanius, by his own eyes, that coral is a mass of animals of the polype-kind.

Monf. Donati has written to me, that he has thoroughly satisfied himself by his last observations, that the polypes are fixed to their cells; of which he had before doubted. What he says afterwards of coral appears to me to express with more truth and precision what we ought to think of this kind of animals, than any of the descriptions, which have been given since the new discoveries have changed our sentiments on that subject. Polype-beds, and the cells, which they contain, are commonly spoken of as being the work of polypes. They are compared to the honeycomb made by bees. It is more exact to say, that coral, and other coralline bodies, have the same relation to the polypes united to them, that there is between the shell of a snail and the snail itself, or between the bones of an animal, and the animal itself. Monf. Donati's words are as follow.

“ I am now of opinion, that coral is nothing else
 “ than a real animal, which has a very great number
 “ of heads. I consider the polypes of coral only as
 “ the heads of the animal. This animal has a bone
 “ ramified in the shape of a shrub. This bone is
 “ covered with a kind of flesh, which is the flesh
 “ of the animal. My observations have discovered
 “ to me several analogies between the animals of
 “ kinds approaching to this. There are, for instance,
 “ keratophyta, which do not differ from coral, ex-
 “ cept in the bone or part, that forms the prop of the
 “ animal. In the coral it is testaceous, and in the
 “ keratophyta it is horny.”

The observations, which I have made upon some kinds of polype-beds, lead me to think, that what are called polypes, in those bodies, which are observed to come out of and return into the cells, are more than the heads of the animal. I have seen some, which had a bag, into which pass'd their food, which I saw them swallow ; and another bag, into which passed the grossest part of that food, after it was digested. This is the case, for instance, of the plumed polypes, which I described at the end of the third memoir, in the work published by me on one kind of fresh-water polypes.

Monf. Donati has observed divers very curious facts in the journey, which he made into the mountains. He has, in particular, traced out an immense bed of marine bodies. This bed crosses the highest mountains, which separate Provence from Piedmont, and loses itself in the plains of Piedmont.

He has likewise observed a mass of rock, which forms the extremity of a pretty high mountain, the foot of which is washed by the sea. This rock is, at a considerable height, intirely pierced by pholades, that species of marine shell-fish so well known, which digs cells in the stones. It appears from hence, that this rock was some time covered by the sea. According to Monf. Donati, the sea has insensibly retired from the parts, which were washed by it ; and he thinks, that there must have been a very considerable space of time between that and the time, when this mountain, pierced by pholades, was covered by the waters of the sea. He deduces his opinion from the following fact. There is in this rock, pretty near the surface of the sea, a natural cavern

cavern fill'd with earth. In this earth have been found ancient Roman sarcophagi and lamps. It follows from hence, that even in the time of the Romans this part of the rock, in which this cavern is situated, was not under water. As there is but a small distance between the cavern and the surface of the water, it follows, that the water has sunk but very little since the time of the Romans. If it has sunk in the same proportion since the time, when it covered the top of the rock, there is no doubt, but that the time, when it was intirely covered by the sea, must have been very distant. If the same manner of reasoning be used, with respect to the bed of marine bodies, mentioned above, which crosses the mountains, that separate Provence from Piedmont, we shall be obliged to presume, that the time, when those mountains were under the waters of the sea, was at a very great distance from the present.

Monf. Donati concludes from these facts, and the consequences deduced from them, that the Mediterranean sea is a very ancient, and not a modern one, as Monf. de Buffon imagines.

Those, who explain all the phænomena of marine bodies found out of the sea, by an universal deluge, do not admit the consequences drawn by Monf. Donati from those marine bodies now under consideration. It is plain, that most of the naturalists, who have observed a great number of these marine bodies, are not of opinion, that all those phænomena can be explained by an universal deluge. Upon these subjects, before we undertake to judge, it is proper to be well informed of the nature of marine fossile bodies, which are found in divers parts, and of their situation and arrangement. It is necessary likewise to be acquainted

quainted with the state of those, which are found actually under the sea, and the revolutions, to which they are subject, while they are covered by it. It is still farther requisite to have an attention to the revolutions, which have been and are constantly observed, with respect to the sea-shores, which change their situation in several parts, some advancing upon the land, and others retiring. If all these different facts be compared together, it will not be doubted, but there are actually under the earth marine bodies, which are found there only in consequence of these slow revolutions, and not of an universal deluge. Perhaps this notion might be extended to the greatest part of the marine fossil bodies, which are known to us.

Monf. Donati informs me, that he would be glad to present to the Royal Society an history of coral, if he thought, that it would be agreeable to them.

XII. *A brief Botanical and Medical History of the Solanum Lethale, Bella-donna, or Deadly Nightshade, by Mr. Richard Pultney. Communicated by Mr. William Watson, F. R. S.*

Read Feb. 17. ^{1757.} **B**ELLA-DONNA is the name, which the Italians, and particularly the Venetians, apply to this plant; and Mr. Ray (1) observes, that it is so called because the Italian ladies

(1) Nom. Etymol. ad Calcem. Cat. Cant. p. 43. item Hist. Plant. p. 680.