

strata of that district, which contained the germ of his subsequent discoveries. Finding in the north of England the same strata and associations of strata with which he had become acquainted in the west, he was led to name them and to represent them by means of maps, according to their occurrence over the whole face of England. These maps appeared<sup>17</sup> in 1815; and a work by the same author, entitled *The English Strata identified by Organic Remains*, came forth later. But the views on which this identification of strata rests, belong to a considerably earlier date; and had not only been acted upon, but freely imparted in conversation many years before.

In the meantime the study of fossils was pursued with zeal in various countries. Lamarck and DeFrance employed themselves in determining the fossil shells of the neighborhood of Paris;<sup>18</sup> and the interest inspired by this subject was strongly nourished and stimulated by the memorable work of Cuvier and Brongniart, *On the Environs of Paris*, published in 1811, and by Cuvier's subsequent researches on the subjects thus brought under notice. For now, not only the distinction, succession, and arrangement, but many other relations among fossil strata, irresistibly arrested the attention of the philosopher. Brongniart<sup>19</sup> showed that very striking resemblances occurred in their fossil remains, between certain strata of Europe and of North America; and proved that a rock may be so much disguised, that the identity of the stratum can only be recognized by geological characters.<sup>20</sup>

The Italian geologists had found in their hills, for the most part, the same species of shells which existed in their seas; but the German and English writers, as Gesner,<sup>21</sup> Raspe,<sup>22</sup> and Brander,<sup>23</sup> had perceived that the fossil-shells were either of unknown species, or of such as lived in distant latitudes. To decide that the animals and plants, of which we find the remains in a fossil state, were of species now extinct, obviously required an exact and extensive knowledge of natural history. And if this were so, to assign the relations of the past to the existing tribes of beings, and the peculiarities of their vital processes and habits, were tasks which could not be performed without the most consummate physiological skill and talent. Such tasks, however, have been the familiar employments of geologists, and naturalists incited and

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<sup>17</sup> Brit. Assoc. 1832. Conybeare, p. 373.    <sup>18</sup> Humboldt, *Giss. d. R.* p. 35.

<sup>19</sup> *Hist. Nat. des Crustacés Fossiles*, pp. 57, 62.

<sup>20</sup> Humboldt, *Giss. d. R.* p. 45.

<sup>21</sup> Lyell, i. 70.

<sup>22</sup> *Ib.* 74.

<sup>23</sup> *Ib.* 76.