

upon which animals can feed. This process is, however, so far as we are at present aware, constantly effected under the influence of light. There seems to be little or no light at the bottom of the sea, and there are certainly no plants except such as may sink from the surface, but the bottom of the sea is a mass of animal life. At first sight it certainly seems difficult to account for the maintenance of this vast animal population living without any visible means of support. Two explanations have been suggested. It is conceivable that certain animal forms may have the power of decomposing water, carbon dioxide, and ammonia, and re-combining their elements into organic compounds without the agency of light. Dr. Wallich supports this view, and in doing so he states that "No exceptional law is invoked, but, on the contrary, that the proof of these organisms being endowed with the power to convert inorganic elements for their own nutrition rests on the undisputed power which they possess of separating carbonate of lime or silica from waters holding these substances in solution."<sup>1</sup> This, however, seems scarcely satisfactory. All the substances employed in the nutrition of animals are offered to them finally in solution in water, and the abstraction of these from their watery solutions cannot be regarded as a 'chemical separation.' The broad distinction still remains, that when carbon dioxide in solution is presented to a green plant in the sunshine it can decompose it, while an animal cannot.

I believe we have a simpler explanation. All sea-water contains a certain quantity of organic

<sup>1</sup> North Atlantic Sea-bed, p. 131.