

WORK OF THE  
CHALLENGER  
EXPEDITION.

The Challenger Expedition has played a very large part in all the recent advances in oceanographical knowledge. The Official Reports on the Scientific Results of the Expedition deal more or less directly with all those branches of knowledge which, we have seen, constitute the science of oceanography. In order to fully appreciate the results at which science has arrived in our own time, it is essential to cast a retrospective glance at the ideas and opinions held by past generations of explorers and philosophers. It is therefore proposed to preface this volume, containing a summary account of the work done on board the Challenger, with a somewhat detailed account of the gradual development of knowledge concerning the ocean. Even a rapid chronological exposition of the march of ideas on the science of the ocean cannot completely ignore the progress of cognate sciences. Discoveries in astronomy and physics have often had more influence on the progress of oceanography than the most perilous and distant voyages. Facts observed by the ancients have sometimes directed the thoughts of modern investigators; during periods of apparent lethargy great ideas have germinated in some superior minds.

B.—OCEANOGRAPHICAL VIEWS OF THE ANCIENTS.

KNOWLEDGE OF  
PRIMITIVE  
PEOPLES.

The marvellous expeditions of the heroic ages created great enthusiasm among the poets of antiquity. Their narratives of the first nautical expeditions are of great interest to the historian and literary man, for the ancients knew well how to clothe these primitive records of civilisation and commerce with all the charm of their language and brilliant imagination, but they teach us nothing from the point of view of the science of the sea. The Pacific islanders, at the present time, are probably in the same phase of development as were the civilised nations at the birth of navigation. The Polynesian is able to steer his boat to a safe port in a known group of islands, but he knows only one route, and he departs not from it. Should a current carry him away, he is forced to wander helplessly over the surface of the boundless ocean. His knowledge is quite local, and there is no scientific union among its different parts. The sea, for him, is simply a means of transport, and a vast reservoir for the supply of his alimentary wants. In the infancy of humanity, as to-day among savages, there was no geography, and, consequently, no scientific notions on oceanography. It is only as man rises from savagery and through barbarism to a state of civilisation, and as commercial relations are established, that ideas, at first vague and uncertain, can be traced concerning the phenomena of the ocean.

VIEWS OF THE  
HEBREWS.

The sacred writings contain very few topographical details. The conceptions of the Jewish people about nature were extremely vague. The Hebrews were not a maritime people, and consequently we do not find in biblical literature any very definite notions regarding the sea. The following passages: "He hath compassed the waters