SCIENCE

Friday, December 11, 1914

THE OUTLOOK FOR SCIENCE1

CONTENTS	
The Outlook for Science: Professor R. D. Carmichael	833
The Philosophy of Biology—Vitalism versus Mechanism: Professor Ralph S. Lillie.	840
The Committee of One Hundred on Scientific Research	846
The Philadelphia Meeting	847
Scientific Notes and News	847
University and Educational News	851
Discussion and Correspondence:— Cumulus Clouds over the Illinois River Valley: John L. Rich. Cyanide of Potassium in Trees: Dr. H. A. Surface	851
Quotations:— Research and Teaching	853
Scientific Books:— Lehmer's List of Prime Numbers; Natural Sines: Professor G. A. Miller. Boveri zur Frage der Entstehung maligner Tumoren: Professor Gary N. Calkins. Park's Text-book of Geology: Professor J. F. Kemp	855
Botanical Notes:— A Study of a Desert Basin; Vascular Plants of Ohio; A Study of a Carboniferous Flora; A Useful Society: Professor Charles E. Bessey	860
Special Articles:— The Electric Motor Nerve Centers in the Skates: Professor Ulric Dahlgren. The Effect of Storage in River Water on the Production of Acid in Carbohydrate Solutions by the Bacillus Coli Group: Dr. Wm. W. Browne	862
The Association of American Agricultural Colleges and Experiment Stations and Re- lated Organization: HOWARD L. KNIGHT.	864
The Convocation Week Meeting of Scientific Societies	868

The most remote origins of science are to be sought in the early observations of primitive races of men. At first phenomena were probably registered in memory with no attempt to relate them other than by means of the hypothesis that they were due to the will of some intelligence akin to that of man. It appears that an enormous period of time elapsed before men began to conceive even the possibility that these phenomena were bound together by laws through which they were capable of explanation. A long preparation of experience seems to have been necessary before this conception could arise.

But we are not to look back upon this period as barren. It gave rise to one thing at least of essential importance, namely, the effort to relate phenomena in such a way as to make the universe intelligible. It matters little what particular explanation was first offered; but it was a thing of profound importance to have conceived the possibility of any explanation at all.

The preliminary forms of this conception have probably been lost from the view of history. The first name which appears on the record as we now have it and indeed the first name in the history of European thought is that of the Greek philosopher Thales. He sought to go behind the great multiplicity of phenomena in the hope of finding a deep unity from which all difference had been evolved and by means of which these phenomena might themselves be explained.

It is interesting to note particularly that in this first attempt to make the universe intelligible Thales sought to ground everything in a single material cause. This he found in water. How he related it to the plurality of phenomena is not known. It is certain, how-

MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrisonon-Hudson, N. Y.

¹ An address delivered to the Indiana Chapter of the Society of Sigma Xi on November 5, 1914.