

## SCIENCE:

A WEEKLY NEWSPAPER OF ALL THE ARTS AND SCIENCES.

PUBLISHED BY

N. D. C. HODGES,

47 LAFAYETTE PLACE, NEW YORK.

SUBSCRIPTIONS.—United States and Canada.....\$3.50 a year.

Great Britain and Europe..... 4.50 a year.

Communications will be welcomed from any quarter. Abstracts of scientific papers are solicited, and twenty copies of the issue containing such will be mailed the author in request in advance. Rejected manuscripts will be returned to the authors only when the requisite amount of postage accompanies the manuscript. Whatever is intended for insertion must be authenticated by the name and address of the writer; not necessarily for publication, but as a guaranty of good faith. We do not hold ourselves responsible for any view or opinions expressed in the communications of our correspondents.

Attention is called to the "Wants" column. All are invited to use it in soliciting information or seeking new positions. The name and address of applicants should be given in full, so that answers will go direct to them. The "Exchange" column is likewise open.

VOL. XV. NEW YORK, JANUARY 3, 1890. No. 361

## CONTENTS:

MODEL ELECTRIC ELEVATOR INSTALLATION.....	1	BOOK-REVIEWS.	
THE WORLD'S MEAT CONSUMPTION, PRODUCTION, AND TRADE.....	1	Scientific Papers of Asa Gray .....	11
STANLEY'S EXPLORATIONS.....	2	AMONG THE PUBLISHERS.....	11
PHONETICS.....	5	LETTERS TO THE EDITOR.	
HEALTH MATTERS.		Unconscious Bias in Walking	
The Difficulties of the Medical Profession.....	8	<i>Manly Mills</i> 14	
The Bacillus of Warts.....	8	The Influence of Baking-Powder	
Memory following Cranial Injury..	8	Residues on Digestion	
Influenza.....	8	<i>R. Taylor Wheeler</i> 14	
NOTES AND NEWS.....	8	Resemblance of People	
AMERICAN GEOLOGICAL SOCIETY.....	10	<i>W. S. Franklin</i> 16	
		A Remarkable Boulder of Nephrite	
		or Jade <i>James Terry</i> 16	

## AMERICAN GEOLOGICAL SOCIETY.

THE annual meeting of this society began Dec. 26, in the new building of the American Museum of Natural History in this city. The result of the election of officers was announced as follows: president, James D. Dana; vice-presidents, John S. Newberry and Alexander Winchell; secretary, John J. Stevenson; treasurer, Henry S. Williams; executive council, J. W. Powell, George W. Dawson, and Charles H. Hitchcock.

Fifteen new fellows of the society were announced as having been elected, and they are as follows: Frank Dawson Adams, lecturer at McGill College, Montreal; Albert Smith Bickmore, American Museum of Natural History; Aaron Hodgman Cole, Hamilton lecturer on natural history at Madison University; Thomas Sterry Hunt of New York City; R. D. Lacoe of Pittston, Penn.; Alfred Church Lane, Houghton, Mich., assistant on Geological Survey of Michigan; Alexander Richard Cecil Selwyn, Ottawa, Canada, director of the Geological and Natural History Survey of Canada; Bailey Willis, Washington, D.C., United States Geological Survey; J. E. Wolff, Cambridge, Mass., instructor of petrography at Harvard; Lorenzo G. Yates, Santa Barbara, Cal.; Victor C. Alderson, Englewood, Ill., teacher of geology; Henry M. Ami, Ottawa, Canada, Geological Survey of Canada; Ezra Brainerd, Middlebury, Vt., president of Middlebury College; Daniel Webster Landon, jun., Cincinnati, O., geologist of the Chesapeake and Ohio Railway; George Clinton Swallow, Helena, Mont., inspector of mines of Montana.

T. C. Chamberlin of Madison, Wis., read a paper upon "Some Additional Evidences bearing on the Interval between the Leading Glacial Epochs," and W. J. McGee of the United States Geological Survey replied briefly. Professor N. S. Shaler of Harvard spoke on "The Tertiary Deposits of Eastern Massachusetts." In his paper, Mr. Shaler endeavored to show that in that district there had been, since the miocene age, a large amount of true mountain-building action at Gay Head, on Martha's Vineyard. The evidence of this had been distinguishable for a long time; but about a year ago it was uncovered, so that it could be better seen than at any previous time, by a most violent rain-storm somewhat in the nature of a cloud-burst. In two hours' time, five and one half inches of water had fallen, and the cliffs at Gay Head had been washed so much that opportunities for investigation were better than ever before. A remarkable instance of dislocations had been exposed, and the formation of the cliffs made plainly visible. The evidences of mountain-building were plain, and it was of a comparatively late period. The same thing could be seen on Block Island. Its limit to the north was sharply defined, for the greensands of Marshfield, Mass., had been examined by Mr. Shaler, and they were perfectly horizontal, and not disturbed. To the south and west investigations had not been pushed: so the extent of the mountain-building in that direction was unknown. Mr. Shaler said further that the evidences of glacial action were plain, and that it must have taken place after the upheaval or mountain-building age.

The second day's session was opened with an address by the present president, Professor James Hall, geologist of the State of New York. Professor Hall's address was a sketch of the earlier geologists, and was directed chiefly to the younger members of the society present. He paid tributes, among others, to Agassiz, Sir Charles Lyell, Professor Logan, the royal geologist of Canada, and William Smith, and closed with a reference to his colleague, Professor Dana.

Professor Edward Orton, State geologist of Ohio, considered the "Origin of the Rock-Pressure of Natural Gas in the Trenton Limestone of Ohio and Indiana." The gas is the product of ages, which has been accumulated in the porous limestone of Ohio and Indiana. It has been produced so slowly that when once exhausted it will take many thousands of years for it to again accumulate in sufficient quantities to be used, even if the elements necessary for its production were present, which he thought was not at all probable. The pressure which forces the gas out with such tremendous power that it sometimes reaches 1,000 pounds pressure per square inch is not due to the pressure of the gas itself, but to the hydrostatic pressure brought to bear by the column of salt water that enters the porous stratum of rock containing the gas, at the sea-level, and which by its weight tends to force the gas out. To the explanation and elucidation of this phenomenon, Professor Orton's paper was more especially devoted. The men who are engaged in the practical development of gas and oil fields, said he, made great account of rock-pressure. It is the first fact they inquire after in a new gas-field. They appreciate its importance, knowing that the distance of the markets they care to reach, and the size of the pipes they can employ, are entirely dependent upon this element. After discussing the theories of its origin, he expressed the opinion that the gas-supply could not be of very long duration. This fact he regarded as of the greater importance on account of the vast extent to which natural gas had become a factor in Western manufacture and development. He said that 400,000 people in north-western Ohio and central Indiana alone depended upon it for fuel and illumination, and that a large proportion of their manufactures depended upon it. The supplies were being wasted in a vandal fashion, and he thought that nine years at most would mark its duration in this region. Artificial gas he believed preferable.

The next paper was by Professor William B. Clark of Johns Hopkins University, his subject being "The Tertiary Deposits of the Cape Fear River Region."

Professor Andrew C. Lawson of Ottawa, Canada, next read a paper entitled "Note on the Pre-Palæozoic Surface of the Archæan Terranes of Canada." Professor William M. Davis of Cambridge, Mass., presented the fourth paper, on "The Structure and Origin