

# SCIENCE

FRIDAY, DECEMBER 1, 1916

THE COST OF COAL<sup>1</sup>

## CONTENTS

<i>The Cost of Coal</i> : DR. GEO. OTIS SMITH, C. E. LESHER .....	763
<i>Josiah Royce</i> .....	772
<i>The Scientific Exhibit of the National Academy of Sciences</i> .....	774
<i>The New York Meeting of the American Association for the Advancement of Science</i> ...	775
<i>Scientific Notes and News</i> .....	780
<i>University and Educational News</i> .....	784
<i>Discussion and Correspondence:—</i>	
<i>Synchronism in the Rhythmic Activities of Animals</i> : DR. WALLACE CRAIG. <i>Is Cucumber Mosaic Carried by Seed</i> : J. A. MCCLINTOCK. <i>The Culture of Pre-Columbian America</i> : PROFESSOR T. WINGATE TODD. <i>Mosquitoes and Man Again</i> : DR. C. S. LUDLOW. <i>The Song of Fowler's Toad</i> : E. R. DUNN ....	784
<i>Scientific Books:—</i>	
<i>Petrunkevitch on the Morphology of Invertebrate Types</i> : WINTERTON C. CURTIS ....	790
<i>Captain White's Recent Exploratory Work in Australia</i> : DR. R. W. SHUFELDT .....	793
<i>Special Articles:—</i>	
<i>The Ovulation Period in Rats</i> : PROFESSOR J. A. LONG AND JESSIE E. QUISNO. <i>Ovulation in Mice</i> : PROFESSOR J. A. LONG AND H. P. SMITH. <i>Agar Agar for Bacteriological Use</i> : PROFESSOR H. A. NOYES .....	795

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

THE price of coal is a matter of vital concern to the average citizen. No less important, however, is the question what our coal actually costs to produce and the interest in this subject is typical of the popular interest in the large productive enterprises of the country. As citizens we recognize the consumer's dependence upon the producer and are taking advanced ground as to their relative rights. In few industries does this dependence seem more vital or the consumer's equity appear larger than in that of producing and selling coal. The per capita annual expenditure for the useful metals is roughly equivalent to that for coal, but few citizens purchase pig iron or bar copper, whereas of the urban population only the dwellers in apartments, boarding-houses and hotels are spared the necessity of buying coal. The consumption of coal in the United States for heating and cooking is between 1 and 1½ tons per capita. A careful estimate for 1915 is 1.1 tons, which happens to be identical with the figure determined for similar consumption in Great Britain in 1898. This non-industrial consumption is greatest in cities and in this city of Chicago in 1912 it was nearly 2 tons. Of course every citizen indirectly pays for his share of the total consumption, which last year amounted to 4.6 tons per capita.

Again it may be that because to a larger degree the cost of metals is charged to capital outlay rather than to the operating expense of life, we appreciate less keenly the unit price of these materials that are

<sup>1</sup> Read before the American Mining Congress, Chicago, November 14.