

classification, especially when it becomes the foundation of a philosophy." (Pp. 119-120.)

"The true method of classification is not by invention, but by discovery." (P. 113.)

LESTER F. WARD.

INCONSIDERATE LEGISLATION ON BIRDS.

THE following bill has passed the House, and, as amended by Senator Hoar, has met with the approval of the Senate. If the amended bill meets with the approval of the House Conferees it will probably become a law :

An Act to Extend the Powers and Duties of the Commission of Fish and Fisheries to Include Game Birds and Other Wild Birds Useful to Man :

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that the United States Commission of Fish and Fisheries shall hereafter be known and designated as the United States Commission of Fish, Fisheries and Birds. The duties and powers of said commission are hereby enlarged so as to include the propagation, distribution, transportation, introduction and restoration of game birds and other wild birds useful to man. For such purposes they may purchase, or cause to be captured, such game birds and other wild birds as they may require therefor, subject, however, to the laws of the various States and Territories in which they may conduct such operations.

The object and purpose of this Act is to aid in the restoration of such birds in those parts of the United States adapted thereto where the same have become scarce or extinct, and also to aid in the introduction of new and valuable varieties or species of American or foreign birds in localities where they have not heretofore existed.

Said Commission shall from time to time collect and publish useful information as to the propagation, uses and preservation of such birds.

And the said Commission shall make and publish all needful rules and regulations for

carrying out the purposes of this Act, and shall expend for said purposes such sums as Congress may appropriate therefor.

The Amendments are as follows :

That the importation into the United States of birds, feathers or parts of birds for ornamental purposes be and the same is hereby prohibited: *Provided, however,* That nothing herein contained shall be construed as prohibiting the importation of birds for museums, zoological gardens, or scientific collections, or the importation of living birds or of feathers taken from living birds without injury to the bird. The Secretary of the Treasury is hereby authorized to make regulations for carrying into effect the provisions of this section.

That the transportation of birds, feathers or parts of birds, to be used or sold from any State or Territory of the United States is hereby prohibited. Whoever shall violate the provisions of this section shall, upon conviction in the district where the offense shall have been committed, be punished for each such offense by a fine of \$50.

That the sale, keeping or offering for sale, within any Territory of the United States, or within the District of Columbia, of birds, feathers or parts of birds for ornamental purposes, except such as are excepted in the first section of this Act, be and the same is hereby prohibited. Whoever shall violate the provisions of this section shall, upon conviction, be punished for such offense by a fine of \$50.

In view of the high grade of ornithological work which the Department of Agriculture has already performed, and of the eminently scientific character of its personnel, it seems a great pity that work so clearly of an agricultural nature should be given to the Fish Commission, a department which has neither the experiment stations, the men nor the means to effectively undertake such duties, and whose hatcheries are in localities so remote from sources of supply that the work can only be done, if at all, at a great sacrifice of time, money and energy.

The introduction of new species into a country is, in any case, a dangerous ex-

periment—as witness the English Sparrow—and if undertaken at all should be done only under that branch of the government service which for many years has been charged by Congress with investigations of the economic status of birds and mammals. While we should gladly see feathers and parts of birds obtained by killing the birds no longer used for ornamental purposes, it is probable that legislation would accomplish nothing. On the whole, the bill appears useless, and the new functions given to the Fish Commission are extremely ill-advised. Such bills should be referred to a committee of the National Academy of Sciences for an opinion.

ELEVENTH ANNUAL MEETING OF THE GEOLOGICAL SOCIETY OF AMERICA, DECEMBER 28TH, 29TH AND 30TH, NEW YORK.

II.

Origin of the Grahamite in Ritchie Co., W. Va.

Va. I. C. WHITE, Morgantown, W. Va.

THIS mineral, resembling coal in physical aspect, and extending, in a vertical fissure two to three feet wide, downward to an unknown depth, was shown to be a residual product derived from the evaporation of petroleum. Its location is near the 'Oil-break' anticline of Andrews, and it probably tapped off oil from the 'Saltwater Sandstone' of the drillers. This sandstone is now the source of productive wells located near the Grahamite vein.

The paper led to the discussion of asphaltic deposits in fissures and to the source of graphite and other hydro-carbons in pegmatite veins. A. P. Coleman cited the anthraxolite of the Sudbury region, an ultra-anthracitic material in fissures. J. S. Diller mentioned the pitch-coal of the Coos Bay lignite mines, Oregon, which cuts the lignite in veins. J. F. Kemp brought up the graphitic pegmatites of the Adirondacks, the presence of small amounts of carbon in

the gabbros and the tarry material in the Branchville, Conn., quartz. M. E. Wadsworth referred to carbon in meteorites.

Structure of the Iola Gas Field, Allen Co., Kansas. EDWARD ORTON, Columbus, O.

Read by I. C. White, in the absence of the author.

NATURAL gas is more widely distributed, geologically and geographically, and exists in larger quantity than any one would have claimed 20 or even 10 years ago. Its productive horizons cover the entire Paleozoic column of the country. Cities supplied, at least partially, with natural gas for fuel and light are no longer uncommon. Two distinct divisions can be made of its accumulations, viz.: That which is stored in *impervious rocks* as shales, most limestones, etc., and that which is found in *porous rocks*. These divisions may be provisionally styled *Shale gas* and *Reservoir gas*, each having characteristics of its own. *Shale gas* occurs in comparatively small wells. Its wells lack uniformity of rock pressure. It does not occupy definite horizons; it exists independently of petroleum in many cases, has *staying* properties, does not depend on the structural arrangement of the strata that contain it. *Reservoir gas* is found in great wells, approaches uniformity of rock pressure in each subdivision of territory, occupies definite horizons, is accompanied by oil, its wells generally come to a sudden end, is entirely controlled by the structure of the rocks in which it is accumulated. Two structural phases of rocks are specially important in this connection, the *anticline* and the *terrace*. The time has come for the acknowledgment of *structure* in reservoir gas fields even in advance of measurements. The Iola gas field is one of great promise. Its source is in a sandstone of the Cherokee shales, or near the bottom of the coal measures. It proves to be a *terrace* of well-marked character. For seven miles the top of the