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BIOLOGY

Evolution Fights Loom

With the legislative bodies of forty States opening their sessions before the middle of January, educators are expecting a fusillade of anti-evolution bills similar to those already on the books of Tennessee and Mississippi, and are considering means for the defense of their liberty to teach. At the meeting of the American Association of University Professors in Philadelphia, it was stated that legislation opposed to science will be introduced in at least seventeen legislatures, though it is not expected that the bills will get far in the majority of them.

The first storm is expected in Arkansas, where a bill modeled after the Tennessee statute was prepared several months before the opening of the legislative session. Biologists admit that this State is quite likely to join the list of those where evolutionary teaching is under the ban of prohibitory law. Other States in the South where anti-evolutionary measures may be offered are Alabama, Missouri and the Carolinas; and, in the North, small but influential reactionary groups in Minnesota and the Dakotas constantly threaten action. Whether Indiana will be the scene of a fight is expected to hinge largely on the remaining strength of the Ku Klux Klan there, which is wholly a matter of guesswork. The same holds true in the northern Pacific Coast States, until recently regarded as among the chief citadels of the Klan. California, with its swarm of odd small sects and isms, will almost certainly see a "monkey bill," and will almost certainly kill it in committee. Kentucky and Louisiana killed their bills last year, and their legislatures do not meet again until 1928.

The American Association of University Professors is preparing to take a hand in the struggle. At their recent meeting the following resolution was passed:

"Resolved: That the American Association of University Professors

MATHEMATICS



DR. GEORGE D. BIRKHOFF, professor of mathematics at Harvard University, whose paper, "A Mathematical Critique of Some Physical Theories," given at the Philadelphia meeting of the American Association for the Advancement of Science, was judged by a committee of non-mathematicians to be the most important of the meeting, and was awarded the \$1,000 prize.

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take the initiative in bringing about a more effective cooperation between groups of organizations interested in opposing legislative restriction on freedom of teaching in State supported institutions and in defending the separation of church and state in educational matters."

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METEOROLOGY

New Wind Record Set

A new record for wind velocity recorded by weather bureau instruments was hung up in the Miami hurricane on September 18, 1926, according to Benjamin C. Kadel, in charge of instruments at the Weather Bureau in Washington. At 7:40 a. m. on the day of the storm the wind blew with a speed of 132 miles an hour.

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CHEMISTRY

New Chemical for Boilers

Diphenyl oxide, a white chemical with a powerful reek like geranium scent raised to the nth degree, is the newest stunt in the efforts of engineers to get double work out of every shovelful of coal that goes into the firebox. The trick consists simply of using the chemical in one boiler to run one engine, and then using the exhaust vapor from that engine, still very hot, to raise steam from ordinary water in a second boiler, according to Dr. H. H. Dow, manufacturing chemist of Midland, Mich. Dr. Dow has been experimenting with one of these bi-fluid boiler systems for some months, and states that it has proven itself quite successful and very economical of fuel.

The idea of getting double use from the original firing of fuel was tried first with mercury as the liquid in the first, or high-temperature boiler. From certain points of view this metallic liquid is almost ideal, but its great weight and considerable initial expense, together with constant losses, interposed engineering and economic difficulties. Furthermore, any leakage of mercury vapor is almost certain to be injurious to the workmen in the plant, because mercury is exceedingly poisonous. For these reasons, therefore, Dr. Dow sought for another liquid that would be light, cheap, and non-poisonous, and still have high capacity for carrying heat over into the second boiler to generate steam for the second engine.

A number of organic chemical compounds were found to possess these qualities, but at the temperatures used in boilers they tended to break apart into other compounds useless for power purposes and to clog the boilers with carbonaceous materials of no use for carrying heat. Diphenyl oxide, however, has been used and recondensed and used over again many times at a pressure of 200 pounds per square inch, and a temperature of 800 degree Fahrenheit, with but little de-

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