

calosoma beetles, praying mantes, skunks, crows, snakes and other misunderstood creatures by feeding them in public during certain announced hours of the day.

This is what has been done at the Rhode Island Insect Zoo, and the result has been amazing. People never before interested in small wildlife, or interested only superficially, have come to the insect zoo and spent hours in its perusal. By displaying live examples of the only four types of poisonous snakes in North America, respect and appreciation of all other snakes has been encouraged. By displaying the one species of poisonous lizard in the United States, the same is done for lizards. Local insects lose their horror when the few pain-givers—those which sting and those which cause a rash when handled—are represented by live specimens. Exhibiting the black widow spider and the tarantula, and explaining that they alone—of all spiders in Rhode Island—are dangerously poisonous, the lives of many other harmless and beneficial spiders are being spared.

To-day the insect zoo and nature center has become first port of call for many farmers and gardeners who are suffering from insect and other pests. Specimens are brought in for identification and for comparison with other specimens in the exhibit cases. Questions on insect control are incessant. The statement is repeatedly heard made by the departing visitor, "Well, I won't be killing them any more."

In the eight summer months which the zoo has been in operation, over 600 species of live insects and insect-eaters have been on display. Many more have been identified and added to the type collection of Rhode Island insects which is being kept for scientific reference. Over 105,000 visitors have attended. The zoo is situated twenty-three miles south of Providence, R. I., Route No. 3. It is open daily from 10:00 A.M. to 10:00 P.M. until October 2. The state cooperates in the matter of site and advertising, but leaves it to the fifteen-cent entrance fee to pay running expenses. Its purpose is educational. Members of the American

Association for the Advancement of Science are always welcome, particularly if their attitude is critical.

BRAYTON EDDY

### REGULAR POLYHEDROIDS

THE readers of SCIENCE may be interested to know that the results in the article by E. R. Bartlam entitled "On the Properties of Rectilinear Figures of  $n$  Dimensions" (SCIENCE, July 1) are special cases of those found by Stringham<sup>1</sup> in his exhaustive study. Stringham extended Euler's polyhedral theorem to  $n$ -dimensional space and showed that regular self dual  $(n+1)$ -hedroids analogous to the tetrahedron exist in any  $n$ -dimensional Euclidean space and that the number of regular elements of different dimensions, triangles, tetrahedra, etc., which bound these polyhedroids, are given by the expansion of  $(1-1)^{n+1}$ , excluding the first and last terms.

He showed that dual  $(2^n)$ -hedroids and  $(2n)$ -hedroids analogous to the dual polyhedra, the octahedron and cube, also exist in any  $n$ -dimensional Euclidean space and that the number of regular elements of different dimensions, triangles, tetrahedra, etc., or squares, cubes, tesseracts, etc., which bound these polyhedroids are given by the expansion, in direct and reverse order, respectively, of  $(2-1)^n$  excluding the last term. Bartlam's table gives special cases of this theorem.

Stringham showed that no other real regular polyhedroids can exist in  $n$ -dimensional spaces when  $n > 4$ . In three-dimensional space there are of course in addition the two dual polyhedra, the dodecahedron and the icosahedron.

Stringham finally showed that in four-dimensional space there exist also a self dual (24)-hedroid whose boundaries are regular octahedra, and two dual polyhedroids, a (120)-hedroid with dodecahedral boundaries and a (600)-hedroid with tetrahedral boundaries.

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NATIONAL BUREAU OF STANDARDS

## QUOTATIONS

### SCIENCE IN PRACTICE AND THEORY

ONE of the prime functions of the annual meetings of the British Association is to serve as a reminder to the nation at large of the basic importance and interest of natural science, alike in its philosophical bearings, its practical results, and its social implications; and the president, in his address, has an unrivalled opportunity of crystallizing this aspect of the association's work. This year's president, Lord Rayleigh, distinguished scientific son of a distinguished scientific

father, has taken full advantage of this opportunity. He has discussed not only certain recent advances in pure knowledge and numerous remarkable practical applications of such knowledge, but also some of the ethical problems as well as the philosophical puzzles arising from recent scientific advance. The ethical problem concerns the relation of science in general and the individual scientist in particular to war and

<sup>1</sup> W. I. Stringham, *Am. Jour. Mathematics*, 3: 1, 1-14, March, 1880.