Kettering, *chairman,* Owen D. Young, Chester C. Davis, Edward F. McGrady and Frances P. Gaines.

A SPECIAL committee "to appraise the work of the American Standards Association and to propose a program of development and financing" was authorized at a meeting on December 10, 1941, of the board of directors. Members of the committee have now been appointed as follows: R. E. Zimmerman, president of the American Standards Association, *chairman;* S. Bruce Black, National Association of Mutual Casualty Companies; George S. Case, American Society of Mechanical Engineers; C. L. Collens, National Electrical Manufacturers Association; Howard Coonley, Manufacturers Standardization Society of the Valve and Fittings Industry; H. S. Osborne, of the Telephone Group of the association and *chairman* of the Standards Council; J. C. Parker, vice-president, Consolidated Edison Company, until recently a member of the board of directors and of the council of the association.

THE annual Mellon lecture of the Society for Biologic Research of the School of Medicine of the University of Pittsburgh was delivered on April 23 by Dr. Herbert M. Evans, Morris Herzstein professor of biology and director of the Institute of Experimental Biology of the Medical School of the University of California. He spoke on "Unsolved Problems in Anterior Pituitary Physiology."

DR. E. D. ADRIAN, F.R.S., professor of physiology at Cambridge, is giving a series of lectures under the auspices of the British Council in Buenos Aires.

THE Linacre Lecture of the University of Cambridge was delivered on May 6 by Sir Joseph Barcroft, emeritus professor of physiology. He spoke on "The Onset of Respiration at Birth."

A MEETING of the Optical Society of America will be held at the Massachusetts Institute of Technology, Cambridge, on July 20, 21 and 22. A special feature of this meeting will be a symposium of invited papers on fluorescence and phosphorescence. Sessions will also be held for the reading of contributed papers.

THE tenth annual Summer Conference on Spectroscopy and Its Applications, sponsored jointly by the Optical Society and the Massachusetts Institute of Technology, will also meet from July 20 to 22. Admittance will be by reservation as usual. Further information and tickets to the conference can be obtained from Professor George R. Harrison, Massachusetts Institute of Technology, Cambridge. Arrangements have been made to include the program of the Conference on Spectroscopy in the program that will be issued early in July for all members of the Optical Society.

THE American Association of the History of Medicine held its eighteenth annual meeting at Atlantic City on May 3, 4 and 5. The address of the president, Dr. Jabez H. Elliott, of Toronto, was entitled "Observation and Interpretation." Dr. Hugh H. Young, of the Johns Hopkins Medical School, gave an address entitled "Crawford W. Long: the Pioneer in Ether Anesthesia," in commemoration of the one hundredth anniversary of the first application of ether anesthesia.

DISCUSSION

THE METHOD OF CONGRESSIONAL APPORTIONMENT UNDER THE LAW OF 1941

PUBLIC LAW 291 (H.R. 2665), signed by the President on November 15, 1941, directs that future apportionments of representatives in Congress shall be made by the method of equal proportions.

This method, devised in 1921, sets up the following criterion of a good apportionment. Suppose an actual apportionment bill, allotting any given number of seats (say 435) among the several states, is before Congress for consideration; and suppose an attempt is made to improve the bill by transferring a seat from one state to some other state. *Such proposed transfer of a seat from one state to another state should be made if, and only if, the percentage difference between the congressional districts in these two states would be reduced by the transfer.*

For example, Arkansas has a 1940 population of 1,949,387, and Michigan 5,256,106. Under the method of equal proportions, Arkansas gets 7 seats and Michigan gets 17 seats, so that Michigan's district (309,183) is 11.02 per cent. larger than Arkansas's district (278,484). But if a seat were transferred from Arkansas to Michigan, giving Arkansas 6 and Michigan 18, the Arkansas district (324,898) would be 11.26 per cent. larger than the Michigan district (292,006). Since 11.26 is greater than 11.02, the transfer should not be made.

By following a short-cut process of computation, the Bureau of the Census prepares, after each decennial census, an apportionment table which is certain to satisfy the above test for every pair of states. But any dispute between two states can be settled immediately by a direct application of the test, the only data required being the populations of the two states directly concerned and the number of seats allotted to each.

An extensive Bibliography on Methods of Appor-

tionment may be found in the *American Mathematical Monthly,* vol. 49, p. 115, February, 1942.

For the convenience of any one who may wish to reproduce the "short-cut process of computation" we append the working rule actually followed in the Bureau of the Census.

Given, the populations of the several states. *First,* assign one seat to each state (here 48 in number). *Second,* multiply the population of each state by a series of multipliers given in Table 1. The number of multipliers used for each state should be somewhat greater than the number of seats expected to be assigned to that state.

TABLE 1

MULTIPLIERS FOR THE METHOD OF EQUAL PROPORTIONS

k	Multiplier	k	Multiplier
		27	.0377 4257
2	.7071 0678	28	.0363 6965–
3	.4082 4829	29	.0350 9312
4	.2886 7513	30	.0339 0318
5	.2236 0680	31	.0327 9129
6	.1825 7419	32	.0317 5003
7	.1543 0335–	33	.0307 7287
8	.1336 3062	34	.0298 5407
9	.1178 5113	35	.0289 8855+
10	.1054 0926	36	.0281 7181
11	.0953 4626	37	.0273 9983
12	.0870 3883	38	.0266 6904
13	.0800 6408	39	.0259 7622
14	.0741 2493	40	.0253 1848
15	.0690 0656	41	.0246 9324
16	.0645 4972	42	.0240 9813
17	.0606 3391	43	.0235 3104
18	.0571 6620	44	.0229 9002
19	.0540 7381	45	.0224 7333
20	.0512 9892	46	.0219 7935–
21	.0487 9500	47	.0215 0662
22	.0465 2421	48	.0210 5380
23	.0444 5542	49	.0206 1965+
24	.0425 6283	50	.0202 0305+
25	.0408 2483	51	.0198 0295+
26	.0392 2323	52	.0194 1839

(In this table, $M = 1/\sqrt{[(k-1)k]}$; the entries may be verified by squaring, without extracting any square roots.) *Third,* arrange all the resulting products in a single list in order of size, beginning with the largest. This forms a "priority list," indicating the order in which seats (in excess of 48) shall be given out. *Fourth,* assign seats to the several states in the order thus indicated, until any desired total (say 435) has been reached.

As noted above, any dispute between two states can be settled without any knowledge of the technical process of computation, by direct application of the test.

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SOME OBSERVATIONS ON THE FEEDING HABITS OF THE OCTOPUS[1]

IN recent years much has been written pertaining to the feeding habits of marine animals and of the minute details of the mechanisms involved in the capture and ingestion of their food. These studies result from an appreciation of the fact that the fundamental relationship among different species of a community of animals is a nutritional one, and in order to better understand the ecological implications, it is essential to know how the animals as individuals are able to capture their food or to escape the enemies preying upon them. The type of food utilized in any specific case is determined (sometimes within narrow limits) by the type of feeding mechanism possessed by the organism. Animals capable of active locomotion must seek out biotopes which support their food and the density of the organisms preyed upon will be determined in large measure by the efficiency of the catching apparatus of the predator, which is thus a factor in the balance of nature.

A common method of capturing food is by means of netting or screening devices such as the fine bristles on the appendages of barnacles, copepods, etc., or the gill rakers of fishes or whalebone of baleen whales. These netting devices, owing to their sieve-like nature, function to *concentrate* finely divided and scattered planktonic food gathered from a large quantity of water. A study of the feeding habits of the octopus reveals an ensnaring device of quite different nature, since, though it functions to make a multiple catch, it is not designed to filter but rather to impound.

The commonly observed method of gathering food by the octopus is that of lying in wait or stealthily approaching and suddenly striking out at its prey with a tentacle and grasping it with the aid of the suckers. But in addition to this method, small prey such as shrimp and small fish which live among low-growing seaweeds on the bottom, and which possess great agility in escaping the predator, may be caught in larger numbers by throwing over them a canopy-like web formed by the loose extensible membranes of skin connecting the bases of the tentacles and extending for some distance along the sides of each. This method of feeding was observed in the field on several occasions for large specimens of *Paroctopus apollyon* near the University of Washington Oceanographic Laboratories at Friday Harbor, Washington, and in view of the apparent want of published records of similar observations, it is deemed worth a brief note at this time.

The fishing action consists essentially of four steps: (1) gliding stealthily forward over seaweed beds while three or more tentacles are extended forward and high off the bottom; (2) the upraised tentacles are then slowly arched, bringing the distal ends downward with almost imperceptible movement to the bottom where the end suckers presumably attach to the hard bottom; (3) when this has been accomplished the loose web

[1] Contributions from the Scripps Institution of Oceanography, New Series, No. 163.