by Lewandowsky,[6] in a few experiments on the cerebellum. Though a search was made of the literature the work of Talbert[7] with this method escaped me as it seems to have escaped most others working on cortical physiology. Talbert working in Munk's laboratory made excellent use of small bipolar electrodes made of two wires set in ivory and screwed into the skulls of dogs which were allowed to live to be stimulated on successive days. Without having been aware of his results we have confirmed Talbert's findings completely.

With Ewald's method Talbert produced movements from stimuli applied to various portions of the cortex, even outside the motor area, and produced epileptic seizures with strong stimuli. He observed that the result of stimulation of a point "remained quite the same, day after day, and experiment after experiment, with no variations save the necessity of stronger currents . . . because of the formation of the cicatrix." He observed that successively stronger stimuli applied to a single point brought in movements of more and more of the animal's body. He noted that stimuli were less effective when the limbs involved were being used at the time of application of the stimulus, and that a stimulus would interfere with some normal motions, as drinking, but not others as eating. He saw the possibility that position of the animal would affect the response to stimulus, thus predicting Ward's demonstration that cortical stimulation in the intact animal is concerned with a "final position" of the responding part.[8] Had Talbert's work been fully appreciated at the time it was reported, much of the doubt about the constancy of response of cortical points could have been avoided. Though late, I would like to record Talbert's priority in the use of the method of implanted electrodes and express my appreciation of the keenness of his observations which we have had the pleasure of observing independently.

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SCIENTIFIC BOOKS

MATHEMATICAL TABLES

Mathematical Tables. Vol. IX. Table of Powers Giving Integral Powers of Integers. BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. xii + 131 pp. Cambridge: At the University Press; New York: The Macmillan Company. $4.25.

THIS table was initiated by J. W. L. Glaisher and extended by W. G. Bickley, C. E. Gwyther, J. C. P. Miller and E. J. Ternouth.

Around the end of the last century Dr. J. W. L. Glaisher computed and prepared to print a table giving the first twelve powers of the first thousand numbers. At least one proof copy was run off, but the table was never published and all copies of it disappeared from view. In recent years, Dr. L. J. Comrie made a determined search for a copy and in 1935 finally found a lone proof copy in the possession of Mr. H. J. Woodall, who generously donated it for use in the formation of the present table.

The present table gives an extension of Glaisher's table in two directions. The first twelve powers of the numbers from 1001 to 1099 are added and also higher powers of numbers less than 300. These additions are not inconsiderable, but Glaisher's original table is the source of over 60 per cent. of the entries of the present table.

In checking Glaisher's table, the computers had a great piece of luck. In the WPA project for the computation of mathematical tables, a table of the first ten powers of the first thousand numbers had just been prepared. Dr. A. N. Lowan presented a manuscript of the WPA table to the computers of the present table. It should be said in credit to both Dr. Glaisher and the WPA computers that no errors were found in the WPA table and only one error (an obvious missing digit) in Glaisher's.

Glaisher's eleventh and twelfth powers were checked by differencing, which is particularly suitable for checking a table of integral powers of integers.

The powers not in Glaisher's table were checked by adding up powers of consecutive integers and checking the sums by a separate computation of $\Sigma_{x=1}^{X-1} x^n$ from the formula. The coefficients of this formula for $n = 1,2, \cdots ,50$ are included in a short table at the end of the table of powers. The ten errors brought to light in this way were tracked down by use of remainders modulo 101.

All the checks mentioned were applied to the proof sheets rather than to the original computations. As a further check, page proof was compared with the original computations or with Glaisher's proof. Numerous minor checks were constantly employed throughout the preparation of the table.

As indicated earlier, the present table contains the first twelve powers of the integers from 1 to 1099 inclusive. Higher powers of numbers less than 300 appear as follows:

Integers from 1–299; first 20 powers.
Integers from 1–120; first 27 powers.

[6] M. Lewandowsky, *Archiv. für Physiologie*, 129, 1903.
[7] G. A. Talbert, *Archiv. für Physiologie*, 195, 1900, *Philadelphia Medical Journal*, 4: 1024, 1899.
[8] J. W. Ward, *Jour. of Neurophysiology*, 1: 463, 1938.

Integers from 1– 99; first 30 powers.
Integers from 1–120; powers 30, 40, and 50.

In addition, at least the first twenty-one digits are given of all the first 50 powers of the integers from 1–120. The duplications in my description of the table do not occur in the table itself. For instance, the first twelve powers of the integers 1–99 only occur once, in spite of the fact that they occur in four of the categories listed above. Also the first twenty-one digits are tabulated only for those powers which are not given in full. Considering the awkward sizes of many of the powers, slight deviations from the natural ordering are necessary for economy of space. However, the arrangement chosen is quite uniform, and if the user will take the trouble to go through the table once with some care, he will catch onto the system used, and will find that he can then locate entries easily.

A useful list of other particularly extensive tables of powers is given with descriptions and lists of errors.

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SOCIETIES AND MEETINGS

THE ALABAMA ACADEMY OF SCIENCE

UPON invitation of Spring Hill College, the Alabama Academy of Science held its eighteenth annual meeting in Mobile, Ala., March 21–22, 1941, with the president of the academy, C. M. Farmer, presiding. The Southern Association for the Advancement of Science met at the same time, as the guest of the academy. An address of welcome was made by Father Wm. D. O'Leary, president of Spring Hill College. The Junior Academy was in session simultaneously at the Murphy High School, with over two hundred delegates in attendance representing twenty-five high schools. One of the features of the meeting was a series of exhibits put on jointly by the junior and senior academies under the auspices of C. M. Pomerat, *chairman,* Department of Biology, University.

The executive and business meetings were held on Friday, and the scientific papers were presented on Friday afternoon and Saturday morning in seven sections, the vice-presidents of the academy serving as chairmen of their respective sections. They were as follows: H. D. Jones, Biology and Medical Science, Alabama Polytechnic Institute, Auburn; L. M. Hobbs, Chemistry, University of Alabama, University; D. L. DeJarnette, Geology, Anthropology and Archeology, Alabama Museum of Natural History, University; J. Allen Tower, Geography, Conservation and Allied Subjects, Birmingham-Southern College, Birmingham; W. A. Moore, Physics and Mathematics, Birmingham-Southern College, Birmingham; C. A. Basore, Industry and Economics, Alabama Polytechnic Institute, Auburn; Clustie Evelyn McTyeire, Teaching of Science, Hueytown High School, Bessemer.

At the annual banquet held at the Admiral Semmes Hotel on Friday evening, Father Anthony J. Westland, S.J., served as toastmaster. The address of welcome was by Mayor Cecil F. Bates, Mobile, with response by Septima C. Smith, University. Several musical numbers were rendered by the Jadek String Quartette. President Farmer's address was on the timely subject, "Science Education." Guests of the occasion were visitors to the Southern Association for the Advancement of Science, which was organized at this time.

Spring Hill College was host to the academy for a very lovely buffet luncheon at College Inn on the campus Saturday at noon.

One of the features of Saturday was the Geology Field Trip arranged by Winnie McGlamery and D. L. DeJarnette, to the marine outcrop of Pleistocene on Mon Louis Island. Saturday afternoon was devoted to motor trips along the Azalea Trail and the beautiful Bellingrath Gardens, and to various industrial centers of Mobile.

The academy award from the American Association for the Advancement of Science for 1941 was divided between Herman D. Jones, Alabama Polytechnic Institute, for his subject, "To Study the Distribution of Arsenic in the Body Following the Use of Water in which Smoke from Cigarettes has been passed through," and W. F. Abercrombie, Howard College, for his study on "The Effects of Various Chemicals on the Cockroach."

New officers for 1941–42 were elected as follows: *President,* Paul D. Bales, Howard College, Birmingham; *President-elect,* W. M. Mobley, Alabama By-Products Company, Tarrant; *Vice-Presidents* and *Section Chairmen*—Alvin V. Beatty, Biology and Medical Science, University; Harold E. Wilcox, Chemistry, Howard College; E. F. Richards, Geology and Anthropology, University; Brooks Toler, Geography, Conservation and Allied Subjects, Division of Forestry, Montgomery; W. A. Moore, Physics and Mathematics, Birmingham-Southern College, Birmingham; John Goff, Industry and Economics, Alabama Polytechnic Institute, Auburn; Clustie E. McTyeire, The Teaching of Science, Hueytown High School, Bessemer. Septima C. Smith, Biology Department, University, was chosen as councilor to the American Association for the Advancement of Science. John Xan, Howard College, was re-elected treasurer. E. V.