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The Fall Meeting of the Indiana Section

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THE COORDINATING COMMITTEE

Some Sections of the Association have active committees devoted to the furthering of the interests of sound education in general and of mathematics in particular. Some of these committees have real accomplishment to their credit as a result of advising local educational groups, state boards of education, and legislative committees. They generally find that their advice is treated with respect in such matters as curriculum changes and teacher training.

As post-war educational problems press upon us, it is probable that most if not all of the Sections will find it desirable to establish such committees, possibly in conjunction with other organizations whose aims and ideals are similar to our own. Since education is still a local matter in this country, it is only through local committees, preferably at least one committee for each State, that progress can be made. Not only do the problems vary from place to place, but persons in authority are amenable only to committees of local origin.

With these thoughts in mind, the Board of Governors of the Association has authorized the appointment of a Coordinating Committee whose function it shall be to keep in close touch with all educational movements in the United States and Canada, and to make the information thus acquired available to all committees of the Association and its Sections who can profit by this information. It is hoped that in return all Sectional committees will make contact with the Coordinating Committee and report the problems which are facing them, their plans to meet these problems, and their successes or failures. The Coordinating Committee may be able to supply the local committees with reprints of pertinent articles, or at least with references to them. In any case the local committees should be able to work with more enthusiasm and confidence if they are fortified with exact information about what is going on in other places.

The Association is fortunate in having secured the services of an able committee. The chairman is Professor C. V. Newsom of Oberlin College, Oberlin, Ohio, and the other two members are Professor M. S. Knebelman of the State College of Washington at Pullman, and Professor W. V. Parker of the Louisiana State University at Baton Rouge.

C. C. MACDUFFEE, *President*

THE FALL MEETING OF THE INDIANA SECTION

The twenty-second annual meeting of the Indiana Section of the Mathematical Association of America was held at Butler University, Indianapolis, Indiana, on Friday, November 10, 1944, in conjunction with the meeting of the Indiana Academy of Science. Professor Emil Artin, Chairman of the Section, presided at the morning session, and Professor P. M. Pepper, Chairman of the Mathematics Section of the Academy, presided at the afternoon session.

Thirty-two persons registered at the meeting, including the following eighteen members of the Association: Emil Artin, Juna Lutz Beal, G. E. Carscallen, J. E. Dotterer, W. E. Edington, P. D. Edwards, G. H. Graves, Cora B. Hennel,

M. W. Keller, Mark Lotkin, H. A. Meyer, P. M. Pepper, J. C. Polley, D. H. Porter, J. W. Wiley, K. P. Williams, H. E. Wolfe, Sister Gertrude Marie Zieroff.

At the business meeting the following officers were elected for the next year: Chairman, Juna Lutz Beal, Butler University; Secretary, M. W. Keller, Purdue University.

The following papers were presented:

1. *The great mathematics books in the college curriculum*, by Sister Gertrude Marie Zieroff, O. S. F., Marian College.

In this paper the speaker evaluated the method of learning college mathematics directly from the great mathematics classics. The technique employed for this type of instruction at St. John's College was described. Representative classics were compared with college text-books. The feasibility of using mathematics classics for collateral reading as part of the regular course, for honors courses, and for seminars, was discussed.

2. *On certain recursion inequalities with applications*, preliminary report, by Professor P. M. Pepper, University of Notre Dame.

Professor Pepper dealt with certain problems relating to a switchboard with n terminals, and with wires connecting the terminals in pairs. He considered the determination of the greatest number of cross-connections which can be made without there being somewhere three terminals each two of which are joined by a wire. Knowing the answer to this question, one may ask for a distribution of the maximum number of wires in such a way as to form no triangles (*i.e.*, no three terminals each two of which are connected). In the study of such questions he was led to the consideration of the following auxiliary problem: Let a, b, c, and u_0 be given integers with $a \geqq 0$; find a simple formula for u_n in terms of a, b, c, u_0 and n if u_n is the least integer satisfying the inequality

$$u_n \geqq [(n + a + c)u_{n-1} - (n + b)]/(n - a), \quad n = 1, 2, 3, \cdots.$$

The present paper contains a solution of the first two problems and the solution of a two-parameter family of the recursion inequalities with restricted u_0.

3. *What are we teaching mathematics for?* by Professor G. H. Graves, Purdue University.

In this paper the author pointed out that an essential feature of mathematics is the development of the implications of a set of assumptions. He stated that one of the prime purposes of mathematics is to convey an appreciation of this viewpoint, and that we should examine whether this objective is not in danger of being submerged in the many applications of mathematical processes. It was affirmed that there is a higher practicality to the grasp of a technique for drawing conclusions from a set of data, to the assembling and criticizing of data, and to the investigation of the assumptions on which the argument proceeds, than to any particular results of this process, however important these may be.

4. *Some illustrations of the Hamilton-Jacobi theory*, by Professor K. P. Williams, Indiana University.

Professor Williams explained the importance of the Hamilton-Jacobi differential equation theorems as they apply to planetary theories. An example, in which all integrations could be carried through, was given to show how the solution of one Hamilton system could be made to furnish the solution of a modified system.

5. *Some remarks on final grades in freshman mathematics*, by Professors M. W. Keller and H. S. F. Jonah, Purdue University.

Some data was presented which indicates from a preliminary study that certain tendencies exist in giving final grades when ordinary final examinations are given, when no examinations are given, and when uniform objective final examinations are given.

6. *Determinants*, by Professor Emil Artin, Indiana University.

Professor Artin presented a new set of axioms for determinants. The axioms were: (1) linearity and homogeneity as a function of the columns of a matrix; (2) the vanishing, if two adjacent cloumns are equal; (3) the value one in case of the unit matrix. From these axioms the speaker led very quickly to all important properties of determinants without introducing more than the elementary notions of permutations.

M. W. KELLER, *Secretary*

CALENDAR OF FUTURE MEETINGS

The Office of Defense Transportation has refused permission for our previously announced meeting at Montreal, June 23–25, 1945, and this meeting has therefore been cancelled.

The following is a list of the Sections of the Association with dates of future meetings so far as they have been reported to the Secretary.

ALLEGHENY MOUNTAIN
ILLINOIS
INDIANA, Indianapolis, October 19, 1945
IOWA
KANSAS
KENTUCKY
LOUISIANA-MISSISSIPPI
MARYLAND-DISTRICT OF COLUMBIA-VIRGINIA, Washington, D. C., May, 1945
METROPOLITAN NEW YORK
MICHIGAN
MINNESOTA
MISSOURI
NEBRASKA
NORTHERN CALIFORNIA, Berkeley, January 26, 1946
OHIO
OKLAHOMA
PHILADELPHIA, Philadelphia, December 1, 1945
ROCKY MOUNTAIN
SOUTHEASTERN
SOUTHERN CALIFORNIA
SOUTHWESTERN
TEXAS
UPPER NEW YORK STATE
WISCONSIN, Milwaukee, May, 1945