# The May Meeting of the Indiana Section

## P. D. Enwards (Secretary)

# THE MAY MEETING OF THE INDIANA SECTION

The twelfth meeting of the Indiana Section of the Mathematical Association of America was held Friday and Saturday May 3–4, 1935, at Clifty Falls State Park, Madison, Indiana, and Hanover College, Hanover, Indiana.

A total of seventy-six from seventeen schools registered, including the following twenty-five members of the Association: P. P. Boyd, J. H. Butchart, H. T. Davis, J. E. Dotterer, Olive M. Draper, W. E. Edington, P. D. Edwards, E. D. Grant, G. H. Graves, S. G. Hacker, Laurence Hadley, W. R. Hardman, C. T. Hazard, Cora B. Hennel, H. K. Hughes, Florence Long, Juna M. Lutz, T. E. Mason, H. A. Meyer, G. T. Miller, Mary S. Paxton, L. S. Shively, W. O. Shriner, Anna K. Suter, and K. P. Williams.

At the business session the following officers were elected for next year: Professor H. A. Meyer, Hanover College, Chairman; Professor P. D. Edwards, Ball State Teachers College, Secretary.

It was decided to hold a meeting of the Section in connection with the fall meeting of the Indiana Academy of Science to be held at Wabash College, Crawfordsville, Indiana, in November. The spring meeting of 1936 will be held at Manchester College, North Manchester, Indiana.

A committee appointed in 1934 to formulate plans to encourage and recognize well prepared teachers of secondary mathematics made its report. The committee suggested that the Indiana Section of the Association create a "Certificate of Merit in Mathematical Preparation" to be awarded on the basis of examinations taken by prospective teachers before graduation. The report was adopted and the committee instructed to work out details for holding the first examinations during the school year 1935–1936. Professor K. P. Williams of Indiana University is chairman of the committee.

A dinner was held Friday evening at the Inn in Clifty Falls State Park. The visitors were welcomed by Professor Meyer of Hanover College. After the dinner a program was given by members of the mathematics department of Purdue University, the first number of which was the address of the retiring chairman, Professor T. E. Mason: "Is there a popular appeal in mathematics?"

Professor Mason gave a number of instances showing a wide interest in numbers and things mathematical. He believes that teachers of mathematics should take advantage of this interest to develop interest in their subject matter. This is possible in the elementary school, in the high school, and in the college. The natural sciences are making increasing use of mathematics. Economic and educational studies are becoming more and more statistical. Hence, the individual who does not elect to study mathematics is limited more and more in the fields of work that he may enter. This brings to the teacher of mathematics the responsibility for using all possible means of interesting students in the subject matter so that those with ability shall not shun mathematics because of lack of interest.

After Professor Mason's address the following series of papers were given as

suggestions to teachers for awakening popular interest in mathematics:

1. "Driving across the solar system" by Professor Laurence Hadley.

2. "As we number our days" by Professor C. T. Hazard.

3. "Getting out of our own world" by Professor G. H. Graves.

4. "An example of symbolism" by Stanley Bolks, introduced by Professor Mason.

5. "The gambler's chance" by G. T. Miller.

6. "The highly honored elephant" by Professor H. K. Hughes.

7. "The tiring irons" by Neil Little, introduced by Professor Mason.

8. "String figures" by W. R. Hardman.

Abstracts of the papers follow.

1. Professor Hadley built the solar system in miniature with the sun at the monument in the Circle at Indianapolis and with Pluto not far from Clifty Falls.

2. Professor Hazard gave a brief historical sketch of the development of the calendar and made some observations on current proposals to reform it.

3. Professor Graves pointed out that the study of geometry, particularly of four dimensions, gives one experience in drawing conclusions from unfamiliar assumptions. By proper attention to transfer of training, a contribution may be made toward meeting the conditions of life in a rapidly changing world.

4. Mr. Bolks showed some examples of the symbolism used by mathematicians of the seventeenth century and illustrated their method of extracting roots.

5. Mr. Miller gave some examples to show that from a mathematical point of view the gambler with limited capital always loses.

6. Professor Hughes discussed a problem, given in an Algebra of 1692, in the form of a story about a pet elephant belonging to a king. The method and notation used in solving the problem seem very clumsy to us of the present.

7. Mr. Little gave a brief description of the ancient puzzle of the Tiring Irons, demonstrated its operation, and applied mathematics to the solution of a problem concerning it.

8. Mr. Hardman discussed briefly the nature and history of string figures, and demonstrated the method of construction of some of the simpler types.

The session on Saturday morning was held at Hanover College. The following papers were presented:

1. "Reminiscences of forty-four years as a teacher of mathematics" by Professor S. C. Davisson, Indiana University, by invitation.

2. "What about mathematics in the junior high school? One answer" by Vivian R. Ely, George Washington High School, introduced by Professor Mason.

3. "Mathematics as a personal experience" by Professor P. P. Boyd, University of Kentucky, by invitation.

4. "Problems in the training of teachers of mathematics" by Professor L. H. Whitcraft, Ball State Teachers College, introduced by Professor Mason.

5. "Early Indiana mathematics and mathematicians" by Professor W. E. Edington, DePauw University.

Abstracts of the papers follow.

1. Professor Davisson discussed the changes that have taken place in the teaching of mathematics at Indiana University during the past 44 years. He was one of four mathematics majors in the first class to graduate after the adoption of the plan to require students to major in some chosen field. He discussed important contributions of various mathematicians to the development of mathematics in Indiana.

2. Miss Ely gave a brief sketch of the junior high school movement in the Indianapolis Public Schools with a detailed description of the new course of study recently written for the course in general mathematics. She concluded with some comments on the success of the venture and suggestions for future procedure.

3. Dean Boyd mentioned some of the current misunderstandings concerning the nature and usefulness of the mathematician's work. He pointed out the advantages that the mathematical thinker possesses in dealing with public questions because of his loyalty to ideals of accuracy and logical procedure, but warned against the dangers of intolerance and egotism and of failure to "dress up" his social and political argument so as to appeal to the emotion and the will. An attempt was then made to bring out the contributions of mathematical study to one's personal enrichment through understanding of the world and human life and through the "elevation and composed delight" that reward the devotee.

4. Professor Whitcraft discussed three problems which confront teacher training institutions, namely, (1) who should be admitted to teacher training and the method of selecting those to be admitted; (2) the selection of the curriculum which will be of greatest value to the teacher; and (3) the placement in a teaching position of the individual who has completed his training.

5. Professor Edington traced the development of mathematics in Indiana during the nineteenth century. Indiana University, Hanover College, Wabash College, Franklin College, and DePauw University were all founded between 1820 and 1840, the latter four being strictly sectarian in organization and intent at the time of their founding. The presidents and many of the professors of all five institutions were for many years preachers, the work offered was classical, and the mathematics offered was most elementary since there were no high schools and few academies to prepare students for college. However, fluxions or calculus was offered before 1850, but the number of students taking such work was small, and, as in the east, mathematics was taught as a preparation for astronomy. In 1856 a scientific course of three years in which mathematics was stressed was organized at Indiana University, but it was 1868 before this became a standard four year course and the formal choice of a major subject was not declared until 1887. The first Master's degree with mathematics as the major subject was given at Indiana University in 1888 and the first Ph.D. with

mathematics as the major was given in 1912. The development in the other colleges was parallel to that of Indiana University.

P. D. EDWARDS, *Secretary*

## THE MAY MEETING OF THE ALLEGHENY MOUNTAIN SECTION

The fourth regular meeting of the Allegheny Mountain Section was held at Bethany College, Bethany, West Virginia, on Saturday, May 4, 1935. Sessions were held at 10:30 and at 1:30, with a luncheon at 12:45. Professor C. S. Atchison, chairman of the Section, presided at both sessions. Following the afternoon meeting those in attendance were entertained at a very delightful tea as guests of Bethany College.

Sixty-seven representatives of twenty-one educational institutions and research laboratories attended the meetings, including the following twenty-four members of the Association: C. S. Atchison, L. C. Bagby, O. F. H. Bert, Helen Calkins, W. E. Cleland, Elizabeth B. Cowley, L. L. Dines, N. C. Grimes, E. E. Hess, H. C. Hicks, B. P. Hoover, W. W. McCormick, W. I. Miller, T. W. Moore, L. T. Moston, J. H. Neelley, E. G. Olds, J. B. Rosenbach, E. A. Saibel, C. S. Shively, J. C. Stayer, J. S. Taylor, R. W. Thomas, E. A. Whitman; and two institutional member representatives, H. L. Black and W. H. Cramblet.

The fall meeting was set for Saturday, October 26, 1935, at Geneva College, Beaver Falls, Pennsylvania.

The following seven papers were read:

1 "Secondary mathematics on the college level" by President W. H. Cramblet, Bethany College.

2. "The problem of Chasles for $n=4$" by Professor W. A. Hallam, West Virginia Wesleyan College, introduced by Professor Atchison.

3. "An old Euclid of 1537" by Professor O. F. H. Bert, Washington and Jefferson College.

4. "Some implicit functional theorems" by Professor Helen Calkins, Pennsylvania College for Women.

5. "From the simple to the involved and back again" by A. M. Dudley, Westinghouse Electric and Manufacturing Company, introduced by the Secretary.

6. "Some examples from operational calculus" by Professor M. M. Culver, University of Pittsburgh, introduced by the Secretary.

7. "Seventeenth century calculus" by Professor E. A. Whitman, Carnegie Institute of Technology.

Abstracts of the papers follow, the numbers corresponding to the numbers in the list of titles.

1. Follówing a cordial welcome to Bethany College, President Cramblet presented many reasons supporting the opinion that college work in mathematics should be made available to a selected group of graduates from approved high