THE PASADENA MEETING OF SECTION A AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Section A (Mathematics) of the American Association for the Advancement of Science held two sessions for the reading of three invited papers on Tuesday, June 16, 1931, during the week of the Spring Meeting of the Association at Pasadena, California. Attendance at the sessions averaged about fifty. The chairman, Professor E. R. Hedrick, prefaced the reading of the papers in the morning session by calling the attention of those present to a tentative list of foreign mathematicians to be invited to give lectures at the Chicago 1933 Congress, in connection with the meeting of the Association and the American Mathematical Society.

Professor D. R. Curtiss of Northwestern University, presented an interesting paper entitled *Certain diophantine problems of approximation.* Professor Curtiss gave an indication of various diophantine problems treated by him in a paper published in this Bulletin in 1929. He pointed out some applications connected with the conformal mapping of a plane on a triangle and the covering of a plane with regular polygons and then went on to illustrate the method of exhaustions. Professor Curtiss commented on some unsolved problems and in particular on an asymptotic formula for the number of integer solutions of an algebraic equation with integer coefficients subject to auxiliary conditions.

Professor O. D. Kellogg, of Harvard University, presented the second paper of the morning session, on *Topics in potential theory.* He prefaced the main part of his talk with a historical introduction to the Dirichlet problem. He pointed out that it was not until 1913 that Zaremba showed that the Dirichlet problem with continuous boundary values is not possible for every region. After introducing the method of sequences, a generalization of Poincaré's balayage method, Professor Kellogg went on with the enunciation of an unsolved uniqueness problem, the solution of which is equivalent to showing that every bounded set of points of positive capacity contains a regular point. This point set theorem holds good in two dimensions and the question is whether it continues to hold in three dimensions. Dr. Kellogg discussed the capacities of Cantor sets and in conclusion raised the question whether the positive capacity of a point set is a topological property.

On Tuesday afternoon, Professor J. V. Uspensky of Stanford University spoke on *Integration in finite form.* He gave an ordered account of some classical researches of Abel and Liouville on elliptic integrals. He then discussed some of the arithmetic problems that arise in connection with Weierstrass' practical solution of the problem of finite integration by throwing it into a transcendental form with elliptic functions. He spoke of the periodicity of triads of integers and referred to Tchebycheff's criterion of periodicity (1860). In conclusion, he mentioned Zolotareff's remarkable criterion involving algebraic numbers (1874), and pointed out that Zolotareff devised his theory of ideal numbers as a by-product.

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