(h) A tabular outline of formations which would have clarified the text was eliminated.

There are few manuscripts that may not be improved through proper editing, but the question is not one of the desirability or undesirability of any changes. It is one of responsibility on the part of the author for the contributions printed under his name and his right of approval of these changes before the article comes from the press. The editor has been notified that the manuscript is to be returned and that no further instalments be printed.

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SOCIETIES AND MEETINGS

THE CONFERENCE ON ALGEBRA AT CHICAGO

THE intense current interest in algebraic research was exemplified in a conference on algebra at the University of Chicago from June 28 to July 1. It followed a conference at Notre Dame in February on the algebra of geometry and a symposium of the American Mathematical Society at Charlottesville, Virginia, in April on the "structure" or "lattice" theory of algebraic systems. The success of these meetings has demonstrated the effectiveness of mathematical conferences devoted to the study of a single topic.

The Chicago conference was concerned largely with linear algebras and algebraic geometry. It opened on Tuesday morning with an address by Professor L. E. Dickson, of the University of Chicago. He traced the history of quaternions and other linear algebras. Some of the rules of ordinary algebraic manipulation do not apply to these algebras; in particular, $xy = yx$ is not always true. However, the algebras still include "integral" elements with many of the properties of ordinary whole numbers. Professor Dickson described the long and difficult search for these numbers and their final discovery.

New and explicit formulas for sets of whole numbers in certain important algebras, the cyclic algebras, were presented by Professor R. Hull, of the University of Illinois. Professor C. G. Latimer, of the University of Kentucky, explained how the arithmetical properties of the integral sets in quaternion algebras are closely related to properties of quadratic and hermitian forms. These arithmetical properties depend on certain sets of elements, called ideals. Professor MacDuffee, of the University of Wisconsin, explained how many of the computations with such ideals could be carried out by the use of matrices.

A new and very general process for the reduction of hermitian and related types of matrices to canonical forms was outlined by Professor J. Williamson, of Johns Hopkins. Professor M. H. Ingraham, of the University of Wisconsin, explained how certain reductions to canonical forms can be simplified by replacing a matrix by a smaller matrix whose elements are themselves in a division algebra.

The algebras found by combining division algebras with algebras of all n-rowed square matrices were analyzed by Professor R. Brauer, of the University of Toronto. Professor A. A. Albert, of the University of Chicago, gave a new proof for some properties of the algebras built up by combinations of cyclic algebras. Cyclic algebras constructed from numbers with certain continuity properties were analyzed by Dr. O. F. G. Schilling, of Johns Hopkins. Certain related arithmetical devices were used by Professor Artin, of Notre Dame, for the solution of quadratic equations homogeneous in several variables.

Professor R. Baer, of the University of North Carolina, investigated the extent to which the structure of a commutative group is determined by the inter-relations of its subgroups. Dr. N. Jacobson, of the University of North Carolina, explained the structure of Lie algebras. One example of such algebras is furnished by ordinary vectors, using vector multiplication.

Considerable controversy attended the presentation of papers on Wednesday on curves and surfaces defined by algebraic equations. Professor S. Lefschetz, of Princeton, declared that many results in such geometry previously found by analytical methods could be obtained by simple algebraic devices. There was a lively discussion of the role of such methods. After the formulation by Dr. S. MacLane, of the University of Chicago, of certain algebraic tools which characterize the points on a curve, Professor O. Zariski, of Johns Hopkins, made elegant applications of such methods to the simplification of singular points of surfaces.

On the second day of the conference a dinner was held in Judson Court for visiting and local mathematicians. More than 140 enjoyed the dinner and the ensuing speeches. One speaker stated that over 90 graduate students are in residence at the university this summer.

The university's program of mathematics this summer emphasizes algebra. In addition to the regular courses, there is a seminar on algebra conducted by members of the staff.

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