

## THE N. R. C. REPORT ON ALGEBRAIC GEOMETRY

*Selected Topics in Algebraic Geometry. Bulletin of the National Research Council, Number 63.* Report of the Committee on Rational Transformations: Virgil Snyder (Chairman), A. B. Coble, Arnold Emch, Solomon Lefschetz, F. R. Sharpe, C. H. Sisam. Published by the National Research Council of the National Academy of Sciences, Washington, D. C., 1928. 395 pp.

The Division of Physical Sciences of the National Research Council in 1925 appointed a committee of six mathematicians, consisting of Virgil Snyder (Chairman), A. B. Coble, Arnold Emch, Solomon Lefschetz, F. R. Sharpe and C. H. Sisam, to draw up a report on the work to date in the field of rational transformations. The committee, after several meetings and a great amount of work both individually and collectively, submitted this report. As stated in the preface, although the main theme is the rational transformation, the committee did not confine itself strictly to this field, but considered broader topics involving or allied to geometric transformations both rational and irrational in the plane, three-space, and hyperspace. This broader treatment makes the report still more valuable.

The report consists of seventeen chapters written individually by the various members of the committee. Each chapter, complete in itself, gives a brief development of its topic, citing references to authors throughout. The references are arranged alphabetically according to the name of the author and are numbered serially. The complete list giving the author and periodical reference for each citation is found at the end of each chapter. The chapters are subdivided into sections and the section in which the reference is cited is given in a bracket at the right of the reference in the list at the end of the chapter for all chapters except 1, 2, 10, 14.

In the report, 2794 papers written by 1306 different authors are cited. References to these papers are skilfully woven into the discussion with concise appraisals of the contribution of the paper to the development of the subject. The report would be of great value if it were merely a bibliography of this size, but the pithy description of the content of the paper cited, together with the cross reference scheme described above enabling one who knows the name of the author to find the description of the paper in the report, increases its value many fold. These brief descriptions come from original sources and are therefore much more dependable than if obtained from synopses.

This comprehensive report is particularly pleasing in that so few essential typographical errors occur. This is chiefly due to the great care taken by the authors, and especially by the Chairman, in preparing the manuscript and reading proof. Practically all of the typographical errors that do occur are minor errors in punctuation, spelling of names and foreign words, size and style of type. The reviewer has not found one that would be really confusing to a careful reader.

In lines 8, 9, page 84, it is stated that Montesano proved (1905) that there exist only four symmetric types of plane Cremona transformations, namely