HANS FREDERIK BLICHFELDT

1873–1945

Beginning with his doctor's thesis in 1898 under Sophus Lie at Leipzig, *On a certain class of groups of transformation in space of three dimensions* (Amer. J. Math. vol. 22 (1900) pp. 113–120), Blichfeldt was for forty years one of America's leading research men in groups and theory of numbers.

Born in the village Illar, Denmark, January 9, 1873, he was a tall strong youth at 15 when he came to America. For six years he did manual labor, once as a section hand on a railroad, "I worked with my hands doing everything, East and West the country across." But he saved enough money to carry him through two years at Stanford University, where he received his B.A. in 1896. He was appointed as instructor in the department of mathematics at that university in 1897 and subsequently he was Assistant Professor from 1901 to 1906, Associate Professor from 1906 to 1913, Professor from 1913 to 1938, and Professor Emeritus from 1938 to 1945.

He lectured as visiting professor at the University of Chicago, summer of 1911, and at Columbia University, summers of 1924, 1925. He received numerous calls to high permanent positions in leading universities, but remained at Stanford where he was head of his department from 1927 until his retirement at 65 in 1938. He was elected to membership in the National Academy of Sciences in 1920.

He made several trips to Europe in order to maintain close scientific relations with the mathematical life of that continent. He was a faithful friend to a number of outstanding mathematicians, to mention here only such names as Frobenius, Landau, Schur, and Harald Bohr. He represented the National Academy of Sciences at the International Mathematical Congress at Zurich in 1932 and the United States Government and the American Mathematical Society at the International Mathematical Congress at Oslo in 1936. All his life he kept a very intensive interest in his native land, visited that country several times, and in 1938 the King of Denmark made him a Knight of the Order of Dannebrog. He played a leading role in Danish affairs in United States. He died on November 16, 1945, at the age of 72 from a heart attack following an operation.

Professor Harold M. Bacon rendered me effective help in compiling the following list of publications and also in obtaining some of the biographical data.

Publications of H. F. Blichfeldt

Triangles with rational sides having rational areas, Ann. of Math. vol. 7 (1896) pp. 57–60.

On a certain class of groups of transformation in space of three dimensions, Amer. J. Math. vol. 22 (1900) pp. 113–120.

A new determination of the primitive continuous groups in two variables, Trans. Amer. Math. Soc. vol. 2 (1901) pp. 249–258.

Note on the functions of the form $f(x) \equiv \phi(x) + a_1 x^{n-1} + a_2 x^{n-2} + \cdots + a_n$ *which in a given interval differ the least possible from zero*, Trans. Amer. Math. Soc. vol. 2 (1901) pp. 100–102.

On the determination of the distance between two points in space of m dimensions, Trans. Amer. Math. Soc. vol. 3 (1902) pp. 467–481.

On the order of linear homogeneous groups. I, Trans. Amer. Math. Soc. vol. 4 (1903) pp. 387–397; II, vol. 5 (1904) pp. 310–325; III, vol. 7 (1906) pp. 523–529; IV, vol. 12 (1911) pp. 39–42.

On the functions representing the distances and analogous functions, Amer. J. Math. vol. 25 (1903) pp. 331–348.

A theorem concerning the invariants of linear homogeneous groups, with some applications to substitution groups, Trans. Amer. Math. Soc. vol. 5 (1904) pp. 461–466.

On imprimitive linear homogeneous groups, Trans. Amer. Math. Soc. vol. 6 (1905) pp. 230–236.

The finite, discontinuous primitive groups of collineations in four variables, Math. Ann. vol. 60 (1905) pp. 204–231.

On modular groups isomorphic with a given linear group, Trans. Amer. Math. Soc. vol. 8 (1907) pp. 30–32.

The finite, discontinuous, primitive groups of collineations in three variables, Math. Ann. vol. 63 (1907) pp. 552–572.

Theorems on simple groups, Trans. Amer. Math. Soc. vol. 11 (1910) pp. 1–14.

A new principle in the geometry of numbers, with some applications, Trans. Amer. Math. Soc. vol. 15 (1914) pp. 227–235.

Finite groups of linear homogeneous transformations. Part 2 of textbook on *Theory and application of finite groups*, by G. A. Miller, H. F. Blichfeldt, and L. E. Dickson. New York, Wiley; London, Chapman and Hall, 1916, pp. 17–390.

Finite collineation groups, University of Chicago Press, 1917.

Report on the theory of the geometry of numbers, Bull. Amer. Math. Soc. vol. 25 (1919) pp. 449–453.

On the approximate solutions in integers of a set of linear equations, Proc. Nat. Acad. Sci. U. S. A. vol. 7 (1921) pp. 317–319.

The minimum value of quadratic forms, and the closest packing of spheres, Math. Ann. vol. 101 (1928) pp. 605–608.

The minimum values of positive quadratic forms in six, seven and eight variables, Math. Zeit. vol. 39 (1934) pp. 1–15.

A new upper bound to the minimum value of the sum of linear homogeneous forms, Monatshefte für Mathematik und Physik vol. 43 (1936) pp. 410–414.

Note on the minimum value of the discriminant of an algebraic field, Monatshefte für Mathematic und Physik vol. 48 (1939) pp. 531–533.

L. E. Dickson