H. S. WALL

1902-1971

Hubert Stanley Wall died September 12, 1971 at Austin, Texas, after a long illness.

He was born December 2, 1902 in Rockwell City, Iowa, where he attended school and graduated from high school in 1920.

In 1920 he entered Cornell College, Mount Vernon, Iowa, and in 1924 received both the B.A. and M.A. degrees. During this period the influence of one of his teachers, Professor Elmer Moots, was instrumental in turning Wall's interest to mathematics. In 1970 he was awarded an honorary doctorate.

In 1924 he entered the University of Wisconsin at Madison, where he studied under Professor E. B. Van Vleck, and received the Ph.D. degree in 1927.

Wall joined the faculty of Northwestern University at Evanston, Illinois, in 1927 and was in residence there until 1944, except for the year 1937–38 which was spent at the Institute for Advanced Study in Princeton, New Jersey.

After a two year stay at the Illinois Institute of Technology in Chicago, Wall moved to the University of Texas at Austin and served on the faculty there until his retirement in 1970.

During the years 1939–1944 Wall had collaborated with Professor Ernst Hellinger in a graduate analysis seminar in which all proofs were provided by the students. He had always been concerned with the stimulation of mathematical creativity in his students, and when he came to Texas in 1946 it was natural for him to adapt to his own teaching some of the methods of Professor R. L. Moore. His book, *Creative Mathematics*, outlines his philosophy and illustrates some of the techniques of his teaching. The book, however, does not tell the whole story. Wall's relationship with his students was unique. His confidence in the creative ability of each student and his pride in each individual achievement seemed to generate a self-sustaining chain reaction of accomplishment in each class.

Although Wall's publications were predominantly continued fraction related, his interests ranged wide through analysis and into areas of group theory and number theory. His book, *Analytic Theory of Continued Fraction*, continues to be a standard reference for the subject.

Of particular note among his contributions, to name a few, are the development of a theory of positive definite continued fractions and Jacobi (tri-diagonal) matrices, the application of continued fraction methods to function-theoretic problems, including a characterization of the Hausdorff moment problem, the extension and unification of a major segment of continued fraction convergence theory, and his work on continuous continued fractions and harmonic matrices.

He had 62 doctoral students, of whom 57 were at the University of Texas. In Hubert Wall's opinion his students were a more important contribution to mathematics than was his own research.

The following list of publications by Hubert Stanley Wall is taken from a Memorial Resolution presented to the General Faculty of The University of Texas at Austin.

<div align="center">

PUBLICATIONS
HUBERT STANLEY WALL

</div>

BOOKS:

1. *Analytic Theory of Continued Fractions,* Van Nostrand, New York, 1948.

2. *Creative Mathematics,* The University of Texas Press, Austin, 1963.

JOURNAL ARTICLES:

1. *On the Padé approximants associated with the continued fraction and series of Stieltjes,* Trans. Amer. Math. Soc. 31 (1929), 91–116.

2. *On extended Stieltjes series,* Trans. Amer. Math. Soc. 31 (1929), 771–781.

3. *On the Padé approximants associated with a positive definite power series,* Trans. Amer. Math. Soc. 33 (1931), 511–532.

4. *Convergence criteria for continued fractions,* Bull. Amer. Math. Soc. 17 (1931), 575–579.

5. *General theorems on the convergence of sequences of Padé approximants,* Trans. Amer. Math. Soc. 34 (1932), 408–416.

6. *On the relationship among the diagonal files of a Padé table,* Bull. Amer. Math. Soc. 38 (1932), 752–760.

7. *On the expansion of an integral of Stieltjes,* Amer. Math. Monthly 39 (1932), 96–107.

8. *On the continued fractions which represent meromorphic functions,* Bull. Amer. Math. Soc. 39 (1933), 942–952.

9. *Continued fractions and cross-ratio groups of Cremona transformations,* Bull. Amer. Math. Soc. 40 (1934), 578–592.

10. *On continued fractions of the form* $1 + K_1^\infty(b_i z/1)$, Bull. Amer.

Math. Soc. **41** (1935), 727–736.

11. (with Walter Leighton), *On the transformation and convergence of continued fractions*, Amer. J. of Math. **58** (1936), 267–281.

12. *Hypergroups*, Amer. J. of Math. **59** (1937), 77–98.

13. *On continued fractions representing constants*, Bull. Amer. Math. Soc. **44** (1938), 94–99.

14. *On the nth derivative of f(x)*, Bull. Amer. Math. Soc. **44** (1938), 395–398.

15. (with W. T. Scott), *Continued fractions*, Natl. Math. Mag. **13** (1939), 1–18.

16. (with W. T. Scott), *A convergence theorem for continued fractions*, Trans. Amer. Math. Soc. **47** (1940), 155–172.

17. *Continued fractions and totally monotone sequences*, Trans. Amer. Math. Soc. **48** (1940), 165–184.

18. (with H. L. Garabedian), *Hausdorff methods of summation and continued fractions*, Trans. Amer. Math. Soc. **48** (1940), 185–207.

19. (with W. T. Scott), *Continued fraction expansions for arbitrary power series*, Ann. of Math. **41** (1940), 325–349.

20. *A class of functions bounded in the unit circle*, Duke Math. J. **7** (1940), 146–153.

21. *Some recent developments in the theory of continued fractions* (Invited address), Bull. Amer. Math. Soc. **47** (1941), 405–423.

22. *A continued fraction related to some partition formulas of Euler*, Amer. Math. Monthly **48** (1941), 102–108.

23. (with H. L. Garabedian and Einar Hille), *Formulations of the Hausdorff inclusion problem*, Duke Math. J. **8** (1941), 193–213.

24. (with W. T. Scott), *Value regions for continued fractions*, Bull. Amer. Math. Soc. **47** (1941), 580–585.

25. (with J. F. Paydon), *The continued fraction as a sequence of linear transformations*, Duke Math. J. **9** (1942), 360–372.

26. (with W. T. Scott), *The transformation of series and sequences*, Trans. Amer. Math. Soc. **51** (1942), 255–279.

27. (with H. J. Greenberg), *Hausdorff means included between $(C, 0)$ and $(C, 1)$*, Bull. Amer. Math. Soc. **48** (1942), 774–783.

28. *The behavior of certain Stieltjes continued fractions near the singular line*, Bull. Amer. Math. Soc. **48** (1942), 427–431.

29. (with E. Hellinger), *Contributions to the analytic theory of continued fractions and infinite matrices*, Ann. of Math. **44** (1943), 103–127.

30. *Continued fractions and bounded analytic functions*, Bull. Amer. Math. Soc. **50** (1944), 110–119.

31. (with Marion Wetzel), *Quadratic forms and convergence regions for continued fractions*, Duke Math. J. **11** (1944), 89–102.

32. (with Marion Wetzel), *Contributions to the analytic theory of J-fractions*, Trans. Amer. Math. Soc. (1944), 373–397.

33. *Note on a certain continued fraction*, Bull. Amer. Math. Soc. **51** (1945), 930–934.

34. (with J. J. Dennis), *The limit-circle case for a positive definite J-fraction*, Duke Math. J. **12** (1945), 255–273.

35. *Polynomials whose zeros have negative real parts*, Amer. Math. Monthly **52** (1945), 308–322.

36. *Note on the expansion of a power series into a continued fraction*, Bull. Amer. Math. Soc. **51** (1945), 97–105.

37. *Continued fraction expansions for functions with positive real parts*, Bull. Amer. Math. Soc. **52** (1946), 138–143.

38. *Reciprocals of J-matrices*, Bull. Amer. Math. Soc. **52** (1946), 680–685.

39. *Theorems on arbitrary J-fractions*, Bull. Amer. Math. Soc. **52** (1946), 671–679.

40. *Bounded J-fractions*, Bull. Amer. Math. Soc. **52** (1946), 686–693.

41. (with W. T. Scott), *On the convergence and divergence of continued fractions*, Amer. J. of Math. **69** (1947), 551–561.

42. *On some criteria of Carleman for the complete convergence of a J-fraction*, Bull. Amer. Math. Soc. **54** (1948), 528–532.

43. *A modification of Newton's method*, Amer. Math. Monthly **55** (1948), 90–94.

44. *Convergence of continued fractions in parabolic domains*, Bull. Amer. Math. Soc. **55** (1949), 391–394.

45. *Note on a periodic continued fraction*, Amer. Math. Monthly **56** (1949), 96–97.

46. (with R. E. Lane), *Continued fractions with absolutely convergent even and odd parts*, Trans. Amer. Math. Soc. **67** (1949), 368–380.

47. *Hausdorff means with convex mass functions*, Proc. Amer. Math. Soc. **4** (1953), 637–639.

48. *Concerning continuous continued fractions and certain systems of Stieltjes integral equations*, Rend. Circ. Mat, de Palermo, **II** (1953), 2.

49. *Concerning harmonic matrices*, Archiv. der Math. **V** (1954), 160–167.

50. *Partially bounded continued fractions*, Proc. Amer. Math. Soc. **7** (1956), 1090–1093.

51. *Some convergence problems for continued fractions*, Amer. Math. Monthly **54** (1957), 95–103.

WALTER T. SCOTT

ARIZONA STATE UNIVERSITY, TEMPE, ARIZONA 85281