THE UNIVERSITY OF MELBOURNE ARCHIVES

NAME OF COLLECTION	Cherry, Thomas Macfarland (1989-1966)
ACCESSION NO	2011.0091
CATEGORY	University, individuals
ACTIVITY	Academics - Mathematics
DATE RANGE	1923-1965
SIZE OF COLLECTION	0.17 m [1 box]
HISTORICAL NOTE	Thomas Macfarland Cherry was born in 1898 and educated at the University of Melbourne and Cambridge University. In 1924 he was appointed temporary Associate Professor of Applied Mathematics at Manchester University and in 1927 he deputised for C.G. Darwin at the University of Edinburgh. From 1925 Cherry also delivered a series of advanced lectures in Mathematics at Cambridge. In 1929 he was appointed Professor of Mathematics at the University of Melbourne where he remained until his retirement in 1963.
DATE OF TRANSFER	November 2011
ACCESS CONDITIONS	Open
DESCRIPTION	Off-prints, typescripts 1923-c1965
NOTE ON COLLECTIONS	
NOTE ON LISTING	
LISTED BY	
DATE	

I. Ordinary Differential Equations

1. On the solution of difference equations.
   Proc.Cambridge Phil.Soc., 21 (1923), 711-729.

2. On the form of the solution of the equations of dynamics.
   Trans.Cambridge Phil.Soc., 23 (1924), 43-70.

3. Integrals of systems of ordinary differential equations.
   Proc.Cambridge Phil.Soc., 22 (1924), 273-281.

4. On Poincaré's theorem of the non-existence of uniform integrals.
   Proc.Cambridge Phil.Soc., 22 (1924), 287-294.

5. On integrals devolopable about a singular point of a Hamiltonian system
   of differential equations.
   Proc.Cambridge Phil.Soc., 22 (1924), 325-349.

6. Ditto, Part II.
   Proc.Cambridge Phil.Soc., 22 (1925), 510-533.

7. Note on the employment of angular variables in celestial mechanics.
   M.N.Royal Astronomical Soc., 84 (1924), 729-731.

8. Some examples of trajectories defined by differential equations of a
   generalised dynamical type.
   Trans.Cambridge Phil.Soc., 23 (1925), 169-200.

9. On the transformation of Hamiltonian systems of linear differential
   equations with constant or periodic coefficients.
   Proc.London Math.Soc., [2] 26 (1926), 211-230.

10. On the solution of Hamiltonian systems of differential equations in the
    neighbourhood of a singular point.
    Proc.London Math.Soc., [2] 27 (1927), 151-170.

11. On periodic solutions of Hamiltonian systems of differential equations.
    Phil.Trans.Roy.Soc.London, A 227 (1928), 137-221.

12. Topological properties of the solutions of ordinary differential equations.
    American Journal of Math., 59 (1937), 957-982.

13. Analytical quasi-periodic curves of discontinuous type on a torus.
    Proc.London Math.Soc., [2] 44 (1938), 175-215.

II. Fourier-type Expansion Theorems.

14. On expansions in eigen functions, particularly in Bessel functions.
    Proc.London Math.Soc., [2] 51 (1948), 14-45.

15. Expansions in terms of parabolic cylinder functions.
    Edinburgh Math.Proc., [2] 8 (1948), 50-65.

III. Asymptotic Expansions.

16. Uniform asymptotic expansions.
    Journ.London Math.Soc., 24 (1949), 121-130.

17. Uniform asymptotic formulae for functions with transition points.
    Trans.American Math.Soc., 68 (1950), 224-257.

18. Asymptotic expansions for the hypergeometric functions occurring in
    gas-flow theory.
    Proc.Roy.Soc. A 202 (1950), 507-522.

19. Tables and approximate formulae for hypergeometric functions, of high
    order, occurring in gas-flow theory.
    Proc.Roy.Soc. A 217 (1953), 222-234.

IV. Flow of gases.

20. Flow of a compressible fluid about a cylinder.
    Proc.Roy.Soc. A 192 (1947), 45-79.

21. Ditto, II Flow with circulation.
    Proc.Roy.Soc. A 196 (1949), 1-31.

22. Numerical solutions for transonic flow.
    Proc.Roy.Soc. A 196 (1949), 32-36.

2

23. Numerical solutions for compressible flow past a cylinder.
   C.S.I.R. (Australia) Div. of Aeronautics. Rep. A 48 (1949) 25 pp.

24. Summation of slowly convergent series.
   Proc.Cambridge Phil.Soc. 46 (1950), 436-449.

25. Exact solutions for flow of a perfect gas in a two-dimensional Laval nozzle.
   Proc.Roy.Soc. A 203 (1950), 551-571.

25a. Ditto (Abstract).
   Proc.Internat.Cong.Math. 1950, 1, 627-8.

26. Relation between Bergman's and Chaplygin's methods of solving the
   hodograph equation.
   Q.Appl.Math. 9 (1951), 92-94.

27. A transformation of the hodograph equation and the determination of
   certain fluid motions.
   Phil.Trans.Roy.Soc.London A 245 (1953), 583-626.

28. Some nozzle flows found by the hodograph method.
   J.Australian Math.Soc. 1 (1959), 80-94.

29. Ditto, Part II.
   J.Australian Math.Soc. 2 (1960), 357-367.

30. Trans-sonic nozzle flows found by the hodograph method.
   Partial Differential Equations and Continuum Mechanics, ed. R.E.Langer
   (Univ. of Wisconsin Press, 1961), 217-232.

V. Miscellaneous.

31. On Kepler's equation.
   Proc.Camb.Phil.Soc. 51 (1955), 81-91.

32. (with P.E.Lush) The variational method in hydrodynamics.
   Q.J.Mech.Appl.Math. 9 (1956), 6-21.

33. Numerical solution of a problem in forced convection.
   Proc. W.R.E.Computing Conference, June, 1957 (W.R.E., South Australia) 43, 1-13.

34. The pathology of differential equations.
   J. Australian Math.Soc. 1 (1959), 1-16.

35. The value of inoculation - a statistical inquiry.
   pp. 89-103 of J.H.L.Cumpston, Influenza and Maritime Quarantine in
   Australia (C'wlth. of Australia, Quarantine Serive, 1919.)

36. Newton's Principia in 1687 and 1937: A lecture.
   Melbourne University Press, 1937.

37. General theory of the magnetron.
   C.S.I.R. (Australia) Radiophysics Laboratory, Report MUM, 1 (1943).

38. On the probability of detection of an aircraft by radar beams.
   C.S.I.R. (Australia) Radiophysics Laboratory, Report MUM, 2 (1943).

39. Ditto, Report MUM, 3 (1944).

40. Flow and generation of heat in compressed films of viscous liquid.
   C.S.I.R. (Australia), Div. of Lubricants and Bearings,
   Explosives Report No. 8, 79 pp. (1945).

41. A lesson on number.
   Australian Mathematics Teacher, 3(1947) 33-41, 65-74

42. French Mathematics.   Light out of France (Angus and Robertson, Sydney, 1947),
   144-148.   See book in Study.

43. A mathematician looks at Physical Theory: Presidential address to Section A,
   ANZAAS, 1958.
   Australian J. Sci. 21 (1958) P17-P27.

44. Steady motions related to problems of hydrodynamic stability.
   Australian Math.Soc. Summer Research Institute (1961)
   Research Rep. II. p.IV 1-8.

45. A singular case of iteration of analytic functions: A contribution
        to the small-divisor problem.   Nonlinear Problems of Engineering,
        Academic Press. Ed. William F. Ames, 1964.

46. Infinite linear systems with homogeneous kernel of degree -1.
        J.Austral.Math.Soc. 5 (2) (1965) 129-168.

47. A paper has been published in the U.S. during 1966 but I have not got
        the title, and there is work following on to this publication which
        was almost completed before his death.   Viz ──

    Asymptotic Solutions of analytic Hamiltonian Systems
    Journal of Differential Equations

48.   In addition:
       'The Computation Laboratory and Electronic Computing Machine'
       Melbourne University Gazette, April 11, 1957
       Various reviews & Notices