

**OBITUARY**  
**CARL FELIX MOPPERT, 1920–1984**



Carl Felix Moppert died on Sunday, 16 September 1984. He was born on 7 October 1920 in Basel, went to school there and subsequently to the University of Basel and to the Eidgenössische Technische Hochschule Zürich, specializing in mathematics, physics and chemistry. In 1949 he obtained his Dr. Phil. at Basel, under the supervision of A. Ostrowski, with a thesis on Riemann surfaces. He was subsequently a school-teacher in Basel until his appointment in 1954 to a lectureship at the University of Tasmania. In 1958 he moved to a senior lectureship in the Mathematics Department at Melbourne University.

In 1967 he joined the Mathematics Department at Monash University, and apart from his several absences on study leave he remained there until his death, a period of 17 years. From Monash he took study leave on three occasions, holding appointments at the University of Tübingen in 1963–1964, and at the University of Heidelberg in 1971 and again in 1978–1979.

Carl supervised a number of students for higher degrees. Here the records may be incomplete, but they provide the following names of students who were awarded degrees under his supervision.

MSc: Brian Sherman, On ordered fields, and their completion  
by an extension of Dedekind cuts (1968)

PhD: Helen Adams, Filtrations and valuations on rings (1971)  
Brian Sherman, An analysis of ordered and orderable  
fields by Dedekind and Hölder cuts (1971)

David Hitchins, On certain properties of Dedekind  
orders and their relation to associated  $p$ -adic  
extension problems (1978)

In addition he supervised in one capacity or another Wong Sia Kow, Lewis Stone and John Zeleznikow.

He lectured mainly on algebra and geometry and theory of numbers, with occasional excursions into courses in The meaning of relativity and Thermodynamics. He took great pleasure in the many seminar series which he organized and to which he contributed. These included a long running and broadly attended seminar in 1972 on the work of K. Mahler in valuation theory, and in more recent years a seminar series on Relativity and another on Geometry. There was also a sequence of running seminars on very general issues: on Language, on Economics, on Religion, on Technology. Among the titles of talks which he gave at one time or another are: Foucault's pendulum, Goethe's theory of colours, Tessellation on the sphere, VW geometry, The sliding triangle, Captain Cook and the Moon.

As a mathematician, Carl Moppert was always more interested in ingenious and elegant arguments, and less in powerful machinery. He loved to contemplate the facts and structures of mathematics, and he loved a good theorem. His interests ranged over a variety of parts of classical mathematics, as the list of his publications shows: he made contributions to the theories of Riemann surfaces, Brownian motion, Euclidean and non-Euclidean geometry, linear algebra, fields, mechanisms. He detested the separation of mathematicians into camps, particularly the categorization of 'pure' and 'applied', and moved easily between these two aspects of the same discipline as his interest took him. His views were informed by his wide knowledge of the history of mathematics.

Carl had a flair for invention. This produced a non-toppleable crane, a thermal pump, a sundial and a driven Foucault pendulum. The last two are his monuments at Monash. The sundial was built in Engineering and installed by Carl and

Ben Laycock on one of the walls of the Union Building where it now is, a beautiful union of art and science, and often a better indicator of the correct time than most other clocks on the campus. The Foucault pendulum was built by Carl and Associate Professor Bill Bonwick, and its gradual development and improvement occupied his devoted attention over some years. Perhaps this pendulum, a project which first aroused his interest when he was 16 years old, best represents his spirit: it demonstrates in a clearly visible way a profound fact about the world, and the practical application of elegant mathematics.

Carl Moppert was a friendly, kindly man with a good sense of humour but no time for empty formality. He loved literature and music and modern paintings, and the company of his colleagues and his students.

A fund for a prize in mathematics has been established in his memory at Monash University.

We thank Dr Helen Adams and Dr John Stillwell for their help in compiling the list of publications below.

#### Publications of C. F. Moppert

1. 'Über Relationen zwischen  $m$ - und  $p$ -Funktionen', *Verh. Naturforsch. Ges. Basel* **60** (1949), 61–76.
2. 'Über eine gewisse Klasse von elliptischen Riemann'schen Flächen', *Comment. Math. Helv.* **23**, 2 (1949), 174–176.
3. 'Über eine diophantische Identität', *Comment. Math. Helv.* **25**, 1 (1951), 71–74.
4. 'Deduction of Cardano's formula by conformal mapping', *Amer. Math. Monthly* **59**, 9 (1952), 310–314.
5. 'Über einen verallgemeinerten Ableitungsoperator', *Comment. Math. Helv.* **27**, 2 (1953), 140–150.
6. (with F. Grün) 'Zur Behandlung der Brown'schen Bewegung mit Hilfe der Langevin Gleichung', *Helv. Phys. Acta* **27**, 5 (1954), 417–426.
7. 'Über das Rechnen mit Operatoren', *Elem. Math.* **9**, 4 (1954), 73–76.
8. (with F. Grün) 'Eine Bemerkung zur Langevin-Gleichung', *Experimenta* **10** (1954), 481.
9. 'Funktionenscharen im  $L_2$ ', *Math. Z.* **67** (1957), 474–478.
10. 'On a property of complex power series', *Amer. Math. Monthly* **64**, 2 (1957), 88–89.
11. 'On the Gram determinant', *Quart. J. Math. Oxford Ser. (2)* **10** (1959), 161–164.
12. 'On the notion of analyticity', *Proc. Amer. Math. Soc.* **10**, 4 (1959), 574–576.
13. 'The triangular inequality in the projective model of a hyperbolic geometry', *Amer. Math. Monthly* **67**, 8 (1960), 782–784.

14. 'Construction of a characteristic basis for a matrix', *Amer. Math. Monthly* **73**, 10 (1966), 1062–1069.
15. 'Remarks on linear differential equations', *The Mathematics Student* **35**, 1–4 (1967), 43–46.
16. 'A Self-Balancing Crane', *Mechanics and Machine Theory* **9** (1974), 359–366.
17. 'Galois theory in some function fields' (Analysis Paper 17, Monash University, 10 pp, October 1976).
18. 'Spherical pendulum and Foucault effect' (Analysis Paper 23, Monash University, 20 pp, November 1977).
19. (with W. Bonwick) 'The new Foucault pendulum at Monash University', *Q.H.R. Astr. Soc.* **21** (1980), 108–118.
20. 'Geometry of continuous motions' (Analysis Paper 29 = Geometry Paper 0, Monash University, 26 pp, January 1981).
21. Two problems in 'Open questions in mathematics—a collection of unsolved problems' (ed. D. R. Henney, George Washington University, 1981).
22. 'The Monash sundial', *Function* **5**, 5 (1981), 2–9.
23. 'Isotropic coordinates and isogonal mapping' (Geometry Paper 1, Monash University, 16 pp, September 1981).
24. (with K. H. Hunt) 'On the guidance of a lamina by algebraic directrices Part 1: Order and circularity of point paths' (*Proc. Sixth World Congress on Theory of Machines and Mechanisms*, New Delhi, December 1983, 57–60).
25. (with K. H. Hunt) 'On the guidance of a lamina by algebraic directrices Part 2: Tangents, asymptotes, applications' (*ibid.* 61–64).
26. 'Generating the group of hyperbolic motions by powers of two parallel displacements', *Geom. Dedicata* **14** (1983), 141–144.
27. 'The group of rotations of the sphere' (Geometry Paper 8, Monash University, 8 pp, January 1983).
28. 'The group of rotations of the sphere: generators and relations', *Geom. Dedicata* **18** (1985), 59–65.
29. Two rotations generate all Euclidean motions and all elliptic motions, *Geom. Dedicata* **18** (1985), 275–280.
30. 'The *M*-pump', *Function* **8**, 4 (1984), 2–7.

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