SELECT BIBLIOGRAPHY OF WILLIAM C. KNEALE

1948. *Boole and the revival of logic*, Mind (n.s.) **57**, 149-175.

1949. *Probability and Induction*, Oxford, Clarendon Press; reprinted, 1952, 1963.

1956. *Boole and the algebra of logic*, Notes and Records of the Royal Society of London **12**, 53-63.

1956. *The province of logic*, in H.D. Lewis (editor), *Contemporary British Philosophy, Third series* (London, Allen & Unwin; New York, Humanities Press), 235-261.

1956. *Gottlob Frege and mathematical logic*, in A.J. Ayer, et. al., *The Revolution in Philosophy* (London, Macmillan), 26-40.

1962. (with Martha Kneale), *The Development of Logic*, Oxford, Clarendon Press; 2nd edition, 1984. Italian translation by A. Conte, *Storia della logica*, Torino, Einaudi.

1971. *Russell's paradox and some others*, British Journal for the Philosophy of Science **22**, 321-328; reprinted in G.W. Roberts (editor), *Bertrand Russell Memorial Volume* (London, Allen & Unwin; New York, Humanities Press), 34-51.

IN MEMORIAM – GEORGE FREDERICK JAMES TEMPLE

George F.J. Temple died on 30 January 1990 at age 90. He was Professor of Mathematics at King's College, London from 1932 to 1953 and Sedelian Professor of Natural Philosophy at Oxford from 1953 to 1968. His primary area of researches were mathematical physics, especially quantum theory and aerodynamics. He was also a fellow of the Royal Society and a member of the London Mathematical Society (LMS). He served on the council of the LMS from 1932 to 1937, its librarian from 1946 to 1951, its vice-president from 1933 to 1935 and from 1953 to 1954, and its president from 1951 to 1953.

Temple's interest in history was formed late. On 17 December 1971, he delivered the inaugural lecture to the newly formed British Society for the History of Mathematics on the topic "Geometry from Riemann to Whitehead." As an emeritus professor, he devoted much of his time to writing his book *100 Years of Mathematics: A Personal Viewpoint* (New York, Springer-Verlag New York and London, Duckworth, 1981). This history, written for the working mathematician, covers the period from 1870 to 1970, with excursions as required for continuity and background into the mathematical developments of the mid-nineteenth century. It begins with Part I, on "Numbers", devoted to a consideration of the history of infinitesimals, the real numbers, and the transfinite numbers, viewed from the standpoint of foundations of analysis. Part II, on "Space", traces the developments from the development of multilinear algebra to its application to geometry and along the

way considers projective geometry and metageometry, and the axiomatics foundations of geometry, before going on to consider topology and the early history of functional analysis. Part III covers topics in the history of analysis. The final chapter in Part III is devoted to the history of mathematical logic.

The central themes of Temple's history were defined and summarized in the concluding chapter (pp. 281-282). There, he wrote that the there are "two characteristics of the development of mathematics during the period under survey" to be noted:

> (1) A hundred years ago mathematicians were beginning to realize that rigorous proofs of theorems (especially in analysis) depended utterly on clear and effective definitions (such as Dedekind's definition of real numbers). But the study of basic subjects, such as the foundations of geometry and mathematical logic, which require elementary and undefinable concepts, replaced definitions by axioms, as in Hilbert's reformulation of Euclid. A set of axioms, however, is useless without a proof of consistency, and this is usually algebraic in character. The latest stage is thus the creation of mathematical structures almost entirely free from axioms. ...
> (2) In the 1870s mathematics consisted of a number of separate and diverse disciplines, such as arithmetic, algebra, geometry and infinitesimal calculus. In the 1970s this is no longer the case. There has been an enormous increase in the volume of material which a mathematician has to master, but there are no longer any boundaries between different 'branches' of the subject, which are now so closely interdependent that no mathematician can afford to specialize. ...

The first of these characteristics is of particular interest in itself to historians of logic, while the second characteristic provided Temple with an "external" reason for caring about and considering the history of logic from the standpoint of the question about the connections between logic and mathematics.

Temple believed that for the working mathematician such as himself, the major question concerning logic is its relation to mathematics. He began his discussion of the history of mathematical logic in *100 Years of Mathematics* by asking (p. 255) whether "these subjects are "interrelated or independent" and, "if related, is one subordinate to the other, or are they mutually dependent?" Temple (p. 255) listed five possible replies to this question; they are:

(a) 'Mathematical logic', i.e. literally understood as logic expressed in mathematical language.
(b) 'Logical mathematics', i.e. mathematics developed as a part of formal logic.

(c) 'A-logical mathematics', i.e. mathematics independent of formal logic.
(d) Mathematics as essentially incomplete.
(e) Mathematics as repudiating classical logic.

The history of logic which followed was focussed about these five viewpoints and was admitted by Temple to therefore be incomplete. It gives a sketch of the history of mathematical logic from Boole to Gödel and slightly beyond, with heavy emphasis in particular on foundational questions and special focus on the work in particular of Frege, Russell, Hilbert and Brouwer.

He completed work on a second edition of his history shortly before his death.

The Editor

IN MEMORIAM – RICHARD S. PIERCE (1927-1992)

Richard Scott Pierce died on 15 March 1992. He was born on 26 February 1927 and was educated at the California Institute of Technology, where he received his B.S. in 1950 and his Ph.D. in 1952.. In 1952-1953, he was a Fellow of the Office of Naval Research at Yale University and a Jewette Research Fellow at Harvard University from 1953 to 1955. He was at the University of Washington from 1955 to 1970, at the University of Hawaii from 1970 to 1975, and at the University of Arizona from 1975 until his death.

Pierce's specialties included ring theory, abelian groups, and especially lattice theory and Boolean algebras. His article "Countable Boolean algebras" forms Chapter 21 of the 3-volume *Handbook of Boolean Algebras.*

SELECT BIBLIOGRAPHY OF R.S. PIERCE

1953. *The Boolean algebra of regular open sets*, Canadian J. Math. **5**, 95-100.

1957. *Distributivity in Boolean algebras*, Pacific J. Math. **7**, 983-992.

1958. *A note on complete Boolean algebras*, Proceedings of the American Mathematical Society **9**, 892-896.

1958. *Distributivity and normal completion of Boolean algebras*, Pacific J. Math. **8**, 133-140.

1959. *A generalization of atomic Boolean algebras*, Pacific J. Math. **9**, 175-182.