

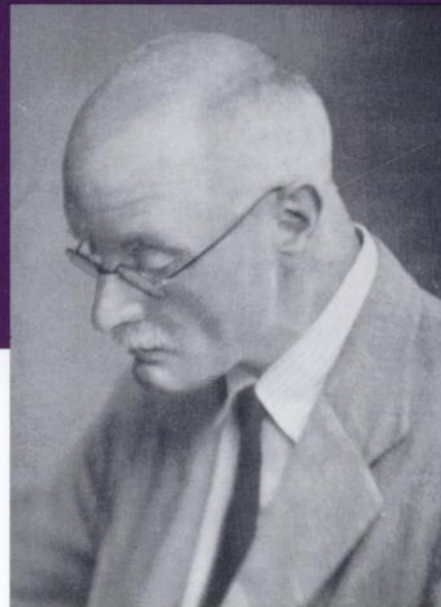
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# Cancer Research

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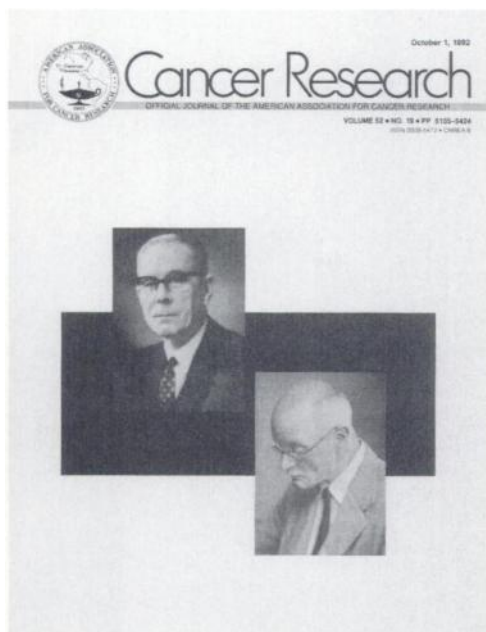
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# COVER LEGEND

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This issue's cover commemorates the 60th anniversary of a landmark in cancer research as well as in organic chemistry, *i.e.*, the identification of benzo(*a*)-pyrene as the carcinogen of major potency in coal tar. This achievement, by E. L. Kennaway (*right*), J. W. Cook (*left*), and coworkers in 1932 (Proc. R. Soc. B., *111*: 455–484, 1932; Cancer Res. Covers, *28*: February, August, 1968) touched off unprecedented advances, opening up new chapters in both the chemistry of polycyclic hydrocarbons and the environmental etiology of human cancer. Fascinating accounts of the chemistry, as well as biographical information on Kennaway by Cook and on Cook by J. M. Robinson, are in the Biographical Memoirs of the Fellows of the Royal Society of London, *4*: 139–154, 1958, and *22*: 71–103, 1976, respectively.

The motivation for this discovery was the already long-known high risk of scrotal cancer in chimney sweeps reported by P. Pott in the 18th century and experimental verification by K. Yamagiwa and K. Ichikawa of the induction of skin tumors in rabbits by application of coal tar. Leading to their epoch-making discovery, Kennaway and coworkers found that var-

ious natural and synthetic tars were carcinogenic to the skin of various species [Br. Med. J., *2*: 1–4, 1925], and later a specific compound, 1,2,5,6-dibenzanthracene [dibenz(*a,h*)anthracene], previously synthesized by E. Clar, was found to be carcinogenic. However, the most potent carcinogenic tar fractions had been noted by W. V. Mayneord to have a characteristic fluorescence spectrum, and by a heroic fractionation of two tons of coal tar pitch by I. Hieger, the fluorescent material identified as 3,4-benzpyrene [benzo(*a*)pyrene] was ultimately isolated, identified by analysis, and confirmed by synthesis [Br. Med. J., *2*: 749–752, 1955].

E. L. Kennaway received the M.D. degree from Oxford in 1911 and the D.Sc. in 1915. After advanced training and experience in pathology, he was appointed Director of the Research Institute of the Free Cancer Hospital, now the Chester-Beatty Institute of the Royal Cancer Hospital, London, in 1931, carrying with this appointment a professorship of Experimental Pathology at the University of London. He held these posts until 1946, when he retired. He continued to work at St. Bartholomew Hospital until his death in 1958.

J. W. Cook was a brilliant student in chemistry at University College. After graduating with honors, he took a post as lecturer in organic chemistry at the Sir John Cass Technical Institute of the University of London, receiving in rapid succession the M.Sc. in 1921, the Ph.D. in 1923, and the D.Sc. in 1925. He joined Kennaway and his team of Hieger, Mayneord, and others in 1931, and the next 10 years marked the remarkable output of this laboratory concerned with polycyclic hydrocarbon carcinogenesis. In 1939, Cook left this field when he was appointed Regius Professor of Chemistry at the University of Glasgow. During the later period of his life he was increasingly involved in administrative matters, with recognized success. He died in 1975.

We are greatly indebted to Regina Schoental for suggesting this topic and for providing photos and the Biographical Memoirs of the Fellows of the British Royal Society.

Sidney Weinhouse