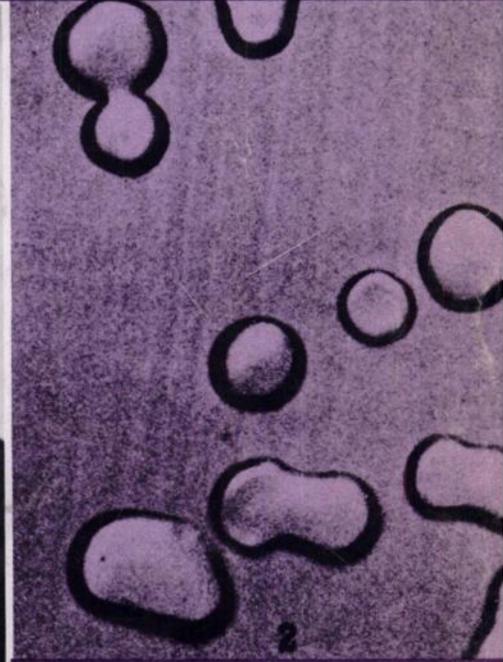
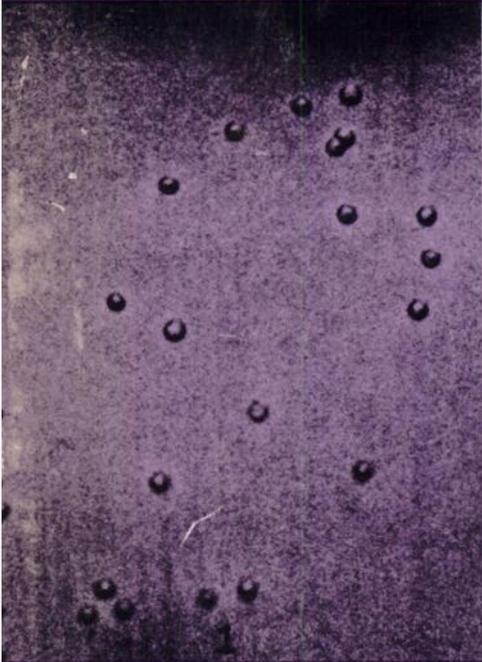


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COVER LEGEND

A milestone in molecular biology was the demonstration in 1944 that transformation of pneumococci from one type to another could be induced by deoxyribonucleic acid (DNA), thus establishing that DNA is the chemical material directing heredity.

The discovery was made at the Rockefeller Institute in New York by O. T. Avery and two young associates, C. M. MacLeod and M. McCarty. It was published in the *Journal of Experimental Medicine* (79: 137-158, 1944). The work was based on earlier observations of pneumococcal transformation, by Fred Griffith (*J. Hyg.*, 27: 113-159, 1928).

Photograph of pneumococcal colonies, reproduced by permission from the original article by Avery *et al.*, shows, to the left of *upper portrait*, colonies of the attenuated, nonencapsulated R variant of pneumococcus Type II, on blood agar, magnified $\times 3.5$. *Right of upper portrait* shows colonies of the same cells after induction of transformation by addition of DNA isolated from Type III pneumococci. The smooth, glistening mucoid colonies are characteristic of the encapsulated, virulent (S) cells of pneumococcus Type III and readily distinguished from the small rough colonies of the parent R strain.

Oswald Theodore Avery (1877-1955) (*upper portrait*) was born in Nova Scotia, attended Colgate University, and obtained his M.D. at

Columbia University in 1904. He joined Rockefeller Institute in 1913 and remained there until his retirement in 1947. An obituary by R. D. Hotchkiss appears in *Genetics*, 51: 1-10, 1965, from which the portrait is reproduced by permission.

Colin Munro MacLeod (1909-1972) (*lower left*) was born in Nova Scotia, and graduated with an M.D. from McGill University in 1932. He joined Rockefeller Institute in 1934 and in 1941 became Chairman of the Department of Microbiology at New York University. He held posts at the University of Pennsylvania (1956-1960), Office of Science and Technology, Executive Office of the White House (1963-1966), Commonwealth Foundation (1966-1970), and the Oklahoma Research Foundation (1970-1972). The portrait is reproduced by permission from *The Medical Violet*, 21: 50, 1944. An obituary, by R. Austrain, appears in *Journal of Infectious Diseases*, 127: 211-214, 1973.

Maclyn McCarty (*lower right*) was born in 1911 in Indiana, graduated from Stanford University in 1933, and obtained an M.D. from Johns Hopkins University in 1937. He joined the Rockefeller Institute in 1941 and in 1965 became Vice President of Rockefeller University and Physician-in-Chief of its hospital. The portrait is reproduced by permission from Eli Lilly's *Research Today*, 3: 66, 1946.