

colour and quality of crumb, and were classified as follows :

Quality of bread	Number of loaves	Per cent of total
Good	300	77.4
Fair-good	55	14.2
Fair	22	5.7
Poor	11	2.8

Survey of commercially baked bread. During the same period, 775 samples of bread purchased from bakers in different parts of Great Britain have been examined and judged for quality (commercial standards) with the following results :

Quality of bread	Number of loaves	Per cent of total
Good	87	11.2
Fair-good	386	49.8
Fair	218	28.1
Poor	84	10.9

Although there is a marked difference between the average quality of bread sold and the bread that could be made from the flour available, the great difficulties of the baking industry—particularly that of labour—must not be overlooked.

This work was carried out at the Cereals Research Station, Ministry of Food, St. Albans.

¹ *Nature*, 154, 788 (1944).

² *Nature*, 154, 582 (1944).

OBITUARY

Dr. K. J. W. Craik

KENNETH CRAIK was born on March 29, 1914. He died as the result of an accident on V.E.-Day, May 8, 1945. Into this brief period he managed to pack achievements and promise far beyond the range of most people whose span of life is normal. His school was Edinburgh Academy. He was almost wholly on the Classical side. At seventeen he entered the University of Edinburgh. Here he read philosophy with distinction, was given his first taste of psychology by Prof. James Drever, and won the Hamilton and then the Shaw Fellowships. By now he had developed many hobbies, collecting all kinds of natural objects, constructing models, learning the accurate and minute use of tools, and developing a wide, lively and rather unconventional interest in the methods of natural science and the results of their application.

In the autumn of 1936 Craik joined the Cambridge Psychological Laboratory as a research student. It was his chief desire to undertake investigations which would bring together physical, physiological and psychological interests and methods in intimate relation. Naturally he turned to the study of the special senses. He chose 'visual adaptation' as his general problem, and devised and carried out many new experiments dealing with bright- and dark-adaptation, with those conditions at and above the threshold under which the human eye is most keenly discriminative, and with some of the phenomena of visual after-images. In 1940 he received the Ph.D. degree, and a year later, when he had considerably enlarged his dissertation, and added, in particular, a section describing a number of new and exceedingly ingenious scientific instruments for the investigation and measurement of a variety of sensory and motor functions, he was elected to a fellowship at St. John's College. Under war-time arrangements, the fellowship was suspended, and Craik, still keeping his Cambridge

headquarters, embarked upon four and a half years of strenuous and devoted national service. In 1944 the Medical Research Council, for which he had carried out many of his most remarkable investigations, decided, with the concurrence of the University, to establish at Cambridge a Unit for Research in Applied Psychology. Its home was the Cambridge Psychological Laboratory, and Craik was made its first director.

No mere list of dates and honours can convey any adequate impression of Craik's vivid and vital personality, or of his promise and power. He would meet people of every rank and station in life, and of the most diverse interests and skill, and in a few minutes produce an unforgettable impression of unassuming but complete mastery. To him and to his work all three of the Fighting Services and several of the departments of civil defence owed far more than can yet be told. As his reputation rapidly grew, and as more and more problems accumulated which required for their solution a knowledge of human responses to the signals and controls of the instruments of war, it became almost a matter of course, in scientific and research units scattered all over the country, to say "Ask Craik, he'll know." He generally did. If he did not, he would set to work to find out. Wherever he was required he went with a tireless spirit and an indomitable good temper. He took the greatest risks, at sea, on land and in the air, and enjoyed them all.

One remarkable character stamped almost all Craik's work. He would take perfectly specific questions, such, for example, as the most effective design of a particular radar display, and find in the answer some fruitful suggestions for fundamental scientific advance. At first, as a natural development of his earlier work, he was chiefly concerned with visual problems, particularly with vision at night or in conditions of bad visibility, with the design and placing of special lighting systems, and with how to arrange visual displays on many types of mechanical and electrical instruments so as to promote ready and accurate interpretation. In war and in peace, in the laboratory or in the world outside, visual signals and displays are generally used to guide operational control, and perhaps most frequently of all to set up voluntary movements in a human operator. Inevitably, therefore, Craik became more and more interested in the mechanics of bodily activity and the fundamental characteristics of voluntary movement. When the details of his work in this direction become publicly available, it will be found that they open up a vast, and largely a new, field of research.

Craik's contacts were wide and his friends many. But only those who knew him well at work, and at play, can fully appreciate the fineness of his mind and the complete honesty of his character. In experiment he was silent, absorbed, concentrated. In the workshop he showed amazing speed, unflinching resource and beautiful craftsmanship. Through many a long night of fire-watching he planned and constructed the instruments which he and others with him used to great effect. When the work was done, he flung himself into any game or discussion or party that offered, or rushed off on a journey or a visit with equal enthusiasm.

Craik's work will continue. There is no doubt about that. The Unit which he led is on the move. Whatever of good in scientific achievement it accomplishes will be the tribute which he himself would most have desired.

F. C. BARTLETT.