A statistical analysis of the material reviewed in this article is given in Fig. 1.

Finally, it must be stated that it is not possible to identify positively any one of the fossil skulls found in Bed I, or the base of Bed II, as representing the makers of the Oldowan. Hominid remains have been found on living floors, directly associated with cultural material, and also at places where there were no artefacts, although they occur elsewhere at the same horizon. Furthermore, at FLK I, *Homo habilis* remains appear to have come from the same occupation level on which the australopithecine '*Zinjanthropus*' was found². It seems highly improbable that the two types of early hominids co-existed at the same camp, and it must be assumed that one represents the occupant of the site and the other an intruder or victim.

The debris on the FLK I floor and at other sites indicates that a substantial amount of meat was consumed, and in this respect the australopithecine, with a dentition evidencing a largely vegetarian diet, is unlikely to have

been responsible. It appears even more improbable that a non-meat-eating creature would have required the variety of stone tools which are found in the Oldowan, or would have had the ability to make them, whereas the inception of hunting, even by the most primitive methods, would necessarily create a need for a variety of cutting tools and weapons.

Although the australopithecine may well have made simple 'tools' to meet his requirements, I am of the opinion that the larger-brained *Homo habilis*, whose hand bones also indicate a degree of manual dexterity, is most likely to have been responsible for the Oldowan.

¹ Leakey, L. S. B., *Olduvai Gorge* (Cambridge University Press, 1951).

² Leakey, L. S. B., *Olduvai Gorge* (Cambridge University Press, 1951).

³ Leakey, L. S. B., *Olduvai Gorge* (Cambridge University Press, 1951).

⁴ Leakey, L. S. B., Evernden, J. F., and Curtis, G. H., *Nature*, **191**, 478 (1961).
Fleischer *et al.*, *Science*, **148**, 72 (1965).

⁵ Hay, R. L., *Science*, **139**, 829 (1963).

⁶ Leakey, L. S. B., *Olduvai Gorge 1951-61* (Cambridge University Press, 1965).

⁷ Tobias, P. V., Leakey, L. S. B., Leakey, M. D., and Napier, J. R., *Nature* **202**, 3 (1964).

NEWS AND VIEWS

Electronics Research and Development (Telecommunications) in the Ministry of Aviation :

Mr. J. S. Shayler

MR. J. S. SHAYLER has recently been promoted to deputy chief scientific officer and appointed as director of electronics research and development (telecommunications) in the Ministry of Aviation. He was educated at William Hulme Grammar School, Manchester, and the University of Manchester, where he took an honours degree in electrical engineering in 1938. He then joined the Royal Naval Scientific Service at H.M. Signals School, Portsmouth (which later became the Admiralty Signals Establishment and then the Admiralty Signals and Radar Establishment), where he stayed until 1949, developing high-power shipborne metre-wave radar transmitters and radar displays including early work on data handling. From 1949 until 1951 he worked on search-type asdics with rapid all-round cover at H.M. Underwater Detection Establishment, Portland. He then moved to the Services Electronic Research Laboratories, Baldock, where he worked on the application of millimetre waves, particularly 8-mm waves, and was responsible for building a ground-based lock-follow 8-mm continuous wave radar, which proved the feasibility of the system and was used to measure the spectrum of aircraft returns. From 1955, Mr. Shayler worked on the project studies of the problems of operating new naval aircraft from aircraft carriers at the Naval Air Department, Royal Aircraft Establishment, Bedford, until in 1958 he became deputy head of the Blind Landing Experiment Unit at the Establishment. He was appointed head of the Unit in 1961 and continued as such until his present appointment. At the Unit he was responsible for the research and development of all aspects of landing aircraft in reduced visibility, but was particularly involved with the application of automatic landing to civil aviation.

Physics in the Queen's University, Belfast:

Prof. K. G. Emeleus

PROF. KARL GEORGE EMELEUS will retire this year from the chair of physics at the Queen's University, Belfast. Emeleus studied in the University of Cambridge and stayed there for doctorate work in Rutherford's laboratory under the supervision of Prof. Chadwick. After a short time spent in Prof. Appleton's department in King's College, London, he moved in 1933 to Belfast. Prof.

Emeleus has devoted his research to the field of "gaseous electronics" embracing plasma physics and electronics. At the time when he started his investigations, this field was little understood. As a consequence, Prof. Emeleus has pioneered in many subjects. His major interests included work on the particle counters of the Wilson chamber; investigations on the application and development of Langmuir probe technique; analysis of the hot and cold cathode glow discharges by means of probes; investigation of the conditions under which forbidden particle transitions can be produced in the laboratory; the introduction of the concept of the subnormal discharge and its experimental and theoretical analysis; the theory of cathode sputtering and chemical reactions in glow discharges; and, particularly, during the past twenty-five years, his thorough investigations in the field of oscillations and plasma turbulence. He was one of the first to recognize the importance of these two phenomena which are now so widely investigated. In addition to nearly one hundred original papers, Prof. Emeleus has written summarizing articles and in particular a book on the conduction of electricity through gases which, although it was first published about twenty-five years ago, is still a valuable introduction to the subject. The pleasant personality of Prof. Emeleus made it a pleasure to work with him. His sincere scientific desire and his able understanding have given the spark of scientific excitement to many of his students.

Prof. D. J. Bradley

DR. D. J. BRADLEY, at present reader in physics at the Royal Holloway College, University of London, has been elected to the chair of physics in the Queen's University, Belfast, in succession to Prof. K. G. Emeleus. Dr. Bradley is a native of Northern Ireland, where he received his grammar school education, and after a teacher training college course (1945-47) he taught in primary schools in Londonderry from 1947 to 1953. He then moved to England and, while teaching in a grammar school at Hitchin and in the London County Council Teaching Service, he took a University of London external B.Sc. (Special) in mathematics by part-time study at Birkbeck College. He followed this with an internal B.Sc. (Special) in physics with first class honours, also at Birkbeck, in 1957. In 1957 he was appointed assistant lecturer at Royal Holloway College where, under the influence of Prof. S. Tolansky, he acquired a