making and using of instruments and apparatus in connexion with experimental research in physics. It is illustrated with portraits of three members of the celebrated van Musschenbroek family and is fully documented with literature references. For many years the laboratory of Kamerlingh Onnes has been a famous training school for young instrument makers and glass-blowers. Perhaps nowhere else in the world has so much attention been given to the development of this side of the work which is required in a great laboratory of experimental research in physics. It is therefore particularly appropriate that Dr. Crommelin should deal with this subject in his inaugural address, which can be heartily recommended to all who take an interest in the history of physical experimentation.

IN the Report of the Rhodesia Museum, Bulawayo, for 1924, the curator, Dr. G. Arnold, records the finding of several palæoliths from an ancient land surface now covered by 15-20 feet of flood-silt from the Umgusa River. He believes "that these implements, mostly of a Chellean and Acheulian facies, were fashioned by the predecessors and contemporaries of Broken Hill Man."

APPLICATIONS are invited for the following appointments, on or before the dates mentioned: A part-time research demonstrator in mathematics at University College, Swansea—The Registrar, University College, Singleton Park, Swansea (July 15). Museum assistant and demonstrator in zoology at Birkbeck College—The Secretary, Birkbeck College, Fetter Lane, E.C.4 (July 21). Professor of electrotechnics in University of the Witwatersrand, Johannesburg—Secretary, Office of the High Commissioner for the Union of South Africa, Trafalgar Square, W.C.2 (July 31). Five appointments in the School of Dental Surgery, Cairo, namely, superintendent and lecturer in metallurgy and materia medica, lecturer in surgery and pathology, assistant lecturer in surgery and pathology, lecturer in mechanics and orthodontia, and a mechanic—The Under-Secretary of State, Ministry of Education, Cairo (August 14). Professor of organic chemistry and director of the chemistry department, Armstrong College, Newcastle-upon-Tyne—The Registrar (August 15). Director of the Rubber Research Institute in the Malay States—The Private Secretary (Appointments), Colonial Office, 38 Old Queen Street, Westminster, S.W.1 (August 31). A reader in biology in the University of Hongkong—The Chief Medical Officer, Ministry of Health, Whitehall, S.W.1 (September 1). Professor of public health in the University of Edinburgh—The Secretary (September 15). Laboratory assistant for the Mobile Unit, Government Laboratory, Gold Coast—Crown Agents for the Colonies, 4 Millbank, Westminster, S.W.1.

Our Astronomical Column.

DISCOVERY OF A TENTH MAGNITUDE OBJECT.—A telegram from the International Astronomical Union Bureau, Copenhagen, announces the discovery of an object of the tenth magnitude. Its position on June 28 at $1^h\ 37{\cdot}0^m$ G.M.T. (new) was R.A. $0^h\ 23^m\ 28^s$, N. Decl. 0° 41′. Daily motion $+1^m\ 48^s$, N. 14′. The motion is rather large for a minor planet, unless it should be of the Eros type.

M. Delporte apparently took the plate in the search for Tempel-Swift's periodic comet, using the ephemeris in the British Astronomical Association Handbook. However, as a later examination makes the probable date of perihelion March 1926 (see B.A.A. Journ., vol. 35, p. 159), the object is not likely to be identical with that comet. No further observations are to hand at the time of writing.

THE ROYAL OBSERVATORY, GREENWICH.—Dr. J. L. E. Dreyer contributes an article to the *Nineteenth Century* for July, which summarises the work done at Greenwich during the 250 years of its existence, and emphasises the vagueness of the knowledge of the heavens that existed at the time of its foundation. Tycho Brahe's star catalogue was then the best available, and the best lunar tables differed a quarter of a degree or more from the heavens. Flamsteed's observations of the moon were of great assistance to Newton for comparison with his gravitational theory. Dr. Dreyer vindicates Flamsteed against the charge of withholding these observations from Newton.

The splendid work of Bradley is given due prominence, credit being also given to Bessel and Auwers, who brought the results into a form that later astronomers could utilise. The development of the work of the Observatory under Airy and the further extensions made since his time are also described.

Dr. Dreyer is well known as an astronomical historian, and he has a congenial subject in dealing with the remarkable advance in knowledge since 1675, in which Greenwich has played a considerable part.

THE PHYSICAL STATE OF THE STARS.—While insisting on the incompleteness of the available observational material, Dr. A. Brill, in the *Zeitschrift für Physik* of March 21, attempts to deduce, on the basis of the Eddington theory, general regularities in the connexion between spectral type, surface temperature as deduced from colour and from energy distribution in the spectrum, absolute brightness, mass and other physical magnitudes for a very large number of dwarf and giant stars. It was found that the logarithm of K, Eddington's constant, which determines the mass absorption coefficient k in the interior of a star, only varies from 27·41 to 27·69 between the different spectral classes. $k\sqrt{\epsilon}$ is nearly constant for all stars, where ϵ is the energy radiated in unit time per gram. The following table, abridged from that in the original paper, gives some of the results obtained. Super giants are not considered.

Spectral Class.	Temp. °C	M(vis).	R. cm.	Mass. gm.	g cm./sec.^{2}	ρ gm./cm.^{3}
DWARFS.						
O	$28{\cdot}7\times10^3$	− 4·00	711×10^9	738×10^{32}	$9{\cdot}70\times10^3$	$4{\cdot}9\times10^{-2}$
B_0	21·4 ,,	− 1·30	241 ,,	154 ,,	17·7 ,,	$2{\cdot}6\times10^{-1}$
A_0	11·8 ,,	+ 0·90	170 ,,	54·7 ,,	12·6 ,,	$2{\cdot}7\times10^{-1}$
F_0	7·76 ,,	+ 2·65	143 ,,	32·2 ,,	10·5 ,,	$2{\cdot}7\times10^{-1}$
G_0	6·32 ,,	+ 4·50	90·8 ,,	21·3 ,,	17·2 ,,	$6{\cdot}8\times10^{-1}$
K_0	5·23 ,,	+ 6·35	59·7 ,,	15·1 ,,	28·1 ,,	1·7
M_0	3·79 ,,	+11·00	19·2 ,,	6·89 ,,	124 ,,	23
GIANTS						
G_5	4·98 ,,	+0·25	1150 ,,	79·1 ,,	0·399 ,,	$1{\cdot}2\times10^{-3}$
K_0	4·57 ,,	+1·55	824 ,,	56·0 ,,	0·548 ,,	$2{\cdot}4\times10^{-3}$
K_5	3·62 ,,	+0·75	2550 ,,	99·5 ,,	0·102 ,,	$1{\cdot}4\times10^{-4}$
M_0	3·52 ,,	+0·25	3150 ,,	112 ,,	0·0757 ,,	$8{\cdot}7\times10^{-5}$

M(vis) is the visual absolute brightness in magnitudes, R the radius, g the gravitational acceleration at the surface, and ρ the density.