

Table 2. CORRELATION BETWEEN THE WÜRM CHRONOLOGY AND THE KALAMBO SEQUENCE

Stages of the Würm Glacial	Number of the Kalambo samples	Climate	<sup>14</sup> C determination B.P.
Maximum of young Würm	764, 765, 766, 2347	Cool, moist	±9,550
Paudorf Interstadial	2349, 2351	Warmer and probably wetter	27,000
Temperature oscillations of the Middle Würm	2365	Probably cooler and wetter	30,000 ±40,600
	2378	Warm and probably drier	43,000 ±3,300
	2278, 2276, 2277, 767	Present-day temp. warmer, drier	
	2380, 2381, 2382, 768, 769	Cooler, wetter	
	2236, 2288, 2342, 2343	Cooler, wetter	
	Brörup Interstadial	780, 781, 2293, 774, 2383	Warmer, drier

The transport of pollen of Podostemaceae by water can give us important information on this matter. Plants from this family (*Tristicha* and *Sphaerostylax*) occur on many places on boulders in the river bed, especially in the Sansia Falls some distance above the site of the excavation. In Table 3 the samples have been arranged in a sequence of increasing percentage of podostemaceous pollen to see whether there does exist any correlation between the transport of pollen by water as expressed by the numbers of this pollen and certain types of climate. Table 3 shows that this correlation does not exist.

It is possible that during some of the cooler periods the temperature higher up in the River valley was too low

Table 3. COMPARISON BETWEEN RIVER ACTIVITY AND POLLEN SPECTRA

No. of sample	Podostemaceous pollen (%)	Type of vegetation
768	1.7	cool
769a	9.1	cool
2203	10.8	warm
769b	11.5	cool
767	13.5	warm
2288	13.9	cool
2351	17.0	warm
2293	20.5	warm
2383	28.6	warm
780, 781	34.8	warm
2382	63.1	cool
774 top	100.0	warm
774 bottom	142.9	warm

for these plants to grow. Table 3 shows, however, that high percentages of podostemaceous pollen occur sometimes in spectra of cooler vegetation types, though more often in 'warmer spectra'. It is, therefore, accepted that river transport of pollen cannot have had an appreciable influence on the fossil spectra.

It is only possible to give an approximation for the decrease in temperature which has occurred during the period under consideration. During the coldest period the vegetation on the Kalambo site was replaced by the open woodland that occurs at present between altitudes of 1,800 and 2,100 m (5,400–6,300 ft.). This would mean a downward shift in vegetation belts of 600–900 m (1,800–2,700 ft.). Prof. H. Flohn has been kind enough to estimate the decrease in temperature involved in the range 3°–5° C. No radiosonde observations are available for this area, but the surrounding stations indicate that this estimate is reliable. It is well in accordance with the figure of 5.1° C which he calculated for the pollen result of Chorangani<sup>1</sup> and it comes within the same limits as the results for north-eastern Angola<sup>2</sup>.

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<sup>1</sup> Bakker, E. M. van Zinderen, *Nature*, **194**, 201 (1962).

<sup>2</sup> Bakker, E. M. van Zinderen, and Clark, J. D., *Nature*, **196**, 639 (1962).

<sup>3</sup> Clark, J. D., *Actes IV<sup>e</sup> Congrès Pan-Afric. Préhistoire et Etude Quat. Tervuren*, Section III, 303 (Musée Royal de l'Afrique Centrale, Annales, Serie IN-8°, Sciences Humaines No. 40, 1962).

<sup>4</sup> Cooke, H. B. S., *Geol. Soc. South Africa Bull.*, **60**, Annexure (1958).

<sup>5</sup> Flint, R. F., *Geol. Mag.*, **96**, 265 (1959).

<sup>6</sup> Woldstedt, P., *Eiszeitalter Gegenw.*, **13**, 115 (1962).

## NEWS and VIEWS

### Chairman of the Council for National Academic Awards:

Sir Harold Roxbee Cox

SIR HAROLD ROXBEE COX, chairman of the Metal Box Co., has been appointed chairman of the Council for National Academic Awards. Sir Harold succeeded Lord Hives as chairman of the National Council for Technological Awards in 1960, and among his other appointments, he is chairman of the Council for Scientific and Industrial Research. The setting up of the new Council for National Academic Awards was recommended by the Committee on Higher Education under Lord Robbins in order to provide additional opportunities of obtaining degrees for students in regional and other colleges of further education which would not be able to award their own degrees. It will be empowered to award degrees not only in the field of technology, but in the sciences, business and social studies and other subjects.

### The Institute of Physics and the Physical Society: Appointments and Awards

THE following appointments and awards for 1964 have been made by the Institute of Physics and the Physical Society: *Guthrie Lecturer*, Prof. M. Ryle, professor of radio astronomy at the University of Cambridge; *Charles Vernon Boys Prize*, to Dr. A. R. Lang, of the University of Bristol,

for his development of the technique of X-ray topography; *Maxwell Medal and Prize*, to Dr. W. Marshall, of the Theoretical Physics Group, Atomic Energy Research Establishment, Harwell, for his contributions to the theory of magnetism.

### Physics at the University of Kent at Canterbury:

Prof. J. G. Powles

DR. J. G. POWLES has been appointed to the chair of physics in the University of Kent at Canterbury. Before joining the Department of Physics at Queen Mary College as reader in experimental physics in the University of London, he had worked in the Universities of London, Paris, Liverpool, Princeton, Illinois, and Newcastle upon Tyne, where he was equally at home in chemistry departments as in physics departments—in spite of the fact that his first degrees (of the University of Manchester) were in electrical engineering. He has recently spent periods as visiting professor at the Max Planck Institute of Heidelberg and the University of Rome, and has therefore a very wide and varied experience in university research and teaching. His main research interests have been in molecular motions in solids and liquids, as interpreted by magnetic resonance techniques. During his most recent period at Queen Mary College, he has had a large and very