

many years to come. Methods of communication which twenty-one years ago stretched our imagination to the utmost are now commonplace practice. We congratulate Mr. H. S. Pocock, the editor, on the excellent work he has done.

University of the Witwatersrand Library

LAST Christmas Eve, a fire took place in the main block of the University of the Witwatersrand. As a result, very considerable damage was done: the main Library was completely destroyed, as were also the priceless Gubbins collection and the Law Library, which are, naturally, irreplaceable. Through the co-operation of the British Association and of other bodies, many replacements of lost and damaged books have been made, but in order to broaden the basis of the appeal, a meeting was held on May 9, in the council room of the Royal Empire Society, presided over by the Earl of Athlone, himself an honorary graduate of the University, the degree of LL.D. having been conferred upon him when he was the Governor-General of the Union of South Africa, during the visit of the British Association to Johannesburg in 1929. In the course of his introductory remarks, Lord Athlone traced the development of university education in South Africa, and pointed out that the University of the Witwatersrand only received its charter of incorporation ten years ago. In 1925, H.R.H. the Prince of Wales formally opened the new buildings, which occupy a magnificent site on the outskirts of the city. General Smuts was the first honorary graduate. The progress made has been remarkable, and there are now about two thousand students taking the regular courses. It was therefore a tragedy that the 'soul' of the University had been destroyed through the fire.

As a result of the meeting, which was addressed by Dr. W. Cullen, Mr. J. G. Gubbins, Prof. A. P. Newton, Sir Frank Heath, and others, a strong and representative committee, upon which Lord Athlone consented to serve, was formed to co-ordinate British efforts for restoring the library of the University. The loss includes the collection of manuscripts, books, and prints presented by Mr. Gubbins, the Hoernlé anthropological collection, in addition to all scientific journals and the departmental libraries of classics, English, Afrikaans, German, French, history, mathematics, geography, economics, and education. If the appeal for funds is successful, it is proposed to build a fireproof library, as a separate building, at an estimated cost of £60,000, a large part of which will probably be raised from people who live, or have lived, in South Africa. The chief task of the appeal committee will be, therefore, to procure books and other works to restock the library. It is, of course, impossible to replace the original documents destroyed by the fire, but it is hoped that other collections of a like kind will be forthcoming as the needs of the new library become known and the opportunity which it affords of representing every phase of South African life and culture is realised. Gifts of sets of journals and works of reference will also be gratefully accepted. All communications relating to such gifts should be sent to Dr. W. Cullen, 4 Broad Street Place, London, E.C.2.

Plastic Deformation of Metals

DR. F. KÖRBER, director of the Kaiser Wilhelm-Institut für Eisenforschung, Düsseldorf, delivered the twenty-second annual May lecture of the Institute of Metals in London on May 11, on "The Plastic Deformation of Metals". Basing his remarks on the results of a series of investigations conducted at Düsseldorf during recent years, Dr. Körber dealt with the stress relationships and also with the course of the flow of the material during the most important of the mechanical shaping processes. Discussions were entered into on the conditions requisite for the commencement of plastic flow and also on the possibility of drawing conclusions from the resulting flow phenomena as to the distribution of stress in the material at the inception of deformation. The disturbances in the material in consequence of the more marked deformations in drawing, extrusion, and rolling were traced by a suitable method of investigation. The results were compared with the deformation structures obtained by X-ray methods. The knowledge of the deformation processes so obtained enabled conclusions to be drawn as to the energy or power used in the shaping operations. An exact analysis of the course of deformation in the transition zone led to estimates of the internal losses during the alterations in form. Quantitative treatment of the stress relationships which occurred in the zone of deformation is possible in so far as the pressure created at the surface of contact between the tool and the material is known by actual measurements. From the results of determinations along the roll-gap of the pressure between the rolls and the stock being rolled, a complete quantitative presentation of the distribution of stress in the transition zone between the rolls has been formulated.

Electrification of Ulster

IN the *Asea Journal* for February an account is given of the electricity distribution scheme in Northern Ireland. The Irish Free State has built a large water power station on the River Shannon, on the west coast. In Northern Ireland (Ulster), there is also a considerable amount of water power available in the River Bann, which drains a large area round Lough Neagh. A scheme was recently under consideration to build a water power station on this river, but as the question is intimately connected with a land drainage scheme to be carried out by the Government, this scheme has been temporarily suspended. A steam power station has been built in Larne, on the east coast, not far from Belfast. From this station, a 33-kilovolt main transmission line has been taken over the country, through the towns of Ballyclare and Ballymena, with the view of future connexion with the River Bann. The steam power station at Larne has two turbo sets, each of 1750-kilowatt output, and a space has been reserved for one of double the size. In this way the load will be built up gradually, so that when the water power station with its comparatively high initial cost is completed, it will be possible to load it profitably from the start. The electric power will be mainly used by the linen industry, which has long flourished in Ireland. There are also paper mills and cement works in the