

Selbie (*Lancet*, 793; June 26, 1943) compare the action of penicillin with that of some of the sulphonamides and compounds of the flavine type on anaerobic infections of wounds, and a leading article in the *Lancet* (78; June 19, 1943) discusses the evaluation of wound antiseptics, with further reference to the literature of this subject. Sir Henry Dale, in his Frederick Price Lecture (*Brit. Med. J.*, 411; Oct. 2, 1943), briefly deals with penicillin and with the training, by cultural restriction, of a soil bacillus to produce gramicidin, which acts chiefly on Gram-positive cocci. It is clear that the Gram-positive organisms especially, and a good many others as well, are in for a pretty bad time in the years ahead.

Since this note was written the following important further articles on penicillin have appeared: "Progress with Penicillin" (*Lancet*, 546; Oct. 30, 1943); "Penicillin in the U.S.A." (*Brit. Med. J.*, 582; Nov. 6, 1943), both of which deal with American work, and the interesting paper by G. J. Harper (*Lancet*, 569; Nov. 6, 1943) on the destruction of penicillin by the penicillinase produced by certain bacteria.

## WOOD UTILIZATION

THE Utilisation Branch of the Forest Research Institute at Dehra Dun, India, continues its issue of practical war research investigations in the Bulletin and Leaflet series of the Institution's publications. *Ind. For. Bulletin* No. 118 (For. Res. Inst., Dehra Dun, published 1943) discusses "Studies in Fire Resistance" of some Indian timbers. Experiments have been carried out on the rate of burning of fifty-two species of Indian timbers, and the influence of various factors like the structure of the wood, physical properties and so forth on the natural fire-resistance of wood is discussed by the writers of the bulletin, D. Narayanamurti and R. Gopalachari. In the present time when the public have come to regard iron and concrete as the chief materials in building construction, it may cause surprise to read the following recorded opinion of the investigators. It merits consideration and further investigation, when in Great Britain there is so much rebuilding and new building to be undertaken.

Wood, despite its many favourable properties, is held by many to be less valuable than iron or concrete because of its inflammability. Combustibility is not always the only criterion to be considered in a material of construction, and even when it is important careful investigation shows that wood behaves better than the other materials when exposed to fierce fires. Natural stones burst even on slight warming, and iron even at 500° C. loses half its strength. The loss of elasticity in heated iron leads to changes of form and shape so that sudden collapse without warning is unavoidable. With wood, in the early stages of fire, any small loss of strength due to the surface burning is compensated for by a loss in moisture content which increases its strength. Another defect of iron is its high thermal conductivity, which is more than two hundred times that of wood. For fire-fighting services also a wooden structure is less dangerous, and the clearing up of wooden wreckage is also easy. By proper methods of construction and suitable chemical treatment wood can be made very fire-resistant. The bulletin is written mainly for India; but the position of wood

*vis-à-vis* iron and concrete is well worth a close consideration in the great building schemes facing Britain.

In *Ind. For. Leaflet* No. 42 (Res. Inst. Press, 1943) on "Preliminary Studies on Improved Wood", by D. Narayanamurti and Kartar Singh, the importance of wood from time immemorial for construction and fabrication is noted. 'Availability' and 'low cost' are two of the reasons given. In some parts of the world, however, neither of these statements is correct, notably in Britain. The leaflet discusses the results of experiments to improve the properties, in other words the resistance, of wood by impregnation with synthetic resins and other materials. Impregnation with resins is found to increase the density and compressive strength. Under suitable conditions it is possible to increase the compressive strength per unit specific gravity considerably—but attention is directed to the limitations of the process.

An *Indian Forest Leaflet* (No. 37; 1943), "How to Identify Timbers", Part 3, is a continuation of this subject. The author, K. A. Chowdhury, states that Part 1 of the series should be read in conjunction with the present one. The importance of the investigations dealt with in Part 3 lies in the fact that the timbers investigated in the Wood Technology Section have been those thought to be most suitable for motor-lorry bodies. It is well known that in the provision of equipment for the great armies in India that country has become inevitably more and more self-supporting. The leaflet gives a key for the field identification of important Indian timbers used for motor-lorry bodies. Short anatomical descriptions of these timbers have also been included. The importance of this type of information available to the local forest officer in the field is scarcely realizable to the layman. But anyone who has examined a great raft of logs consisting of the whole boles of the trees after floating down several hundred miles of a tropical river, with the object of identifying the botanical species of the logs, will have little difficulty in appraising the importance of this type of research.

## PHYSIOLOGICAL BASIS OF CAMOUFLAGE

THE methods of camouflage and of reconnaissance in modern warfare are, to a great extent, conditioned, and even limited, by the potentialities of our visual and acoustic perceptions. Military experts are little acquainted with the scientific side of the problem of human senses and perceptions, while physiologists and psychologists have not yet paid sufficient attention to the application of their knowledge to the evaluation of the 'human factor' in war.

The recently created laboratory for the study of perceptions at the Institute of Psychology of the University of Moscow has, therefore, commenced the publication of a series of books and pamphlets on perception, observation, memory, emotions, etc., under war conditions, and the first booklet, by Prof. K. Kh. Kukcheev, deals with the psychophysiology of camouflage and of reconnaissance.

Detailed scientific data are given on such subjects as the sensitiveness of contrast vision; stereoscopic vision; estimation of distances; perception of movement of different velocity; colour vision; visual perception at low light intensities in connexion with night reconnaissance; physiology of sound perception; sound 'camouflage'; tactile perception