

outside London that they must prepare schemes in order to secure the payment of annual contributions towards the expenses of such voluntary associations within their areas, copies of model schemes for their use being enclosed with the Circular. Respecting venereal diseases, the Minister of Health has issued circulars (1536 and 1536a) to the responsible port and local authorities in England and Wales enclosing a revised list of treatment centres in the chief sea and river ports throughout the world at which seamen can obtain gratuitous treatment for these diseases, in accordance with arrangements contemplated by the international agreement signed at Brussels in 1924.

The Lister Institute of Preventive Medicine

THE Annual General Meeting of this Institute was held on June 9, and the Governing Body presented the forty-second Annual Report, in which the activities of the Institute are surveyed. Investigations have been carried out upon vaccinia, tumour-exciting, neurotropic and other virus agents by the director, Prof. J. C. G. Ledingham, and Dr. E. W. Hurst, Dr. C. R. Amies and others. Various serological studies are being continued by Dr. A. Felix and collaborators. Dr. V. Korenchevsky is continuing his work on sexual hormones, and Prof. R. Robison with others is studying phosphate metabolism and tissue calcification. Investigations on rheumatism and the possible presence of a virus agent in this disease are being pursued by Dr. Amies and colleagues in conjunction with King's College Hospital. In the Division of Nutrition, much work upon vitamins and dietary constituents has been carried out by Dr. Harriette Chick and her associates. The Svedberg ultra-centrifuge, referred to in last year's Report, with accessory equipment is now in course of installation. At the Serum Department at Elstree, under Dr. G. F. Petrie, to which the Vaccine Department has now been transferred, work on meningococcus and gas-gangrene anti-sera and on staphylococcus toxin is in progress. This brief and incomplete survey illustrates the important research work now being carried on at the Lister Institute.

Experimental Research and Disease

THE tenth Stephen Paget Memorial Lecture was delivered by Sir Malcolm Watson at the annual general meeting of the Research Defence Society, held at the London School of Hygiene and Tropical Medicine on June 9, the president, Lord Lamington, occupying the chair (*The Fight against Disease*, 24, No. 3, 1936). In order to illustrate the importance of experimental research, Sir Malcolm surveyed the work of Manson upon elephantiasis and filarial periodicity and malaria, of Ross upon malaria and its transmission by mosquitoes, and of Reed upon yellow fever. By applying the knowledge won by Walter Reed and his American colleagues, the city of Havana was within a few months freed from yellow fever for the first time in a hundred and fifty years by exterminating the mosquitoes that convey the disease. Owing to an increase in member's and life-

member's subscriptions for 1935, the Research Defence Society has commenced the current year with a small balance in hand.

A New Anthropological Publication

A NEW publication of the Section of Anthropology of the Department of the Social Sciences of Yale University, entitled "Yale University Publications in Anthropology", has appeared, which will embody the results of researches in the general field of anthropology directly conducted or otherwise sponsored by this Department of the Graduate School, the Department of Anthropology of the Peabody Museum, and the Department of Anthropology of the Institute of Human Relations (Yale University Press, New Haven, Conn.; London: Oxford University Press). The issues, which will range from brief papers to extensive monographs, will be numbered consecutively as independent contributions, and will appear at irregular intervals. The first issue (Nos. 1-7) includes a study of population changes among the northern Plains Indians by Dr. Clark Wissler, an examination of regional diversity in sorcery in Polynesia by Dr. P. H. Buck, an account of cultural relations of the Gila River and Lower Colorado tribes by Dr. Leslie Spier, with several other communications dealing with aspects of the culture of the Indians of North America. A further issue of the publication, which will comprise six communications, is in the press. In view of the widespread activities in anthropological research of the institutions interested in this publication, and more especially of Yale University, the facilities which it will afford for early publication of results will be of great advantage to anthropologists. In this connexion, it may not be out of place to refer to the announcement that Dr. David G. Mandelbaum of Yale, who has hitherto specialized in the culture of the North American tribes, will be engaged during the coming year in an investigation among the hill tribes of Southern India.

History of Fire-Fighting in America

In a paper received from the Smithsonian Institution, a brief history is given of fire-fighting in America from colonial days to the present time. It starts with the days of the 'bucket brigades'. Many of the earliest American communities required property owners to have fire buckets in their houses, which they had to throw into the street when a fire alarm was sounded. They were then picked up by the men who raced to the fire, and when the fire was extinguished these buckets were piled up on the village common, where the owners came to claim them. In an exhibition being held in the National Museum in Washington, many of these buckets are shown. They are made of leather, and in addition to the names of the owners are decorated with family devices and scenes of the time. The first hand-pumped fire engine or tub, made in 1740, is on exhibition; but the bucket brigades were still necessary in order to fill it with water. These tubs were pulled by hand, and at night runners went before them carrying torches or lanterns

on sticks to light the way. Rival companies raced to a fire, and it was a sporting event which of them should be first there. Many incentives were offered to the companies, who sometimes did what they could to slow up their rivals. Cast iron plates were fixed to houses insured by those insurance companies paying bounties to fire-fighters who saved insured property. The fire-fighters were in great demand for parades and political rallies, and no celebration was complete without them. Next came the days of steam fire-engines pulled by horses, and then the motor fire-engine.

The Blue Water of Crater Lake

IN the Cascade Mountains, Oregon, is the remarkable Crater Lake. It is about six miles long by four miles wide and lies within a volcanic crater the cliffs of which are 500–2,000 ft. high. Its depth in places is nearly 2,000 ft. It has no visible outlet, yet its water is fresh and is said never to freeze, although the surface is about 6,000 ft. above sea-level. It was discovered by white men in 1853, and was called the Deep Blue Lake. Seen from the rim of the crater, the water shades from turquoise blue along the shallow borders to darkest prussian blue in the deeper parts. From a boat, the colour deepens to dark indigo. Cloud shadows and wind flurries produce great variety in the appearance of the surface, but the main sensation produced in the eye of the observer is one of "unbelievable blueness". Dr. Edison Pettit, working on behalf of the National Academy of Sciences and the National Park Services, has recently completed a study of the reason for this extraordinary depth of blue (*News Service Bulletin* (School Edition); Carnegie Institution of Washington, 4, No. 4). He finds that the water has no special colour of its own, but that it is exceptionally free from suspended matter; such scattering of light as occurs in its depths is mainly from the water molecules, and is therefore deep blue. The degree of clarity is almost that of specially prepared dust-free water. The scattered light from dust-free water is blue at all angles; that from Crater Lake water is white only for a comparatively narrow forward angle, and at all other angles is blue.

Wooden Pipe Lines

THE use of wooden pipes as a means of conveying water dates back almost to prehistoric times. They were much used in the Middle Ages. During recent years, traces of the water supply system of London (c. 1600) by means of hollow trunks of trees have often been found during excavations. In *World Power* of May, there is a paper by T. Pausert, telling how wooden pipes made of staves and bound with hoops are coming into modern practice all over the world. Generally, the staves are made of pine or larch wood, and are planed off to give a smooth finish after assembly. The contact surfaces are dove-tailed. When the pipe is filled with water, the wood swells and becomes water-tight. These wooden pipes are either placed on the ground or laid in the open on supports. Their diameters vary from 5 cm. to 6

metres. A great advantage is the immunity of the wood from the effects of water whether it is pure, acid, alkaline, saline or contains selinite. For this reason, wooden pipes are much used in the chemical industry. An important point is that salts are not deposited on the walls of the pipes, so that the latter do not become choked and their rate of flow affected. There is no risk of electrolysis from stray electric currents. If an increased pressure becomes necessary, it is easy to reinforce them by the addition of new steel hoops. If a sudden hydraulic surge occurs, the inherent elasticity acts as a safety valve; the staves being bound by hoops enable the longitudinal joints to let water escape in small jets. When the pressure comes back to normal, the staves resume their original position, and become water-tight again. Their cheapness, durability and the ease with which they can be transported in mountainous regions enable the power engineer to arrive at solutions to many of his problems by their use.

Safety on the Roads

THE National Safety Congress was held in London on May 20–22. An account of the congress is given in *Roads and Road Construction* of June 1. At the Congress dinner, Sir Herbert Blain pointed out how much the British have learnt from the Americans in connexion with improving our roads and making them safer. In particular, he mentioned the practice of coloured traffic lights and of one-way streets. Although there is a magnificent system of roadways in Great Britain, there are no roads that can compare with some of the roads now being laid in America. These national highways are very wide and have a beautiful surface, good elevation and proper lighting. The curves are properly rounded, and there is no ribbon development. Mr. A. Matheson, the assistant secretary to the Minister of Transport, read a paper on "Danger Spots". Experiments have been carried out in London, where certain roads with black records have been selected. A study of these records showed that a large fraction of the accidents occurred to pedal cyclists and pedestrians. These roads were then inspected and improvements suggested which it is hoped will diminish the number of accidents. In two of the roads where the work recommended has been completed, a record was kept for six months.

In the Chiswick High Road, the number of accidents as compared with the corresponding six months of the preceding year was reduced by 37 per cent, and in the Fulham Palace Road to Putney Bridge the reduction has been from 88 to 48, or nearly 45 per cent. The Oxford County Council, becoming alarmed at the large number of accidents on its roads, made a detailed investigation of them over two years ending July 1934. The investigation showed that nearly one half of the fatal accidents occurred on certain main roads constituting less than six per cent of the total mileage of the county. During the first seventeen weeks after making certain improvements, it was found that, compared with