

usually produce a grey or blue-black appearance like a smudge of soot.

While patients pathologically photosensitive should not sunbathe, some may get by with the use of frequently applied barrier preparations if it is the "sunburn" wavelengths that provoke the lesions, as in albinos and in most cases of mild polymorphic light eruption. Greater photosensitivity, such as may occur in patients with porphyria, actinic reticuloid, and severe polymorphic light eruption, means the sufferer must often keep strictly indoors. In these cases, as also in photosensitivity provoked by drugs, it is mostly long-wavelength ultra-violet radiation or visible light that is active. No acceptable sun barrier preparations are useful here. The use of chloroquine is controversial but may be considered for short periods, say up to two weeks, in preventing polymorphic light eruptions. It is contraindicated for porphyria cutanea tarda. To avoid ocular complications the drug should not be repeated for another year. Antihistamines are of no benefit.

Most sun-screening barriers include para-aminobenzoic acid (P.A.B.A.) and its esters, cinammic acid and related compounds, and the benzophenones. Recently⁵ 5% P.A.B.A. in 70% alcohol has been reported to be the most effective and persistent agent against sunburn from "sunburn" wavelengths. Suppression of erythema will be associated with reduced tanning (melanogenesis). But the severely affected patient, photosensitive to visible light or long-wave ultra-violet radiation, has no topical preventive unless he is prepared to use thick grease-paint. Most of these unfortunates prefer to wear long sleeves, gloves, and a wide-brimmed hat. The wisest stay indoors during the summer holidays, and they are the better for it.

Review Body's Report

There may be some substance in Mr. Harold Wilson's view, stated in reply to Dr. D. P. Stevenson, Secretary of the B.M.A., that it would not be right for the Government to continue with its consideration of the report of the Review Body on Doctors' and Dentists' Remuneration during the election period. But this will not allay the suspicions of the professions concerned that political reasons are behind the delay. It is now some eight weeks since the Review Body reported to the Prime Minister, yet in another recent letter to Dr. Stevenson¹ Mr. Wilson stated merely that the Government had not yet completed its consideration of the recommendations. He did not say why.

Doctors are particularly sensitive to political manoeuvring over their pay, because of the results of a similar delay in 1966 during an election, and also because of long experience of pay negotiations with governments in the past. It was precisely to obviate previous difficulties that the Royal Commission on Doctors' and Dentists' Remuneration recommended² the setting up of a standing review body of eminent persons of experience in various fields of natural life to keep the pay in the professions under review. The medical profession accepted the recommendation for a review body because it saw in it the great advantage of having professional remuneration settled by men of eminence and authority who would make recommendations of such weight and authority that, in the

Royal Commission's words, "the Government will be able, and indeed feel bound, to accept them."² As professional men doctors also welcomed the prospect of their pay in a nationalized health service being settled without public dispute, and they welcomed the assurance the proposed system gave that remuneration would not be determined by considerations of political convenience.

It is difficult to believe that the recommendations of Lord Kindersley and his eminent colleagues on the Review Body depart from reason so much that the Government is finding difficulty in accepting them. It should not therefore have taken long to come to a conclusion about them. In delaying so long Mr. Wilson seems either to be unaware or not to care that he is needlessly squandering the Health Service's greatest asset—the goodwill of doctors. He is also bringing into disrepute an agreed system for settling doctors' pay, which has served the public well.

The B.M.A. has asked that the Government should publish the Review Body's findings without further delay. If this is refused the Council of the Association, at a meeting on 28 May after this journal went to press, will decide whether as first steps the profession should be advised, firstly, that all co-operation with the Government should cease forthwith, and, secondly, that general practitioners and hospital doctors should cease to give certificates for incapacity. The Government would then have to make its own arrangements for meeting claims under National Insurance.

Growth after Malnutrition

The commonest causes of interference in growth during childhood are infections and malnutrition, and the two forms of malnutrition most frequently seen are marasmus and kwashiorkor. In marasmus there is early weaning from the breast, followed by an overall inadequacy of food intake; in kwashiorkor the onset is later, usually between the ages of 1 and 3 years, and prolonged breast feeding is succeeded by a diet consisting predominantly of cheap carbohydrate foods with a very low protein content. In both states iron deficiency anaemia is common,¹ and bacterial infections, intestinal helminthiasis, malaria, or tuberculosis may contribute to the clinical picture. An attack of gastroenteritis or other acute infection may precipitate a severe illness, and recovery may be hindered or prevented by traditional methods of treatment with dilute carbohydrate foods. Even with adequate treatment the mortality is high.

In a study of 8 Jamaican children with severe malnutrition of the kwashiorkor type Ann Ashworth has described² the rapid increase in weight that occurred during the recovery

¹ Manchanda, S. S., Lal, H., and Khanna, S., *Archives of Disease in Childhood*, 1969, **44**, 580.

² Ashworth, A., *British Journal of Nutrition*, 1969, **23**, 835.

³ Prader, A., Tanner, J. M., and von Harnack, G. A., *Journal of Pediatrics*, 1963, **62**, 646.

⁴ Prinsloo, J. G., Wittmann, W., Pretorius, P. J., Kruger, H., and Fellingham, S. A., *Archives of Disease in Childhood*, 1969, **44**, 593.

⁵ Simoons, F. J., *American Journal of Digestive Diseases*, 1969, **14**, 819.

⁶ Bayless, T. M., and Huang, S. S., *American Journal of Clinical Nutrition*, 1969, **22**, 250.

⁷ Tanner, J. M., *Growth at Adolescence*, pp 143-152, Oxford, Blackwell.

⁸ Haas, J. H. de, *Health of Mankind*. Ciba Foundation Symposium, p. 90. Ed. G. E. Wolstenholme and M. O'Connor, London, Churchill.

⁹ Lloyd, J. K., and Wolff, O. H., *Journal of Atherosclerosis Research*, 1969, **10**, 135.

¹ *British Medical Journal Supplement*, 1970, **2**, 148.

² *Royal Commission on Doctors' and Dentists' Remuneration, 1957-1960, Report*. London, H.M.S.O., 1960.

phase. Rapid gain in weight was possible because the children were able and willing to take up to 160 calories/kg. body weight daily, compared to a daily intake of around 105 calories/kg. body weight for healthy children of the same age. It was of particular interest that as soon as the children reached their expected weight for height their appetites decreased, and they could neither be persuaded nor forced to continue at their previous level of consumption. Ashworth has suggested that these rapid weight gains were examples of the "catch-up growth" described by A. Prader, J. M. Tanner, and G. A. von Harnack³ during recovery from various childhood illnesses and anorexic states. Ashworth's results make it clear that the abnormally large intake was in some way "turned off" as soon as the correct weight for height was reached.

These rapid recoveries are not always seen in kwashiorkor, and recovery from marasmus is nearly always slow. Dietetic treatment may be complicated by diarrhoea caused by a reduction in exocrine pancreatic function, or by intolerance to lactose or less commonly to other disaccharides.⁴ A deficiency of intestinal lactase even in the healthy individual appears to be particularly common in certain races^{5 6} in Africa and in the Far East: relief organizations, which usually rely upon milk preparations for their emergency dietetic feeding, need to be aware of these facts.

In areas in which malnutrition is widespread the final adult stature of the population in general is short; but this is no real disadvantage. Indeed, the greater adult height with each succeeding generation⁷ in our over-nourished society may have been bought at the price of a steady increase in coronary disease^{8 9} in early middle age.

Bagasse Made Safe

Bagassosis¹ is the name given to a severe, sometimes acutely fatal, fibrosing lung disease caused by the dust of mouldy, overheated bagasse, or sugar-cane residues. It is of the farmer's lung type, now termed extrinsic allergic alveolitis.²

First described in Louisiana in 1937,³ outbreaks of the disease have been reported from most places where bagasse has been used in manufacture.⁴ High proportions of exposed workers have been affected—for example, 10 out of 21 British workers making insulation board,⁵ 69 out of 120 workers in a paper mill in Puerto Rico,⁶ and an estimated 200 in a board mill in Vacherie, Louisiana, between 1962 and 1964.⁷ This serious hazard prevents the full exploitation of a waste material with important potential uses. These include the manufacture of cheap but high-quality substitutes for timber products; paper and paper products and viscose rayon; and, because of its simple organic fibre structure, composite plastic materials of many sorts. For the, usually poor, sugar-producing countries with their otherwise limited resources the problems of

bagassosis and their economic well-being are closely linked.

Knowledge of the disease stems from studies of the clinical and immunological aspects of farmer's lung by J. Pepys and colleagues⁸ at the Brompton Hospital and the biochemical and the microbiological changes in mouldy hay by P. A. Gregory and colleagues⁹ at Rothamsted Agricultural Research Station. These showed that in hay with a moisture content of over 30% bacteria and fungi grow rapidly, causing a rise of temperature to 40—50°C or more. The heat encourages the prolific growth of thermophilic actinomycetes, of which one, *Micropolyspora faeni*, is the main cause of farmer's lung.⁸

A somewhat piquant development led to the application of this knowledge to the very similar changes in mouldy bagasse. A British engineer, Mr. C. Wright, unaware of the hazards, experimented in London with a manufacturing process for bagasse and developed severe respiratory disease. This was diagnosed as bagassosis at the Brompton Hospital¹⁰ and was shown to be due to a thermophilic actinomycete, for which the name *Thermoactinomyces sacchari* was suggested.¹¹ The evidence in this case supported the serological findings obtained in New Orleans¹² and Trinidad.¹³ Mr. Wright and Dr. J. Lacey, of Rothamsted, then applied the knowledge acquired from mouldy hay to the problems of bagasse.¹¹ They found that keeping the moisture content below 20% and spraying the bagasse with 2% propionic acid,¹⁴ an inexpensive, safe, and widely used fungicide, rendered the bagasse stable and safe for manufacturing use. The detailed report¹¹ on this work by Sir Harold Robinson for the Government of Trinidad and Tobago, which commissioned it, describes the virtual absence of spores in general, and of thermophilic actinomycetes in particular, from the treated bagasse.

It is now possible by simple, inexpensive procedures to render bagasse safe to the workers, and it can confidently be predicted that the sugar-growing countries will derive handsome economic benefits from its wider use—a satisfying outcome to a piece of academic clinical research.

¹ Castleden, L. I. M., and Hamilton-Paterson, J. L., *British Medical Journal*, 1942, 2, 478.

² Pepys, J., *Hypersensitivity Diseases of the Lungs due to Fungi and Organic Dusts*. Basle, Karger, 1969.

³ Buechner, H. A., Prevatt, A. L., Thompson, J., and Blitz, O., *American Journal of Medicine*, 1958, 25, 234.

⁴ Hearn, C. E. D., *British Journal of Industrial Medicine*, 1968, 25, 267.

⁵ Hunter, D., and Perry, K. M. A., *British Journal of Industrial Medicine*, 1946, 3, 64.

⁶ Bayonet, N., and Laverne, R., *Industrial Medicine and Surgery*, 1960, 29, 519.

⁷ Buechner, H. A., Aucoin, E., Vignes, A. J., and Weill, H., *Journal of Occupational Medicine*, 1964, 6, 437.

⁸ Pepys, J., et al., *Lancet*, 1963, 2, 607.

⁹ Gregory, P. H., et al., *Journal of General Microbiology*, 1964, 36, 429.

¹⁰ Hargreave, F. E., Pepys, J., and Holford-Strevens, V., *Lancet*, 1968, 1, 619.

¹¹ Robinson, Sir H., Report on the manufacture of hard particle board from bagasse to the Government of Trinidad and Tobago, 1969.

¹² Salvaggio, J. E., Seabury, J. H., Buechner, H. A., and Kundur, V. G., *Journal of Allergy*, 1967, 39, 106.

¹³ Hearn, C. E. D., and Holford-Strevens, V., *British Journal of Industrial Medicine*, 1968, 25, 283.

¹⁴ B.P. Chemicals, Press Information, Ref. BPC/7, 1970.