but it is necessary to consider the facts in any specific case. In those cited large amounts of arsenic had contaminated the water from an industrial source.

Any arsenic in surface water is likely to be in insoluble suspended matter, and this can be readily removed by coagulation and filtration as normally practised in waterworks. If the water loses its oxygen content through prolonged contact with decomposing organic matter—for instance, at the bottom of a reservoir in which water circulation is insufficient—insoluble arsenic could theoretically be slowly and partially converted to soluble, and this would need much higher doses of coagulants for removal. But there is no record of this effect having occurred, and if the bottom water is periodically or continuously drained away, as it would be from this reservoir, the question should not arise.

None of numerous analyses of the river water in the neighbourhood of the proposed dam has approached the W.H.O. maximum allowable limit even before simple filtration treatment, and all have been free from detectable arsenic (0·005 mg./l.) after such treatment. There may be good reasons for opposing the construction of a reservoir on the West Okement river, but there are no grounds for suggesting that the water may be dangerous.

Generalized Pustular Psoriasis

In most cases psoriasis is a mild disease, seldom of more than cosmetic significance. But the most severe cases are incapacitating and even endanger life. Generalized pustular psoriasis can be considered as psoriasis at its most severe. It is fortunately rare, but there has probably been some increase in its incidence in the past few years owing partly to over-enthusiastic treatment. Previous reports have considered small numbers of cases, but H. Baker and T. J. Ryan[1 2] have now collected together details of 104 cases—24 from St. John's Hospital for Diseases of the Skin and the remainder from dermatologists throughout the country.

Although bacteria may be found in unusual numbers colonizing psoriatic skin, actual infection, with pustule formation, is uncommon. The pustules of pustular psoriasis are generally sterile. The chemical changes in psoriatic skin which lead to the immigration to it of polymorphonuclear leucocytes have not yet been defined.[3] Histologically minute abscesses are frequently found in the epidermis in ordinary psoriasis, but they remain microscopic in size. Plaques of chronic psoriasis at times show macroscopic, sterile pustules, especially at times of increased activity of the disease or after irritant local therapy.

Pustular psoriasis on the palms and soles is a relatively common disease,[4] but is only rarely followed by pustulation elsewhere. There are several distinct but overlapping patterns of true generalized pustular psoriasis, all characterized by the development of sheets of small sterile pustules just beneath the horny layer of the epidermis, often superimposed on a diffuse bright red erythema. The whole picture does not obviously resemble the familiar pattern of chronic psoriasis. This eruption may cover limited areas of the body, the flexural more often than the extensor aspects, or it may be almost universal, even involving the mucous membranes. Attacks of pustulation may occur in patients with long-standing ordinary psoriasis and are then often provoked by some stimulus which is apparent, but in 40% of Baker and Ryan's patients the preceding psoriasis had been in some way atypical and of short duration. Generalized pustular psoriasis may occur with no history of preceding skin disease and is then indistinguishable from what used to be called impetigo herpetiformis. Attacks of pustulation last only a few days or weeks, during which time the patient may be desperately ill with high fever and leucocytosis, and a fatal outcome is not uncommon. As the pustulation settles down the skin either returns to normal or else a psoriatic erythroderma supervenes and may persist for many months or even years.

The aetiology of all forms of psoriasis is still uncertain, but it is usually accepted as a genetically determined abnormality which may be brought to light by a variety of stimuli, including, for example, streptococcal sore throats and emotional stress. Often no precipitating factor is detected. Likewise a trigger factor for pustular psoriasis should be sought, though once the disease process is under way removal of the initiating cause may have little effect on its subsequent course. Infections, stress, pregnancy, and hypocalcaemia have all been held responsible. Reactions to various drugs, including antimalarials, iodides, and salicylates, have been reported. The most important precipitating factor is the previous administration of systemic corticosteroids for ordinary psoriasis, a practice now almost universally condemned.

Baker and Ryan attributed at least 21 of their 104 cases to this cause, attacks usually occurring soon after withdrawal of the drugs. In two cases intensive topical therapy with corticosteroid ointments under polyethylene occlusion seemed to be responsible. This danger, combined with the fact that the remissions which follow the use of corticosteroid ointments are shorter than those achieved with conventional tar or dithranol preparations, is good reason for not relying on such treatment, despite its obvious advantages of a quick initial response and relative lack of mess, as the mainstay in routine treatment of psoriasis.

Treatment of generalized pustular psoriasis is a very difficult problem.[2] Both systemic corticosteroids, sometimes in large doses, and methotrexate will control the pustulation, but there is no evidence that they improve the long-term prognosis and considerable evidence that they make it worse. Once started, it is all too difficult to leave off systemic corticosteroids, and larger and larger doses may be required to achieve less and less effect, until the morbidity and mortality of the treatment are much greater than those of the disease. Methotrexate also has its own severe toxic side-effects, usually apparent at an earlier stage. The conclusion is that both drugs should be withheld if possible to allow the disease to run its own usually self-limiting course, the physician being prepared to wait until at least three months' hospital treatment with bland local applications has failed. Conventional topical applications for psoriasis such as tar and dithranol are contraindicated.

The rare patients who are in immediate danger of dying in the acute phase, those who continue to get active pustulation for many weeks on end, and those who are left with an intractable psoriatic erythroderma may demand more active treatment as a life-saving measure. For these the

[1] Baker, H., and Ryan, T. J., *British Journal of Dermatology*, 1968, **80**, 771.
[2] Ryan, T. J., and Baker, H., *British Journal of Dermatology*, 1969, **81**, 134.
[3] Langhof, H., and Müller, H., *Hautarzt*, 1966, **17**, 101.
[4] Ashurst, P. J. C., *British Journal of Dermatology*, 1964, **76**, 169.
[5] Zumbusch, L. R. von, *Archiv für Dermatologie und Syphilis*, 1910, **99**, 335.

evidence is insufficient to show whether corticosteroids or methotrexate are to be preferred, but slightly favours the latter. There is much to be said for not prolonging treatment with these agents or for using heroic doses to try to achieve a complete remission. It is better to restrict treatment to the control of the immediate life-threatening situation.

The original case reported in 1910 by von Zumbusch,[5] whose name is usually linked with this disease, survived nine attacks of generalized pustular psoriasis of decreasing severity. Whether this would have been the outcome had modern methods of treatment been available is problematical.

Faecal Incontinence

One of the most distressing of disabilities is anal incontinence. Among its many causes may be specially noted the scarring of an extensive perineal tear in childbirth, ill-contrived anal surgery, spinal cord trauma or disease, and severe rectal prolapse, and may or may not be complicated by urinary incontinence. The patient, often an elderly woman, becomes cut off from family and friends, a nuisance in an old people's home or hospital for patients with chronic diseases, and more liable than others to develop pressure sores.

Until recently little could be offered to many of these patients, but K. P. S. Caldwell and his colleagues at Exeter[1 2] made an important advance when they developed the idea of continuous stimulation of the anal and vesical sphincter muscles by means of indwelling electrodes. The first patient subjected to this technique was a 60-year-old woman who had been incontinent of faeces for 23 years after a tear during childbirth. Electrodes were implanted surgically in the anal sphincter together with a subcutaneous secondary coil. A radio-frequency linkage was used to convey tetanizing current from an external stimulator. After two months full control was restored. In the second case, a man with an injury to the cauda equina was rendered continent of urine by implanting electrodes via a suprapubic approach into the external urethral sphincter. B. R. Hopkinson and R. Lightwood,[3 4] at Birmingham, devised an external stimulating apparatus to obviate the need for surgical implantation of the electrodes. The device is placed in the anal canal and held there by means of the contraction induced by the stimulating current. A dumb-bell-shaped Perspex appliance carries two parallel ring electrodes placed 1 cm. apart. It is connected to a portable tetanizing-current generator the size of a large matchbox, which is fastened to the patient's underclothes by means of a safety-pin. Transistor-radio batteries provide a power supply which lasts for a week. Preliminary results are encouraging. Encouraging results from this technique have now come from the U.S.A. also. B. H. Fischer and H. A. von der Mosel[5] report from New York on the use of a very similar external stimulating apparatus in six patients rendered incontinent of faeces as a result of neurosurgical procedures. Prompt and full control of bowel movements was obtained in five of the patients, but there was failure in the sixth because of unsuitable shape and size of the electrode.

This simple technique is likely to have increasing application in the control of anal incontinence. For some patients it will restore sphincter control; for others it will make life more tolerable.

[1] Caldwell, K. P. S., *Lancet*, 1963, **2**, 174.
[2] Caldwell, K. P. S., Flack, F. C., and Broad, A. F., *Lancet*, 1965, **1**, 846.
[3] Hopkinson, B. R., and Lightwood, R., *Lancet*, 1966, **1**, 297.
[4] Hopkinson, B. R., and Lightwood, R., *British Journal of Surgery*, 1967, **54**, 802.
[5] Fischer, B. H., and von der Mosel, H. A., *Journal of the American Medical Association*, 1969, **207**, 1897.

Representation of Junior Doctors

In losing a battle the hospital junior doctors have gained sympathy for their cause. As reported in the *Supplement*, the Representative Body at Aberdeen was asked to create a standing committee of the Association for hospital junior staff to, among other things, dispel the belief that their interests are neglected by the Central Committee for Hospital Medical Services. Several speakers emphasized how widespread is this view among junior medical staff, and pressed that the Association should destroy the myth by showing its willingness to meet their requests. For most the plea was not that justice was not being done; it was that it should obviously be seen to be done. Agreement to a standing committee for hospital junior staff was described by Dr. J. F. G. Pigott, chairman of the Junior Hospital Doctors' Association, as the one remaining ground of conflict between the J.H.D.A. and the B.M.A.

Many of the 14,000 junior doctors can rightly point to their relative seniority and to their heavy work-load. Doctors are often not appointed to a consultant post before their mid-thirties, and many "junior staff" are nearer 40 than 30. Where else except in medicine are graduates of this maturity still called "junior," and treated as such? It is certainly not the case in industry, nor was it in the two world wars. The future of postgraduate medical education, the career structure open to them, and the form the N.H.S. itself will take all vitally affect junior doctors, and rightly they wish to contribute to this reshaping. They have already contributed usefully to the Association's affairs, and if all junior doctors threw their weight behind the B.M.A. they could undoubtedly contribute even more effectively than in the past. This they would surely concede.

By its vote of 180 to 164 against a standing committee the Representative Body was far from giving the spokesman for the junior doctors a direct rebuff. The closeness of the vote showed the Meeting's real understanding of their sense of inferior status. But the vote also recognized that a sentiment of this kind, however powerful, was a poor reason for making a change. The junior doctors are already well represented in the Association and their voice has been clearly heard. Moreover, Mr. Walpole Lewin, the Chairman of the C.C.H.M.S., has stated his committee's readiness to see what more could be done to improve matters. A new committee created in parallel with the C.C.H.M.S. could easily have jeopardized effective negotiation with the Government. Such political ping-pong on a triangular table, as one speaker put it, would lead to further division, delay, and opportunity for those in authority to divide and rule. Young doctors will stay in Britain only if they can see long-term prospects of a satisfying career. The B.M.A. has a good chance to guarantee this future if it can negotiate for the whole profession. The profession can ill afford to dissipate its energies in sectional disputes when it has so much else on hand that requires its united energies.