years, when the infection originated abroad, except for one dog, which is thought to have acquired its infection in quarantine kennels.

The continual spread of the enzootic disease on the Continent\(^2\) is largely among foxes despite its capacity for infecting many other mammalian species. But in essence it seems that if the fox population can be controlled, the disease can be eradicated, and the prevalence of infection diminishes as foxes are eradicated. In other parts of the world different species of animals may predominate as the main reservoir of infection, a well-known instance being the vampire bats of Central and South America. But at present there does not seem to be a serious risk of its being brought into Britain by, for example, wild rats and mice, though there are plenty of other good reasons for preventing these vermin from getting ashore at the ports. The immediate need therefore is to maintain a thorough control of the whole process of entry, quarantine, and vaccination of the mammals scheduled in the report. And the control procedures should be based on the assumption that the disease can be transmitted indirectly from an environment contaminated by an infected animal as well as directly from the animal itself.

\(^2\) British Medical Journal, 1971, 2, 483.

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**Tuberculosis Sclerosis and the Lungs**

Tuberculous sclerosis, or epiloia as it was sometimes called, has come a long way since the original observations of von Recklinghausen.\(^1\) When D. M. Bourneville\(^2\) established an association with mental deficiency, a small group of mentally retarded children who also had adenoma sebaceum, affecting principally the skin of the face, and epilepsy was soon recognized. There the matter remained for many years.

Since 1940 tuberous sclerosis has been shown to be a much more widely ranging abnormality. It is essentially a defect of mesodermal differentiation during the process of development and shows a strong familial incidence, often several members of a family being affected. No inborn error of metabolism has been identified, nor is the nature of the genetic defect certain. Prevailing opinion favours a dominant gene modified by an independent pair of genes.\(^3\) Mesodermal tumours have been found in almost all parts of the body, especially in the kidneys, optic discs, and retinae; cardiac myomata may mimic mitral stenosis. Intracranial calcification, mainly near the basal ganglia, is common and an abnormal electroencephalogram is the rule. Other characteristic features include brownish patches on the skin, subungual fibromata, and cystic areas of rarefaction in the phalanges and long bones. Liposarcomata are almost exclusive to tuberous sclerosis.

The classic triad seen in children occurs in about one in 150,000 births. A roughly similar number are first detected in adults,\(^4\) in whom mental retardation and epilepsy are unusual: indeed, the disorder may be limited to one site with little or no clinical effect. Rarely the lungs are affected by a diffuse leiomyoma. Cells grow out from the smaller bronchi and blood vessels, often forming small tumours in the lungs or within the lumina of the bronchi, and sometimes directly infiltrating the alveolar walls. As the process spreads, the smaller radicles of the air passages appear to become obstructed or strangulated, with the formation of cysts distally measuring up to 1 cm in diameter, giving eventually a honeycomb appearance throughout both lungs.

Pulmonary tuberous sclerosis enters into the differential diagnosis of pulmonary infiltrations with cyst formation. It is similar in appearance radiologically to histiocytosis X and, rarely, fibrosing alveolitis and systemic lupus erythematosus.\(^5\) A firm diagnosis is generally facilitated by the coexistence of adenoma sebaceum, subungual fibroma, or evidence of a mesodermal tumour elsewhere. Sometimes the lungs alone are affected, in which case confirmation is virtually impossible short of a biopsy or necropsy.

A recent review of 34 well-documented cases of pulmonary tuberous sclerosis suggests that symptoms start at an average age of 34.\(^6\) Increasing dyspnoea, the outstanding symptom, is often complicated by acute distress from spontaneous pneumothorax due to rupture of subpleural bullae. Death ensues after an average of five years from cor pulmonale or spontaneous pneumothorax.

\(^1\) Recklinghausen, F. von, Monatschrift für Geburtshunds- und Frauenkrankheiten, 1869, 20, 1.
\(^2\) Bourneville, D. M., Archives de Neurologie, 1880, 1, 69.
\(^4\) Dawson, J., Quarterly Journal of Medicine, 1954, 23, 113.
\(^5\) Oswald, N., and Parkinson, T., Quarterly Journal of Medicine, 1949, 18, 1.

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**The Rest of the Kingdom**

Though attention has been focused largely on re-organization of the N.H.S. in England,\(^1\) the other parts of the United Kingdom have been busy discussing their own reforms.\(^2-4\) The proposals for Wales are very similar to the English ones—as was the case with the previous Welsh green paper—with a common starting date in April 1974. One significant difference is the absence of any regional tier, with the seven area health authorities made responsible to the Welsh Office—a structure opposed by the Welsh Council of the B.M.A., which is asking for one regional body independent of the Government. Two other points of difference are the intention to set up a Welsh Health Staff Commission, to help particularly with staffing problems during the transition period, and a common service organization, called the Welsh Health Technical Services Organization, to provide (for health authorities) services which it would be uneconomic to do at area level. No such bodies are planned for England.

Scotland has gone about its reorganization in rather a different manner.\(^5\) Informal consultations between the Scottish Home and Health Department and interested bodies, including the profession, were started before Scotland’s only green paper was published in 1969. Thus the initial proposals already reflected to an extent informed opinion North of the Border. Nevertheless, there were still several aspects which the profession criticized, including the lack
of professional representation on area health authorities and the ambiguous relationship between the authorities and the central machinery. There will be no regional tier between the 10-15 areas proposed and the S.H.H.D. The medical profession in Scotland has held special meetings during the past two years to discuss reforms, and recently major standing committees have been studying a discussion paper from the S.H.H.D. giving more details about the controversial central structure for the N.H.S. there. This envisages a triad of a central planning council, a common services agency, and the S.H.H.D. While the Department has given assurances that area boards would be responsible to itself, some aspects of Health Service planning would be a function of the council (a consultative body). The agency, which would have close ties with the council, would provide a wide range of services for the area authorities, such as contracting for major supplies and the pricing of prescriptions. It would also take over work now done by such bodies as the Dental Estimates Board, and arrange for the selection and training of non-professional N.H.S. staff. Though neither the council nor the agency would have any administrative control over the area boards, nevertheless the doctors are concerned about the proposals because of the dangers of confusion about responsibility and negotiating procedures. The starting date for the Scottish reorganization will be early 1974, in line with launching of the English, Welsh, and Scottish local government reform.

The declared aim of the N.H.S. reorganization throughout the United Kingdom has been the integration of the different sections of the health services. Of the four countries Northern Ireland should come closest to achieving this, for only there will the personal social services and the personal health services be administered by a common area authority. There has been no Seebohm type legislation there to pre-empt this rational integration. The school health service will also be integrated into the N.H.S. To fit in with the timetable of local government reform, an urgent objective of the Northern Ireland Government, the N.H.S. reorganization will begin in April 1973. A welcome aspect of the latest consultative document from Northern Ireland (the first green paper was issued in July 1969) is that compared with the English one it is a positive mine of information. This has largely been due to the B.M.A.'s work and party efforts to send comments on the reform to the Government in an easier task than faces the profession in England and Wales. The profession's main criticism has been of the plan to set up four area boards, its preference being for one board to cover the whole country. Like Wales, Northern Ireland is to have a staff commission and its functions in helping staff through the transitional period are spelled out. Unlike England, Wales, and Scotland the health professions will have broadly 30% representation on each of the four area health boards proposed—and district councils will also have 30%, the remainder being taken up by other interests such as universities. The community's participation in the future N.H.S. is clearly defined, in welcome contrast to the English proposals.

Some of the differences between the plans for England and for the rest of the United Kingdom reflect the size of the Health Services in the four countries. The broad objectives of integration are similar, despite the varying routes proposed to achieve it. Paradoxically, while representatives of the profession in Northern Ireland and Scotland will take part in the profession's debate on the future of the N.H.S. in England and Wales the reverse is not so. Nevertheless, the experience of these representatives and the knowledge acquired in discussions with their two Governments should help the Representative Body when it debates the subject at Leicester.

Cancer Research

The Cancer Research Campaign's 48th Annual Report, covering the year 1970, has a completely different format from that of its predecessors. Most of its 145 pages are taken up by indices of research centres and of projects supported, lists of the Campaign's officers and of papers published by Campaign-supported research workers, and a financial statement. The income of the Campaign was more than 10% higher in 1970 than in 1968 or 1969, but the cost of research is increasing at a rate of about 10% per annum.

The scientific content of the report is restricted to three short general review articles which bear little special relationship to the work or achievements of grantee. The first of these, by Professor J. F. Fowler, of Mount Vernon Hospital, is concerned with progress in radiobiological research applicable to radiotherapy. He refers in particular to the search for new ways of reoxygenating and destroying hypoxically-protected tumour cells and of reducing injury to normal tissues during radiotherapy, and points out that between 1940 and 1970 the 5-year survival rate for patients with Hodgkin's disease rose from 6 to 73%. This change he attributes partly to improvements in radiotherapy apparatus and techniques, partly to the development of combined therapy with x-rays and drugs, and "greatly to systemic studies of the patterns of spread of the disease in the body so that treatment can be given precisely where and when it will have the best effect." The need for an intensive programme of research to evaluate the effectiveness and safety of immunotherapeutic procedures in animal systems is stressed by Dr. R. W. Baldwin, director of the Campaign's laboratories in Nottingham. He also suggests that human tumours should be classified according to the degree with which they are associated with the patient's immune responses. A careful study of types of cancer which are associated with immune responses may provide useful information on etiology and may lead to the development of new methods of both diagnosis and treatment.

Perhaps the most interesting review is that by Professor William Jarrett and Dr. Oswald Jarrett, who work in the Veterinary Hospital and the Department of Virology in the University of Glasgow on "oncorna" viruses and leukaemia in chickens, mice, rats, guinea-pigs, cats, and cows.