

The remarkable sensitivity of activation analysis has been exploited in studies of the electrolyte equilibrium of the fluids of the inner ear. The dynamic equilibrium between perilymph (which is a fluid of the extracellular type, with sodium predominating over potassium) and endolymph (in which potassium ions greatly outnumber sodium ions) is linked with the functions of hearing and balance. Reliable estimates of the concentrations of sodium and potassium have been obtained by activation analysis of small samples of fluid (2–10 μ l.) obtained from experimental animals, and there are grounds for hoping that this technique also may be extended before long to man.

Architectural Aids for Disabled

One of the shocks a patient commonly experiences on becoming severely disabled is to find how many activities that he formerly took for granted are now beyond his reach. Many disabled people adjust to restrictions on movement and activities by developing new skills, by using ingenuity to surmount obstacles, and so by sheer determination contrive to manage for themselves in an unsympathetic environment. Part of their adjustment lies in appreciating the things they cannot do. Rather than be frustrated in the attempt, they learn to leave them alone. Some retire into their disability and do less and less. Thus instead of trying to get up the imposing flight of steps that leads to the public library or cinema, up which normal folk skip so blithely, they prefer not to use the library or cinema at all.

In recent years architects have given more thought than formerly to the special physical characteristics of the people who will use the buildings they are designing. Schools were the first to be thought of in this way¹ and then to some extent hospitals. The Ministry of Housing published a design bulletin² in 1962 drawing attention to features and dimensions desirable to incorporate in flatlets built for old people so as to meet their physical limitations, the recommendations being based on investigations carried out by Ministry sociologists³ and an anthropometric study.⁴ But the special requirements of the disabled received little attention until the Royal Institute of British Architects' publication of 1963.⁵ Now the British Standards Institution commendably publishes a new code of practice, C.P. 96: Part I. Access for the Disabled to Buildings. It details the architectural provisions which should be incorporated in new buildings to make them convenient for disabled and infirm people to use. It is the product of a committee in which many groups with special knowledge of the needs and capabilities of the disabled, such as the British Council for Rehabilitation of the Disabled, the Central Council for the Disabled, the Spastics Society, and the British Medical Association, shared that knowledge with representatives of the interested professional bodies, including

the Royal Institute of British Architects, the Royal Institution of Chartered Surveyors, and various Government departments.

The new code covers ambulant-disabled people and the wheelchair-bound especially, but also incorporates a short section on the special requirements of the blind and the deaf. It is based both on empirical observation and on specific pieces of research—for example, into suitability of different designs of door handles,⁶ into the manoeuvring space of wheelchairs, and into the layout of sanitary and cloakroom accommodation. Many of these studies were sponsored by the bodies represented on the committee. The recommendations are such as can be carried out, for they are realistic rather than idealistic and economic considerations have been taken fully into account, as indeed they must be when any public building is planned. The new code of practice follows the lead of the American⁷ and Canadian⁸ standards, though it departs from the former in one significant feature in stressing the need for the signposting of special facilities for disabled people.

Nobody knows how many disabled there are in Britain. The American⁷ and Canadian⁸ recommendations take the figure of one in seven of the population as having a permanent physical disability or an infirmity associated with age. A survey carried out in Denmark⁹ in 1961–2, based on one person in 140 of the total population, identified 6.5% of persons aged 15 to 61 as physically handicapped. Many of these are not so disabled as to need special facilities, but information from various sources, such as the number of wheelchairs issued by the Ministry of Health, suggests that even if a similar proportion is not applicable to the British population the total here runs into hundreds of thousands. The new code of practice, wherever implemented, will mean that these hundreds of thousands will have freer access to shops and stores and churches and libraries and cinemas and hotels than they have hitherto had and so will be able to take part more easily and more fully in everyday activities.

Allergic Gastroenteropathy

The combination of oedema of obscure origin, hypoalbuminaemia, and gastrointestinal disturbance suggests the possibility of exudative enteropathy or protein-losing gastroenteropathy. This syndrome may be associated with giant hypertrophy of the gastric rugae,¹ regional ileitis and ulcerative colitis,² sprue,³ intestinal lipodystrophy,⁴ gastric carcinoma,⁵ intestinal lymphangiectasia,⁶ constrictive pericarditis and congenital atrial septal defect,⁷ neonatal steatorrhea with small-bowel dysfunction,⁸ and hypogammaglobulinaemia.⁹ To this growing list of causes of protein-losing gastroenteropathy may now be added a group of six young children with oedema, extreme hypoproteinaemia,

¹ Ministry of Education, Building Bulletins 1 to 9, 1951–65. London.

² Ministry of Housing and Local Government, *Some Aspects of Designing for Old People*, 1962. London.

³ Ministry of Housing and Local Government, *Grouped Flatlets for Old People—A Sociological Study*, 1962. London.

⁴ Roberts, D. F., *Ergonomics*, 1960, 3, 321.

⁵ Goldsmith, S., *Designing for the Disabled*, 1963, Technical Information Service, Royal Institute of British Architects, London.

⁶ Nichols, P. J. R., *Ann. phys. Med.*, 1966, 8, 180.

⁷ American Standards Specifications for making buildings and facilities accessible to, and useable by, the physically handicapped, 1961. American Standards Association, New York.

⁸ Building Standards for the Handicapped, 1965, Building Code, National Research Council, Ottawa.

⁹ Social Research Institute, Copenhagen, "Fysisk Handicappede i Danmark," in press.

¹ Citrin, Y., Sterling, K., and Halsted, J. A., *New Engl. J. Med.*, 1957, 257, 906.

² Steinfeld, J. L., Davidson, J. D., Gordon, R. S., jun., and Greene, F. E., *Amer. J. Med.*, 1960, 29, 405.

³ Parkins, R. A., *Lancet*, 1960, 2, 1366.

⁴ Laster, L., Waldmann, T. A., Fenster, L. F., and Singleton, J. W., *Gastroenterology*, 1962, 42, 762.

⁵ Jarnum, S., and Schwartz, M., *ibid.*, 1960, 38, 769.

⁶ Waldmann, T. A., Steinfeld, J. L., Dutcher, T. F., Davidson, J. D., and Gordon, R. S., *ibid.*, 1961, 41, 197.

⁷ Davidson, J. D., Waldmann, T. A., Goodman, D. S., and Gordon, R. S., *Lancet*, 1961, 1, 899.

⁸ Cottom, D. G., London, D. R., and Wilson, B. D. R., *Lancet*, 1961, 2, 1009.

⁹ Waldmann, T. A., and Laster, L., *J. clin. Invest.*, 1964, 43, 1025.

¹⁰ — Wochner, R. D., Laster, L., and Gordon, R. S., *New Engl. J. Med.*, 1967, 276, 761.