experimental difficulties." Some quarter-century later Dale recalled that in consequence of Banting and Best's achievement "from that point onwards the atmosphere of therapeutic research on endocrine organs and functions became one of renewed optimism and enterprise." Of the chief players in this drama only Professor Charles Best survives, and happily he is taking part in the jubilee celebrations of the event beginning in Great Britain next week.

It is a truism that great scientific discoveries are not suddenly snatched out of the sky. Much work leads up to them, often the work of people who for one reason or another fail to share in the final achievement. And it is no disparagement of the Canadians' work to acknowledge that it too had its predecessors. Sherrington himself drew attention to this in an apt quotation from Pasteur: "To have the fruit there must have been cultivation of the tree." Attempts to isolate a substance from the pancreas that would be a remedy for diabetes mellitus first occupied the attention of research workers in the first decade of the twentieth century. That story as well as its crowning conclusion has recently been the subject of a perceptive review by Professor Ian Murray,6 timed to celebrate the centenary of Langerhans' description in 1869 of the islets that bear his name.

At some point before the first world war the distinguished Rumanian physiologist N. C. Paulesco began work on the isolation of the antidiabetic principle from the pancreas, but his research was tragically interrupted, Murray relates, when enemy troops occupied Bucharest in 1916. Thus it was not until 1921 that he was able to publish his results and so provide convincing proof of the hypoglycaemic properties in the dog of a pancreatic extract that he had obtained. Because Paulesco's work was completed—and by a narrow margin published—before that of the 'Toronto team, medical circles in Rumania felt surprise and disappointment' at his not having any share in the Nobel prize that was awarded in 1923—but that award caused heartburning in other places as well. What had also occasioned some surprise,3 as Professor E. Martin, of Geneva, has now noted, was the brief and mistaken impression of Paulesco's work given in the original report by Banting and Best, a impression wholly at variance with the generosity and goodwill of these authors.

Now an interesting footnote to history has appeared from Best's pen in the Swiss periodical Schweizerische medizinische Wochenschrift, for it is this odd discrepancy that Best has cleared up in a letter published by Professor Martin. In reply to an inquiry about this matter from Professor Pavel, of Bucharest, Best wrote as follows: "I regret very much that there was an error in our translation of Professor Paulesco's article. I cannot recollect after this length of time, exactly what happened. As it was almost fifty years ago I do not remember whether we relied on our own poor French or whether we had a translation made." Anyone who has tried to keep up-to-date in the world's literature on his subject will feel the keenest sympathy for Professor Best and acknowledge that such scrupulous amends are rarely made.

Banting was an inexperienced part-time demonstrator in physiology and Best a medical student when they achieved their great work with the assistance and in the laboratory of Professor J. J. R. Macleod at Toronto. Working at the same time in the department was J. B. Collip, a biochemist from Edmonton, on a Rockefeller fellowship, and it was he who succeeded in preparing sufficiently refined extracts of insulin for clinical use. The first patient, a boy of 12, was treated in January 1922, with encouraging results. Large-scale manufacture of a pure preparation for the treatment of patients was now an obvious goal, and the Eli Lilly Company, brought in at the invitation of the Toronto team, turned its full research capacity on to the project. Patent rights were gifted to Toronto University and in Great Britain assigned to the Medical Research Council.

How could any award to these resourceful pioneers, whose work had brought such inestimable benefit to humanity, be apportioned in a manner that justly acknowledged the drive, insight, and originality of each? In the upshot the Nobel prize was divided between Banting and Macleod. Dissatisfied with this judgement, Banting gave half his share of the prize to Best and Macleod gave half his to Collip. But the team dissolves: "The clash of personalities of men working at an extreme pitch of exhaustion and the resulting split and break-up of this world-famous group must go down as one of the most unfortunate tragedies in the annals of medical research."

Since those heroic days we have witnessed the determination of the structure of the insulin molecule by F. Sanger, who received a Nobel prize in 1958 for his work, and the elucidation of the crystalline structure by Dorothy Hodgkin, who had earlier, in 1964, won a Nobel prize for her crystallographic studies of large molecules. The biosynthesis of this hormone in the body is gradually being worked out and its mode of action elucidated. But to Banting and Best and their collaborators will always remain the honour of having enabled effective, life-saving treatment to be offered to millions of sufferers from a disease that for many of them was inevitably fatal.

1 British Medical Journal, 1922, 2, 1139.
3 Murray, I., Scottish Medical Journal, 1969, 14, 286.
4 Paulesco, N. C., Archives Internationales de Physiologie, 1921, 17, 85.

Mind and Childbirth

The Third International Congress of Psychosomatic Medicine in Obstetrics and Gynaecology, held in London, came to an end on 2 April after four full days. It attracted some 800 people from 50 different countries, and among them were gynaecologists, psychiatrists, psychologists, general practitioners, midwives, physiotherapists, social workers, and others interested in the field. The scope of the congress was enormous. Some 250 papers were read, covering population problems, preparation for labour, sex education, teenage pregnancy, the unmarried mother, puberty and adolescence, sex identity, sexual response, psychological and psychiatric problems of pregnancy, the family and its relationships, the role of the father, pelvic pain, the emotional problems of pelvic surgery in the female, hyperemesis gravidarum, toxæmia of pregnancy, habitual abortion, premature labour, family planning, the gynaecologist and the psychosomatic patient, frigidity, stillbirth, the management of labour, therapeutic abortion, the menstrual disorders, the puerperium, lactation, mother-infant relationships, doctor-patient relationships, puerperal depression, the menopause, and the post-menopause. The list should convince the sceptical about the range of modern obstetrics and gynaecology, and ought to convince the doubters who wonder what psychosomatic medicine is about. For few would deny the interactions of psyche and soma in those subjects which were discussed.
School Health Service

Local authority medical services are going through an unsettled period. The 1970 Local Authority Social Services Act statutorily separated social services from health departments as well as transferring to the new social service departments some functions which many public health doctors felt had more affiliation to health than to welfare. With the dust caused by this legislation not yet settled, looming ahead is the promised reorganization of the N.H.S. The school health service, one of the responsibilities still closely associated with local authority health departments, will be affected by this reform. While the first green paper on the reform of N.H.S. administration1 made no mention of this service the second green paper2 disposed of its future in two short paragraphs, suggesting that paediatricians and general practitioners would play a much greater part in the future.

As a recent paper from the Society of Medical Officers of Health, the “Future of the School Health Services,” comments, the clinical work of the service must involve the co-operation of a wide variety of specialists. This is particularly important in the care of handicapped children. The report sees the doctor in the school health service as having essential clinical as well as administrative responsibilities. And though paediatricians—as well as suitably trained general practitioners—are acknowledged as having an important role in the service, it is considered impossible, in view of the heavy pressure on the hospital paediatric service for these specialists to undertake all the clinical work involved in the school service. Opinions will differ on what each should contribute to maintaining the health and this includes assessment and prevention as well as treatment of the schoolchild. But one thing is quite clear: though co-operation will benefit from integration of the three branches of the N.H.S., the future pattern of the school health service within the N.H.S. must be well planned if it is to provide the necessary continuity of medical care from infancy through to adulthood.

A letter this week (p. 171) from the Chairman of the B.M.A.'s Public Health Committee draws attention to a recent statement from local authority associations about the school health service. This statement has been sent to the Department of Health, and the opening sentence of its summary regrets—though accepts—the Government's intention to unify the administration of the health services outside local government. The associations express their willingness to co-operate fully in a review, “but would wish to reserve their decision on the outcome.” They also go on to state that “if the results of the study are unsatisfactory the associations might wish to reserve the right for local education authorities to appoint such staff as may be necessary to ensure an effective school health service,” an opaque way of saying that they are prepared to set up their own school health service.