MEDICAL EDUCATION

Two techniques which may have a considerable influence on the future pattern of medical education have been tried out in Britain in the past two weeks. The first was a four-way audio link for a clinico-pathological conference between four postgraduate medical centres; the second was closed-circuit television linking together six medical schools.

Four-way Audio Link Programme

[FROM A SPECIAL CORRESPONDENT]

A paediatric clinico-pathological conference was held in the Arthur Thomson Hall, Birmingham Medical School, on 26 May under the chairmanship of Dr. J. H. PRICE. The novel feature of this was that audiences at three other medical centres—those in Stoke-on-Trent, St. Albans, and Chichester—were able to listen to the clinical presentation and to join in the discussion by means of audio links. The programme was sponsored by the Medical Education Advisory Service of Smith, Kline, and French Laboratories Ltd., and the General Post Office was responsible for the technical arrangements.

The case under discussion was that of a Jamaican child with rickets and pseudo-hypoparathyroidism, and it was presented by Dr. W. H. P. CANT, University of Birmingham. During the presentation lantern slides were shown on a screen at each centre at the appropriate times. The Chairman then asked for diagnoses and comments from each centre in turn, where local practitioners, paediatricians, and pathologists all of whom had had a chance to study the case protocol beforehand had been listening. The pathological findings were then presented by Dr. A. H. CAMERON (Birmingham), who illustrated his account of the post-mortem findings with gross and histological photographs of the viscera.

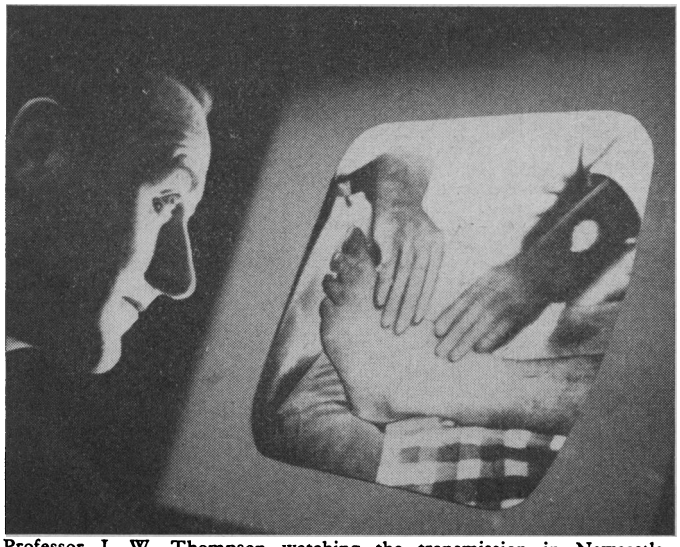
Results

The audio links worked very well at this conference, though a point that emerged was that in future the slides should be numbered for perfect synchronization, while colour slides, particularly of the histological preparations, would have made any interpretation of the pathological changes much easier. Nevertheless, the experiment must be counted a great success, since a true discussion was produced, with ideas from one centre sparking off others from elsewhere. The cost was said to be about one-tenth of that of a similar link by television. Apart from producing and distributing the protocols and the lantern slides, the work involved on the part of the medical participants was no greater than that of a routine clinico-pathological conference. The interest shown at the centres was certainly sufficient to make further experiments worth while.

Closed-circuit Television between Medical Schools

[FROM A SPECIAL CORRESPONDENT]

As a further experiment in the use of closed-circuit television in medical education (*B.M.J.* 1 January p. 44, and 19 February p. 478), a clinico-pathological conference held at the Royal Free Hospital on 31 May was transmitted to five other medical schools. These schools, and the local Chairmen, were as follows: University College Hospital (Dr. J. F. STOKES), the Middlesex Hospital (Professor L. P. LEQUESNE), and the Universities of Manchester (Professor D. A. I. G. BLACK), Newcastle-upon-Tyne (Professor G. A. SMART), and Birmingham (Dr. B. T. DAVIS). Large-screen projectors were used at these schools and two-way sound was available, except from Birmingham. The sponsors were Lilly Research Laboratories, and the technical organization was in the hands of Tele-Circuit Ltd. and the General Post Office, as on the previous occasions.



Professor J. W. Thompson watching the transmission in Newcastle. (Photo by courtesy of *The Journal*, Newcastle upon Tyne.)

The programme was introduced by Professor K. R. HILL (Royal Free Hospital), who said that he wanted to achieve two things. First, to demonstrate that television links between medical schools in this country were no longer conjectural, and, secondly, to come to a decision whether television could be used in day-to-day medical teaching or whether a studio atmosphere was necessary. On this occasion he was using medical professionals in an amateur production. Professor Hill emphasized that this was now a routine hospital event, and that the sound and television staff had been in the hospital for only seven hours.

Thrombocythaemia and Gangrene

Dr. FRANCES GARDNER (Dean, Royal Free Hospital), as central Chairman, introduced the first case, which was presented by Dr. D. J. WOODGATE. A short history on lantern slides was back-projected and successfully transmitted by a camera about 8 yards away from the screen. The patient was brought in, and enlargement of the liver and spleen was demonstrated. One foot had been amputated, while the other was seen to be shiny, gangrenous, and hyperkeratotic. Direct questions were asked of the patient by the audience at the other centres. Dr. L. KREEL's demonstrations of arteriograms on the *x*-ray viewing-box was transmitted with reasonable clarity, while colour transparencies of haematological slides were televised in black and white, substantiating Dr. H. CLINK's statement that an excess of megakaryocytes and platelets was present. Treatment of the patient, including surgery for the other foot (Mr. L. GRACEY) and the use of heparin and radioactive phosphorus for the thrombocythaemia, were described. The

amputated foot was shown by Dr. G. B. D. Scott, and histological sections taken from this showing thromboses were clearly seen. The diagnosis of thrombocythaemia, and its relation to the gangrene, were hotly disputed, particularly by Professor T. A. J. PRANKERD at University College Hospital and Dr. M. C. G. ISRAËLS in Manchester.

Case for Diagnosis

Professor SHEILA SHERLOCK then discussed a case for diagnosis for which the audiences had already been provided with clinical data. She illustrated her reasoning with brief summaries typed on to cellophane and back-projected by an overhead projector, which were seen more clearly on the television sets than the slide projection. A diagnosis of hepatocellular disease leading to cirrhosis and the formation of a hepatoma with cerebral metastases was made. Questions were asked by students at the Middlesex Hospital and from Newcastle. Dr. P. SCHEUER demonstrated the changes of active chronic hepatitis on the microphotographs of the liver biopsy, where the reticulin stain and the plasma cells were particularly well seen. The brain biopsy and the brain at necropsy, shown by Dr. ISOBEL BESWICK, revealed a large astrocytic glioma, which by its nature did not reproduce well in black and white on television.

Impressions

Apart from the failure of the large-screen projector in Manchester and of the sound in Birmingham, each of the five schools reported excellent sound and vision and also a valuable sense of audience participation. Two outside broadcast cameras were used, one at about eight yards and the other fourteen yards away from the demonstrators. The appearance on television of the back-projected lantern slides were moderately successful, while that using the more powerful overhead projector was better. Well-spaced electrically typed data were clear, and selected histology was just possible. A pointer wielded by the demonstrator out of the picture was very effective. Radiographs were clearly seen on the *x*-ray viewing-screen when the other lighting was properly adjusted. The gross pathological specimens could be seen easily.

In conclusion Professor Hill looked forward to a national network of coaxial cables, so that such programmes could become routine, and, by reaching wider audiences, help to relieve the shortage of medical manpower and teachers.

CONFERENCES AND MEETINGS

Teaching of First Aid

[FROM A SPECIAL CORRESPONDENT]

A B.M.A. conference on "The Teaching of First Aid" was held at B.M.A. House on 4 June. Over 400 representatives met from a variety of organizations, including the Red Cross, ambulance associations, industrial health services, the police, school medical officers, nurses, and girl guides. The Chairman, Dr. L. G. NORMAN (Chief Medical Officer, London Transport) said that the main emphasis was to be upon how rather than what to teach. Few medical schools taught first aid to their students, and this limited the ability of doctors to teach it. Many doctors learnt to handle the results of accidents, but hardly ever at the site of injury.

The morning was taken up with a lecture demonstration by Mr. D. B. FALLON, of the Post Office Ambulance Service, and Major J. S. TEMPLETON, R.A.M.C., assisted by Major SCOTT, R.A.M.C., and men from the Depot and Training Establishment, R.A.M.C. After lunch, and a couple of films selected to show teaching methods, Mr. P. S. LONDON (Birmingham Accident Hospital) spoke on the prevention and treatment of shock. He deplored the continued use of this ambiguous word, and pointed out that shock could be prevented by estimating the circulatory state in terms of likely blood loss and, more important, the need for replacement of blood.

Mr. R. MYLES GIBSON (Leeds General Infirmary) described the management of the unconscious patient. First-aiders, he said, should be taught the anatomy and function of the airway to emphasize its prime importance—also to look for injuries other than those to the head and to record the level of response, a term preferable to "consciousness," with which so many vaguely descriptive words were associated. In his view it was disgraceful that so many ambulances carried no simple resuscitator. Effective slides to illustrate all the important points in life-saving first aid could be produced centrally and distributed for teaching.

Accidents to Children

Dr. JOHN APLEY (Bristol Royal Hospital for Sick Children) reminded the audience that a quarter of the victims of accidents seen in hospital were children. The actual incidence of such accidents must be even higher, and this was not surprising. Children were accident-prone, since they could not estimate the speed, distance, or balance of objects. It was wrong to assume that children could be treated as miniature adults. They were more readily frightened, would struggle like a puppy if restrained, and had to be continually reassured. With a greater ratio of surface to mass they were more vulnerable to burns, cold, and shock. Nevertheless, there were compensating advantages for the doctor: they did not sit there wondering whom to sue, or pouring out a misleading history. The close attention properly paid to an adult during history-taking or examination would disconcert and frighten a child. Nevertheless, each procedure and instrument, blood, or pain, should be simply and truthfully explained. Dr. Apley concluded by saying that the best opportunity to impart an insight into the causes of an accident was often when it had recently occurred, and this was also a good time for advice on prevention. The management of children by first-aiders as well as by doctors should be directed to avoiding all scars, physical or mental.

Dr. A. FRASER-DARLING (Grantham, Lincs) spoke on accidents in the home befalling people over 65, with illustrations from his own practice. Befalling was the operative word, for half the accidents in this group are due to falls. Burns or scalds and poisoning (mainly by gas) accounted for most of the remainder. The degeneration of old age often caused a fall, and more specifically a drop attack, poor eyesight, or dizziness. Fractures occurred more readily in old people, often with little pain. There was the added danger of cervical fractures menacing the spinal cord. If the fallen person was not discovered or lay in some exposed place there might be the complication of hypothermia.

During a lively hour and a half of discussion there was sniping at the new second edition of the first-aid manual and much debate on how rigid teaching should be. Mr. London told a questioner who asked about the use of sodium bicarbonate to relieve burns that it should be removed from the first-aid box and placed firmly with his wife's cooking materials: a burn sterilized by heat could easily be infected by this traditional remedy. One lasting impression of a very enjoyable conference was that first-aid manuals could well contain a section on the handling of injured children.