

association is interested in new premises. If the merger goes through, it will join PATRA in the research association belt at Leatherhead in Surrey, and occupy an extension to the PATRA laboratories.

Of the two, PATRA is the larger. Last year, total income amounted to £257,000. The association employs 140 people, about half of them qualified. BP and BIRA had an income last year of £165,000, and a staff of 80, 26 of them qualified. The new association will at least be more briskly named; it is to be called the Research Association for the Paper, Printing and Packaging Industry, or PIRA for short, where P can refer to either paper, printing or packaging. This neatly avoids the impression of a take-over which would have been given by adopting PATRA's name. There seems to be enormous confidence that the merger will be approved; the extraordinary general meeting called by PATRA to confirm the move is timed for 11.45 on June 27, and the first meeting of the new association begins—in the same room—15 minutes later.

Training for Meteorology

from a Correspondent

THE first World Conference on Meteorological Education and Training will be convened by the World Meteorological Organization in Leningrad on July 11. It will last for 12 days. During this time ideas will be exchanged and information collected on current practice throughout the world in teaching the fundamental disciplines necessary for the training of research meteorologists and weather forecasters.

Shortly after the formal creation of the WMO in 1951 it was realized that one of the major obstacles to the development of meteorological science throughout the world was the lack of qualified personnel. The ablest graduates in mathematics and physics tended to be attracted more by the spectacular advances of modern physics. Lack of education and training facilities in meteorology in the universities of the world was a prime reason for this state of affairs—only in the United States has meteorology received proper recognition and attention in university colleges of science. The United Kingdom possessed only one department of meteorology until the establishment of the new department at Reading in 1965. Fortunately this gap in meteorological education was filled to a large extent by the Meteorological Office Training School which was set up to train new recruits to the Meteorological Office. The school gained international recognition and students from many countries in Europe, Africa, Asia and South America were accepted for admission.

The WMO has been particularly concerned with training and education in meteorology in the developing nations, by granting fellowships to enable trainee members of national meteorological services to spend some time at centres of education and research abroad, and by the recruitment of experts to go and teach in host countries. The WMO recognized that these arrangements were becoming inadequate, and in 1963 established a training section within the secretariat. In 1965 the executive committee established a panel of experts on training, and at the first meeting of the panel in Geneva in March 1966, the details of a World Conference on Meteorological Education and Training were determined.

Topics for discussion at the conference will include the minimum qualifications required of trainees at the time of admission to the university, and details of syllabi in both fundamental subjects such as mathematics and physics, and specialized subjects such as dynamic meteorology, physical meteorology, synoptic meteorology, aeronautical meteorology and climatology. Possibly the most important subject for discussion will be training methods and facilities, a subject lost sight of in the past. It is most important that teaching in meteorology should be brought into line with that in the other physical sciences. In particular, theoretical problems and practical experiments related to the atmosphere should be posed for students to work out. In many centres of training it is not practicable to install expensive communication facilities for the reception of current processed data, charts and satellite pictures. It would be helpful, therefore, if printed working charts and other materials related to weather conditions in different parts of the world could be prepared and made available to universities and training institutes of meteorology throughout the world.

A conference on training and education in meteorology is overdue and most welcome. The findings and recommendations of the conference could lead to a physical easing of the labour of teaching, and to an improvement of training programmes and teaching standards and methods and of the results achieved. But, more important, it could perhaps generate some excitement and glamour into the subject so that a larger number of well qualified students will look to meteorology as a career. If meteorology is to flourish, young people must be attracted to it in greater numbers.

Research in Communications

THE Postmaster General, Mr Edward Short, one of the largest customers of Standard Telephones and Cables Ltd., opened a new wing of the company's research laboratories at Harlow on June 9. He performed the ceremony in contemporary style by switching on a laser beam which cut through a ceremonial cotton string. The Postmaster General arrived by helicopter with Mr A. D. Makay, chairman of STC, who afterwards admitted that he had had difficulty in guiding the helicopter to its destination because he could not recognize the laboratory building. Standard Telecommunications Laboratories, the research subsidiary of STC, has just announced that it intends to develop computerized navigational aids.

STL, twenty-one years old and one of the largest privately owned industrial research laboratories in Britain, looks back with pride on its achievements, among which is the invention of pulse code modulation. Although part of STC's success is reputed to spring from its insistence that the research it sponsors should be directly useful, a lot of basic research does go on at STL. In the search for new materials high pressures are being used to try to discover entirely new phases and a new apparatus, designed to produce hydrostatic stresses of more than 100 kbars, is being developed. Solid state work includes investigations of high field conduction phenomena in samples made of metal-insulator-metal sandwiches (an area in which STL has made notable contributions in the past), and studies of bulk effects in semiconductors. Not unsurprisingly STL also works on digital computers,