

it holds a discussion meeting on the expedition, scheduled for early next year.

TRANSPORT

Slide to Work

THAT old staple of science fiction writers, rapidly moving pavements for carrying people around cities, came a few steps nearer to reality last week. The Dunlop Rubber Company announced that, jointly with the Battelle Institute, Geneva, and with the backing of the National Research Development Corporation, it has devised a viable conveyor system capable of speeds of ten miles an hour or more yet fully accessible to the old and infirm.

Passenger conveyors tried about ten years ago in the United States had a rubber belt sliding along a steel bed. Problems of friction soon led to the abandonment of this idea, and later designs had a belt running over rollers. This system was efficient though bumpy and uncomfortable, and Dunlop some years ago devised a belt strengthened by lateral and longitudinal steel cords. The belt needs support only at its edges: its centre span apparently gives a smooth ride.



Photomontage of a Dunlop conveyor mounted above a city street. The whole structure weighs little, and support columns can be widely spaced.

The other outstanding problem in conveyor design is access. A conveyor can move at no more than $1\frac{1}{2}$ m.p.h. if its passengers have to step straight on to it. The Dunlop-Battelle system solves the problem quite ingeniously. At an access point, steps continuously emerge from an entrance comb—as in a normal escalator—and move towards the conveyor. The steps are set in parabolic tracks so that while their forward motion is constant, they are also subject to a small lateral acceleration, which continues until the steps meet the conveyor, exactly matched to it in sideways speed. Disembarking would, of course, take place in reverse sequence: one continuous loop of steps could handle both entrance and exit at a station.

A double moving belt three feet wide could carry 30,000 passengers an hour over a route of perhaps two miles. Routes would have to be fairly straight—Dunlop estimates that its belts have a minimum radius of curvature of 900 feet. Cost is estimated at £2 million a mile—about a third of that of the Victoria Line. Cost per passenger mile is expected to be competitive with current systems.

The first full scale version of the conveyor is expected in 1971 and already several city authorities here and abroad are taking a close interest in the development. The GLC Covent Garden Plan of a few days ago made reference to a conveyor system of some sort, but

Dunlop says that it does not know whether the GLC had its own system in mind. The company expects to spend about £500,000 on the development of the system, and costs will be shared equally with the National Research Development Corporation. The Battelle Institute apparently has no commercial stake in the enterprise—it merely has a research contract for the entry and exit device.

EMPLOYMENT

Woman Power

MORE evidence of the scarcity of women in technical jobs is provided in the November issue of the Government's *Employment and Productivity Gazette* (HMSO, 6s). An article entitled "Opportunities for Girls in Skilled Work" reports that between 1950 and 1967 the number of employed women in Britain increased from 7 million to 8.6 million, accounting for almost two-thirds of the total increase in labour force. A survey by the Government Social Survey in 1965 showed that although married women work chiefly to augment the family income, they also want company and escape from boredom, and the indications are that in future most women will work and most of them will work outside the home, except for perhaps 10 to 15 years while their children are young. But most of the increase in women's employment so far has been in clerical work or jobs requiring little training; and in the engineering and electrical goods industries there has been a sharp decline in the proportion of women in professional and technical posts.

In Russia, 30 per cent of engineers are women and in Sweden the figure is seven per cent, but in Britain more than 77 per cent of girls entering employment in 1967 went into clerical work or jobs requiring less than two months training. Only 7.2 per cent went into apprenticeships, of whom three-quarters were in hair-dressing. The report finds it unsatisfactory that many girls, who have never been shown to be less able than boys, should be doing jobs which do not make full use of their abilities.

If the range of women's employment is to be broadened, a number of prejudices must be overcome. Many girls and their parents feel that certain jobs, like clerical work, are suitable for girls, while work in industry is usually dirty and unfeminine. Equally, science is often considered an unfeminine pursuit for sixth form girls. Many never think of entering a less traditional field of employment, or if they do they feel that prejudice will halt their progress. Girls receive scant encouragement from employers, who tend to consider that training girls is a waste of money. The report agrees that there is some truth in the belief that family commitments make it difficult to obtain an economic return on the training of girls, but points out that this idea ignores the changing pattern of women's working lives, with more women returning to work after having their families.

Attempts to ease this situation are under way, but success seems to be slow in coming. The Engineering Industrial Training Board has reminded employers that women and girls can make a contribution in the more highly skilled jobs, and has expressed the pious hope that girls will become more interested in careers in engineering. The board's new proposals for craft

training mean that the minimum length of training for engineering will be no longer than for hairdressing, which many girls are prepared to enter as apprentices. This should remove at least one of the barriers.

In Gloucestershire, Hertfordshire and the London Borough of Hounslow, employers who have difficulty in filling their craft and technician apprenticeships with boys are being encouraged by the Central Youth Employment Executive to give girls equal consideration. At the same time, youth employment officers have been urged to encourage suitably qualified girls to consider sandwich courses and apprenticeships. Initial reactions show that there is a great deal of work to be done. Prejudice against girl apprentices is strong in traditional manufacturing industries such as mechanical engineering, and employers are usually interested in giving jobs to girls only if insufficient boys are available. Another problem, which places responsibility on the schools, is that not enough girls obtain qualifications in science and mathematics to provide a good supply of recruits to firms prepared to take them.

EDUCATION

Professors for Everyman

LAST week Britain's university of the air, the so-called Open University, announced the appointment of its first five professors and two directors of studies. The three scientists among them are Mr J. M. Pentz, at present a senior physicist at CERN, who is to be director of science studies, Professor G. S. Holister, an engineer who will be coming home from Pennsylvania State University, and Dr Maxim Bruckheimer, currently senior lecturer in mathematics at the City University. In this first batch of appointments the Open University seems to have done its bit to reverse the brain drain, for apart from Professors Pentz and Holister another of the appointees, the classicist Professor J. Ferguson, has been recruited from the United States.

Despite the crisis in educational spending the Open University, as Miss Jenny Lee's personal sacred cow, seems to have survived unscathed. As well as announcing these appointments, the university is currently advertising for more staff, from assistant lecturers to professors, and for a librarian. According to the advertisement in *Nature*, "members of staff will be expected to devote a proportion of their time to private study and research", but it is not clear yet where this will be done. Mr D. Stafford, the secretary of the university, said this week that the university was looking for permanent premises somewhere in the home counties within commuting distance—fifty or sixty miles—of London. The plan is to site the Open University close to a conventional university so that its staff can use the latter's library and perhaps apparatus. But that may be straining the bonds of friendship too far, and Mr Stafford agrees that there could well be difficulties in catering for the needs of scientific research unless, of course, the Open University spends some of its money equipping its scientists. On the face of things, all this suggests that the Open University will be no place for scientists with anything but the most modest research ambitions.

If the staff of the university is to rely on conventional universities for its research facilities, how will the students fare? The degrees which the Open Univer-

sity will offer will apparently be quite different from anything offered by the traditional universities. That may explain the eloquent silence of the Committee of Vice-Chancellors and Principals, which so far has made no official comment, not even a polite word of encouragement, about the project. The Vice-Chancellors' Committee has, however, recently accepted in principle the invitation to send three members to the council of the Open University. No matter how general the degrees are to be, however, there will have to be some laboratory work and the university intends to persuade all the existing adult and higher education agencies to provide the facilities. The same applies to libraries; local public libraries will apparently be expected to cope with the demand for multiple copies of textbooks. But where is the money to come from? According to the Libraries Association, admittedly a vested interest, no one has any idea at the moment who will be paying for these special libraries, or, for that matter, what will be the most economic way of meeting the demand. The association makes no secret of its criticism that not enough attention has been given to libraries by the university's Planning Committee. The usual pattern in new universities is to appoint the librarian as soon as possible, but the Open University belatedly decided last week to employ a librarian and is now advertising the job. That in itself is something of a triumph for the Libraries Association, which has been pressing for the appointment ever since the planning of the university began, but the question of funds has still to be solved. The public libraries are overstretched already and there is no obvious reason why the university, with a budget for 1969-70 of £1.5-2 million, should not, like every other university, provide its students with the library they need. The report on the plans of the university, which is due to be published in January, three months before the university receives its Royal Charter, may contain some definite proposals.

GASTROENTEROLOGY

Easing the Pain

THE traditional special diet of milk, puréed vegetables, white meat and fish does not seem to be as valuable in the treatment of peptic ulcers as faith in the time honoured method has suggested. Twelve years ago patients eating a normal diet (with the exception of fried food) or the traditional special diet were shown to be no different with respect to the pain they felt or the extent to which their ulcers healed. More recently, at the MRC Gastroenterology Research Unit at the Central Middlesex Hospital, the effects of normal and special diets on the acidity of the gastric contents have been examined. Although food in general buffers and dilutes gastric acid so that acidity decreases, the special diet has not been found to be any more effective in this respect than a normal diet.

Patients with duodenal ulcer often complain of pain in the early morning and before meals—times when acidity is greatest. The peak acidities before meals have been found to be less when a day's diet is given at two hourly intervals than when the same quantity and content of food is given in larger portions at four hourly intervals. More frequent feeding might therefore be expected to reduce pain during the day, although