

curriculum set up by the board of the faculty of medicine and currently being debated—reflect closely the proposals in the Todd report for bringing up to date and introducing flexibility into the sharply divided indigestible pre-clinical and clinical curricula.

One of the principal suggestions is that the curriculum should consist of “studies of the normal in man and clinical and related sciences”. Attention has already been drawn to the desirability of founding medical education on a degree course in human biology—for one thing, it would enable students other than those intending to become doctors to follow the first three years or so of the course. In line with this, it is suggested that in London schools, studies of the “normal in man” should be based on general biological principles, dealing with human structure, function and behaviour. In particular, the studies would include anatomy, biochemistry, biometric and statistical methods, genetics, physiology, psychology and sociology. Integrated with, or subsequent to, this biological grounding would come pathology, clinical studies, community health, medical ethics and the law relating to medicine.

A farsighted suggestion is that the University of London should institute a new degree of Bachelor of Medical Science. The Todd report urged such a development, on the grounds that it would give medical students who have completed 3 years study the graduate status that students in other faculties enjoy. Furthermore, if a student failed to complete the medical course, he would at least have a qualification that would enable him to take up a career in some non-medical or paramedical field. In London, the new degree would be taught and examined on the basis of a minimum of nine course units similar to those already operating for the BSc degree in the Faculty of Science. In order to qualify, students would have to undertake a group of compulsory subjects—including at least six course units made up from the subjects listed under “studies of the normal in man”, together with introductory courses in pathology and pharmacology—and a number of optional subjects which could be either clinical or non-medical. Candidates achieving a sufficient standard above that required for a pass would be awarded honours, and should be permitted to proceed to higher degrees.

As far as assessment of students' performance is concerned, the sub-committee proposes that it would be open to schools to conduct special (or internal) examinations whose timing, combination of subjects and form would not be prescribed but would have to be approved by the university. It will be interesting to see how many new methods of evaluation, such as those proposed in a recent World Health Organization publication (see *Nature*, **220**, 842; 1968), are introduced.

Needless to say, the suggestions for revised regulations are provoking mixed reactions. In particular, the BMedSci degree has been both criticized as an unnecessary evil and supported as a welcome proposal. As one senior lecturer pointed out, not all students may want to take the degree, preferring instead to study for a BSc in one particular subject under the present arrangement. Set against this, however, if students were awarded a BMedSci, he said, they would automatically become postgraduates which would improve their status and might also help them to obtain grants from the university. But he thought the degree would be less enthusiastically welcomed if it meant that

students could not get on to the wards, as they do at present, to see applied physiology at the bedside.

Integration of courses in present conditions is also a controversial topic. At King's College Hospital Medical School, Westminster Medical School and St George's Hospital Medical School, for example, pre-clinical students are geographically isolated from clinical students and, until stronger ties are established between them, integration of the course, it has been suggested, would be almost impossible. Most London medical schools are fortunate in having their own pre-clinical departments, but even so the complexities of planning integrated courses loom large.

## MEDICINE

### Doctors' Pay

BRITISH doctors seem to have grudgingly accepted their 8 per cent pay rise backdated to January 1, awarded last week by the Ministry of Health on the basis of the tenth report of the *Review Body on Doctors' and Dentists' Remuneration* (HMSO, 2s 6d). Dr S. Greaves, the secretary of the Medical Practitioners Union, said last week he did not think the award generous; it is to last for at least two years and therefore is within the 3.5 per cent norm laid down by the prices and incomes policy. Dr Greaves said he is convinced that the increase will have no effect on the levels of emigration. This view was echoed by the Junior Hospital Doctors' Association, a spokesman of which said he would have preferred the £18 million which the pay award will cost the country annually to have been spent on creating another 4,000 consultancies in the hospitals.

PAY SCALES IN LONDON FOR CLINICAL SENIOR LECTURERS AND NHS CONSULTANTS (IN POUNDS)

Service (years)	Senior lecturer		NHS consultant	
	Present scale	New scale for 1968-1969*	To Dec. 1968	New scale from Jan. 1969†
—	2,765	3,200	3,200	3,470
1	2,880	3,200	3,385	3,670
2	2,995	3,200	3,570	3,870
6	3,455	3,455	4,315	4,670
9	3,810	3,810	4,885	5,275
12	4,055	4,125	4,885	5,275
15	4,380	4,380	4,885	5,275

\* Proposed by UGC on December 23, 1968

† This includes the Review Body's latest 8 per cent award

In the report, the Review Body under Lord Kindersley recalls that comparability is “one of the chief factors to be taken into account in determining appropriate medical and dental remuneration”. The great attraction of comparability to all wage negotiators is, of course, that it can seldom be accurately assessed. The Review Body admits as much, saying “the appropriate relationship between the remuneration of doctors and dentists and that of other professions could not be precisely established, but should be maintained in broad terms”. Lord Kindersley and his colleagues argue that as salaries have risen on average by 7-9 per cent since the last pay award to the medical profession, doctors merit an 8 per cent increase. To the average general practitioner, this means between £200 and £300



a year more, bringing the average salary to £4,250. The upper echelons of the hospital service will also receive 8 per cent but, just as the Prices and Incomes Board recently gave a greater proportional increase to junior university staff, the Review Body awards 14 per cent instead of 8 per cent to house officers, the lowest grade of the hospital service, who will now start at £1,250, increasing in three years to £1,450—an increase of £150 a year.

In an addendum, Lord Kindersley's committee says that the Prices and Incomes Board, in its recent report on academic pay scales, drew attention to the anomaly that university salaries have been referred to the board although the medical salaries have thus far escaped its attention. The Review Body says this situation is inherent in the acceptance of the recommendations of the royal commission on medical salaries which reported in 1957—and the Review Body goes on to say that its existence is justified by the need for a totally independent organization to scrutinize doctors' wages.

Meanwhile, there has been a chorus of protests about the way in which the University Grants Committee apparently intends to implement the PIB's recommendation that university teachers holding honorary consultancies should be paid on National Health Service consultant scales. After all, considerable sums of money are at stake. In a letter of December 23, 1968, to the Principal of the University of London, the UGC suggested that clinical lecturers, senior lecturers and readers with consultancies should be translated to a point on the NHS scale nearest to their present salary and not by order of seniority. If this should mean a drop in salary, the teachers should remain at their present salary until their next increment falls due. This scheme has the merit of simplicity but it will create a host of new anomalies. First, the university pay scales vary significantly from university to university. Second, the NHS scales are usually better than the university scales and the Review Board's award has increased the difference (see table). As articles in the *Lancet* (1, 199 and 254; 1969) in the past fortnight have pointed out, the UGC's recommendation entirely misses the spirit of the PIB's report, which was explicit enough—that those with consultancies should receive comparable pay irrespective of whether they work for a university or the NHS. Obviously the thing to do is to assimilate university clinical teachers on the NHS scale at a point which gives them the same salary as NHS consultants of the same seniority. It is inexplicable that the UGC should try to do otherwise.

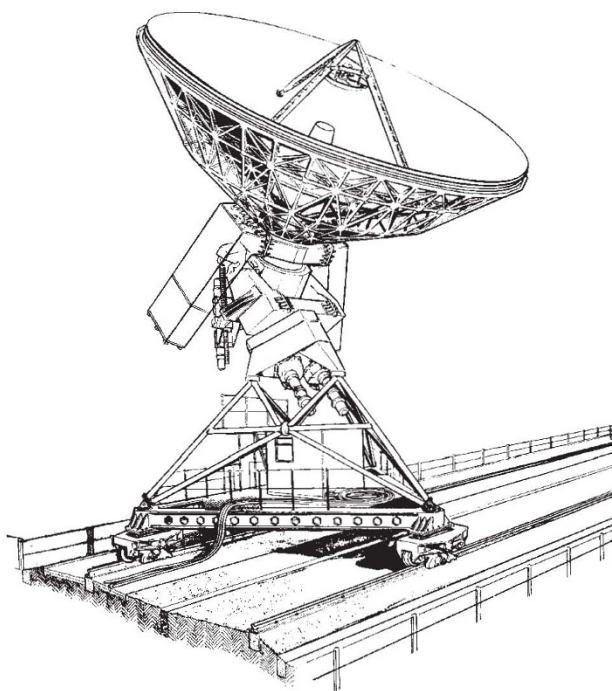
#### RADIO TELESCOPES

### Straight Track for Cambridge

THE widespread pruning of the British railway network has its advantages for the Mullard Radio Astronomy Observatory of Cambridge University. An axed section of the Cambridge-Bedford line is the northern boundary of the observatory's Lord's Bridge site, and runs in a straight line almost due east-west for about three miles. The track has proved to be just the site for the new three-mile telescope, a linear array of eight dish aerials for which the Science Research Council announced the go-ahead last week (*Nature*, 221, 515; 1969). Otherwise the observatory would have had to negotiate with neighbouring farmers for more land. Lord's Bridge

station stands derelict, roughly in the middle of the stretch of line, and is to be the site of the control room of the new telescope.

At the Cavendish Laboratory last week, Professor Sir Martin Ryle, director of the observatory, eloquently outlined the scientific case for the telescope, which will take two years to build and will cost the SRC £2.1 million. The gist of what he said is that the telescope will be primarily a mapping instrument, plotting radio sources with a resolution of one or two seconds of arc. This compares with the 20 seconds of arc achieved by the present mapping telescope, the one-mile array. Professor Ryle described the situation which has arisen in astronomy with the discovery of a succession of quite unexpected sources, such as quasars and radio galaxies, requiring mechanisms which cannot be accounted for by physics and conditions which can never be reproduced in terrestrial laboratories. The



Traversable aerial for the three-mile telescope

hope is that detailed maps will throw some light on what is going on in the sources. Cosmology should also benefit from a new mapping instrument—one criticism of the source counts which have become a speciality at Cambridge is that they are hard to understand while the nature of the sources remains unknown. Mapping of supernovae remnants is also likely to receive high priority with the new telescope.

In its simplest form, the aperture synthesis technique which will simulate a three-mile dish requires two dish aerials whose separation can be varied by up to three miles. The rotation of the Earth means that, viewed from space, one aerial draws out an arc relative to the other. By varying the separation up to three miles, successive ring elements of the dish are filled in. This is the principle of the one-mile telescope at Lord's Bridge, except that, to save time during the observations, three 60 foot dishes are spaced in a linear east-west array. The east and centre aerials are fixed half