# OLD WORLD

TELESCOPES

## How Pilot Works

by our Astronomy Correspondent

BEHIND the closed doors of the council chamber at Burlington House and in the Athenaeum afterwards, the Royal Astronomical Society has always been interested in the management of British astronomy. But lately, under the presidency of Sir Bernard Lovell, some of the concern is becoming perceptible to the society's membership. Last Friday all of the ordinary meeting of the society was devoted to a discussion of the instruments that are being developed for the Anglo-Australian telescope under the guidance of the SRC. To some extent, this is a controversial topic because several astronomers are worried that some important instruments will not be ready in time.

The meeting was neatly timed because that day and the preceding Thursday there had been a meeting of the SRC Panel for the Instrumentation of Large Optical Telescopes—known as the PILOT panel—that was set up in 1968 at the instigation of Mr J. F. Hosie of the SRC, director of the astronomy, space and radio board. The establishment of the panel may have been a reaction to the situation which occurred after the completion of the 98-inch Isaac Newton Telescope at Herstmonceux when several important pieces of equipment were not ready for astronomers to use — a situation described as a catastrophe by one astronomer who says that the mistake was in not involving some of the younger people in the planning of the telescope. In any case, it seems to have been wise of Mr Hosie to apply an age limit of forty on the panel at least in principle, although with the passage of time that boundary condition seems to be breaking.

According to the present chairman of PILOT, Professor J. Ring of Imperial College, the panel considers its functions to be to accept direct responsibility for designing particular instruments, and to consider whether proposals submitted to the SRC from astronomers working in the universities fit into the general scheme. A corollary is that the panel is looking for gaps in the instrumentation available in Britain and abroad that need to be filled. Instruments being prepared under the auspices of the panel for the Anglo-Australian telescope are divided into two classes — what are termed "people's" instruments available for communal use, and more sophisticated instruments that would only be used by a few astronomers.

Last Friday, the PILOT panel had been discussing a design study for the control system of the Anglo-Australian telescope, which was described to the meeting by Dr V. C. Reddish of the Royal Observatory, Edinburgh. The rationale behind the expense of a sophisticated control system is to reduce the wasted time between observations when the telescope shutter is closed while the telescope is being directed to the next observation. According to Dr Reddish this sometimes amounts to 50 per cent of the operating time. Experience with the 200-inch Hale telescope and at Edinburgh suggests that there could be a 50 per cent increase in efficiency by means of a computer controlled system allowing the astronomer to feed in information for the next observation while the telescope shutter is open and an observation is being made. Dr Reddish said that in the design study it is envisaged that the telescope would be more efficiently and more accurately controlled than present telescopes.

Mr Hosie said at the meeting that the construction of the 150-inch telescope was going well, but agreed that the PILOT panel was anxious about the possibility of some of the equipment not being ready on time. It is now expected that the first allocations of time on the telescope will be made at the end of 1974—the construction of the telescope had been put back six months by the death of the first project manager, Mike Jeffries, who by all accounts had been doing a fine job. The telescope is now going to cost more than was estimated in 1966–67, and the total capital cost to be shared between the two countries will now be A$13 million. Although approval for the additional cost has been obtained there are still problems—Mr Hosie said that if the astronomers and designers get all that they are at present asking for, still more money will be needed. He was asking people to think in terms of simple equipment that could be upgraded in the future when more money will be available.

SCHIZOPHRENIA

## Promising New Drug

A new drug for long-term treatment of schizophrenia seems to offer several advantages over preparations now widely in use. Unveiled at a press conference in London last week, the drug, which goes under the trade name of Orap, is claimed to be a specific antipsychotic which does not produce many of the adverse side reactions that have dogged long-term treatment of schizophrenia in the past few years. If these claims are substantiated the new drug will be a boon to patients who are being treated outside hospital for a disease which has a particularly high relapse rate.

One of the chief problems with long-term management of schizophrenia is that the most popular tranquillizers, while very effective for treating the acute phase of the disease, tend to cause drowsiness or Parkinsonism if they are administered over long periods. These side-effects present difficulties for patients who are trying to carry out normal occupations, and it is a chief factor in the high relapse rate for the disease. More than half of the patients discharged from hospital are eventually readmitted for further treatment.

Orap adds a third class of drug to these now being used. It is a primozide —a diphenylbutapiperidine—while the others are either phenothiazines such as chlorpromazine or butyrophenones such as haloperidol. The manufacturers, Janssen Pharmaceuticals Ltd, claim that the drug has acquitted itself well in clinical trials on 2,000 patients throughout the world, and that it has been used to treat 200 patients in the UK with great success. But it will be interesting to see whether in attempting to eliminate the adverse side-effects, Janssen has sacrificed some of the antipsychotic efficiency of the standard drugs. Although the drug is claimed to be effective in only a single daily dose, it is not suitable for treatment of manic schizophrenia.

Research into the causes of schizophrenia is at present in a state of limbo, but the efficiency of Orap as an antipsychotic agent may help to underline the suspicion that dopamine may be involved in schizophrenia. The primozide drugs are specific blockers of dopamine neurones, and the use of the drug will be watched with interest by biochemists looking into the biochemical basis of schizophrenia.

VIRAL HEPATITIS

## Antigen raises Hopes

MUCH of the excitement which gripped immunologists three years ago when it became clear that there is a connexion between viral hepatitis and the presence of Australia antigen in the blood is reflected in a recent report from the World Health Organization (*Bull. Wld. Hlth. Org.*, **42**, 957; 1970; HMSO, 6s). There is no sign that this excitement is cooling down; next week in *Nature New Biology*, Jóźwiak and his associates present the first evidence that RNA is associated with the antigen particle, a discovery which goes some way towards proving that Australia antigen is, in fact, viral in nature.

Viral hepatitis—acute inflammation of the liver caused by viral infection—takes two forms, epidemic and serum, by virus A and virus B respectively. In