wavelengths in order to achieve more resolution with reasonably sized aerials, Hewish remained interested in the metre waveband where the plasma effects are more pronounced than at shorter wavelengths.

In the event, the DSIR grant turned out to be one of the most cost-effective in scientific history. Less than two months after recording began, Hewish's student Miss Jocelyn Bell noted the recurrent pulses on the recording charts around local midnight when the normal scintillation phenomenon is inconspicuous. The drama of the succeeding months as Hewish established the extraterrestrial and stellar nature of the signals was hidden from the world until there could be nothing but astonishment at the final outcome. Six years later with 120 pulsars under study there seems little doubt that the signals have their origin in neutron stars, the end of a supernova explosion—a possibility suggested by Hewish in the initial publication. In these events the remains of the star have collapsed into a body with a diameter of only tens of kilometres, with densities of the order $10^{14} \text{ g cm}^{-3}$ and possibly with magnetic fields of 10^{12} gauss.

It is this state of matter, hitherto merely a speculation of theorists, which is now observable, and the discovery must surely be acclaimed as entirely appropriate to the distinction now accorded to Hewish. BERNARD LOVELL

As if to show that astronomical research is truly an integral part of Western civilisation, the largest optical telescope in the Southern Hemisphere was officially opened on October 16 to the strains of a string quartet playing Purcell, Dvorak and Mozart. Prince Charles came from England to say the words which set the massive 326-tonne telescope slewing and the 526-tonne dome rotating in a bravura display of engineering gymnastics which left the 400 official guests (comfortably seated on the floor of the telescope) applauding in amazement at the scale of it all.

The ceremony was nicely done. The engineers and scientists were at pains to show that they can turn on a show worthy of princes and premiers and the \$A16 million of public money which it cost to build. For the people of the modest country town of Coonabarabran (population some 3,000), 29 km away, there had never been such a day. The town's five taxis had a field day (\$A3 to the airport, \$A8 to the telescope), the flags were out, the schoolchildren and the farmers met a real Prince, and the security men, obvious in their plainclothes, were there in force, giving rise to endless gossip.

Charter and VIP flights brought

hundreds from Sydney (340 km to the south-east) and Canberra. There was a batch of 16 British scientists, too, led by Professor Sir Fred Hoyle, present Chairman of the Anglo-Australian Telescope (AAT) Board, and Professor Sam Edwards, Chairman of the Science

Royal inauguration for AAT

from Peter Pockley

Research Council. They will have to work hard to keep up an Anglo semi-image to the project—but there will be no trouble over control and access to the telescope which was established on a very formal intergovernmental level with 50% shares each. In the popular imagination the AAT will always be depicted in the midst of the gum tree landscape of the Warrumbungle ranges, spectacularly spread out beneath Siding Spring Mountain which is the 1,165-m-high platform for the big dome and its four smaller companions (three Australian National University reflectors and the United Kingdom's own Schmidt telescope). Despite the careful 50/50 protocol of the opening ceremony and the words of Prince Charles and Prime

Minister Whitlam, the AAT will certainly become an Australian national symbol.

The description "largest in the Southern Hemisphere" is relatively easy to come by with feats of technology, for the land mass and population south of the Equator are but tiny fractions of the world totals. Yet this telescope is genuinely in the big league, and the situation of this giant eye where it can look right into the centre of the Galaxy and the Magellanic Clouds, the nearest galaxies to us outside our own, will give it an edge on its competitors (and collaborators) in the north which is sure to produce a spate of important observations. In the competitive astronomical stakes, though, the American 3.9-m telescope at Cerro Tololo in Chile will be only a few months behind the AAT.

The first calibrating photographs have already been taken before the mirror gets its first aluminising by the end of this month. Professor Ben Gascoigne, the Commissioning Astronomer, has enthusiastically pronounced the optics to be first class, better even than the specifications. He has now been joined at the AAT by the first Director, Joe Wampler, from Lick Observatory.