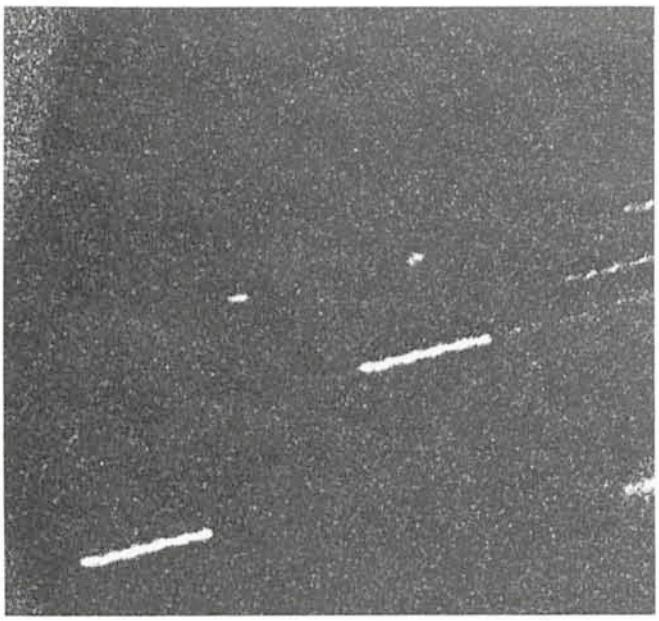


The confirmation of the recovery of Adonis came from this ESO Schmidt plate (No. 1996, obtained on February 24, 1977 UT). Adonis is seen as two spots in the centre. The telescope was set to follow the expected motion of Kowal's candidate (see text) during 20 minutes, by means of a command to the Schmidt telescope computer that specified the tracking in R.A. and Declination. After the first exposure the telescope was reset to the initial position and a second 20-min exposure was made. Since Adonis had moved, a second image was formed. The stars were exposed as two straight lines on top of each other. The positions of the Adonis-images allowed Dr. B. Marsden to confirm the identification with the long-lost planet and to secure its orbit.

Adonis at the positions where it would have been seen if ΔT was negative, i.e. if Adonis passed somewhat *earlier* than expected through the perihel.

A similar search was carried out by Charles Kowal at the Palomar Observatory in the middle of February. On a plate taken on February 16 he found a small planet that appeared to move in the direction that was expected for Adonis. It took some time to find this object among the myriads of stars on the plates and it was only one week later that a telegram was received on La Silla about Kowal's possible Adonis candidate. The Moon was moving near to the object, but the ESO reaction was swift. Not only was the object quickly found on an ESO Schmidt plate, but it could be photographed on *five* consecutive nights (February 24 to 28), thereby securing five vital positions and definitely proving that Adonis had finally been recovered after almost half a century!

It also became clear that Adonis went slightly *later* than expected through the perihel (in December 1976)—that was why the ESO January plates did not show it.

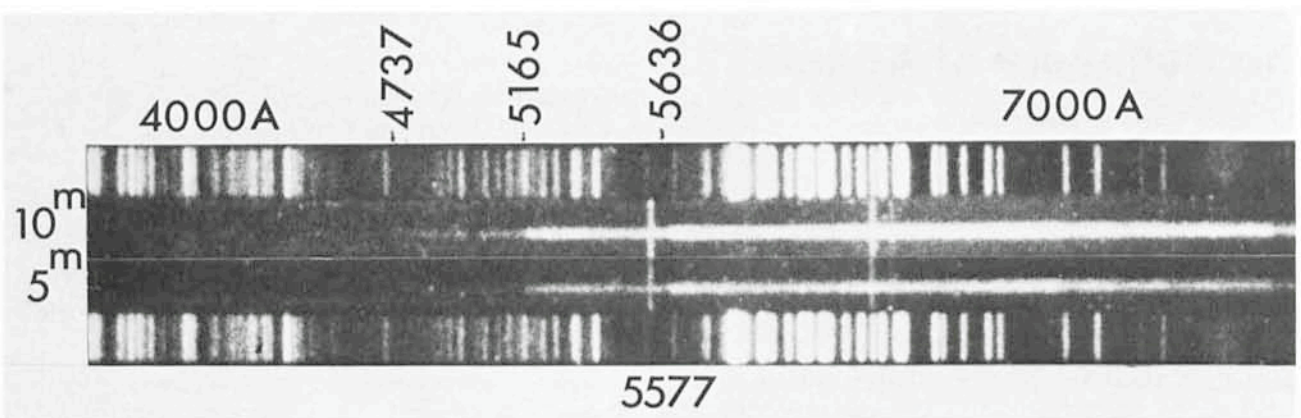
Adonis Secured

Once recovered, it was found that Adonis was somewhat fainter than expected, about 18^m. Due to an inconvenient cloud-out at Palomar in March it seemed for some time that the ESO positions would be the only ones to be secured before Adonis became too faint. However, it was detected again at the very plate limit on a March 13 ESO Schmidt plate and was later identified with great trouble on a few plates taken around March 20 with the large reflector at the Harvard Agassiz station.

Due to this commendable collaboration between the orbit computing and the observing astronomers, Adonis is now secure and will presumably never be lost again. The success is in a certain sense comparable to the discovery of Neptune in 1848 which was a similar joint effort. It is of course true that modern computers have facilitated the work involved in orbital computations, but one should not forget that a programme is never better than the theory that underlies it and the people who use it. The ESO people who participated in this recovery feel privileged to have been involved in an astronomical achievement that is bound to become a classic.

AN EXTREMELY RED STAR (Continued)

In the last issue of the *Messenger* we reported (p. 12) the presence of an extremely red star on a set of ESO Schmidt plates. It was possible to obtain two spectra of this star on the night between March 12 and 13, 1977, by means of the image-tube spectrograph attached to the 1-m telescope at the Las Campanas Observatory of the Carnegie Institution



Two spectra of the extremely red star, obtained at the Las Campanas Observatory, just north of La Silla. The original dispersion was 284 Å/mm and the exposure times were 5 and 10 minutes. Blue is to the left (4000 Å) and red is to the right (7000 Å). The three Swan bands of the C_2 molecule are indicated above. The strongest night-sky line is the green 5577 Å oxygen line. The comparison spectrum (on either side of the stellar spectrum) is from a Neon-Iron arc.

of Washington. The observation was carried out by Dr. R. M. West of ESO (editors always have to do the job!) who was taking spectra of ESO/Uppsala galaxies. The dispersion was the same as for the galaxies: 284 Å/mm from 3700 Å to 7200 Å.

The spectra are reproduced here and solve the "mystery" of the very red star: it is nothing but a "normal" *carbon star*. The typical bands of diatomic carbon (C_2) are seen at 4734 Å, 5165 Å and 5636 Å; they are known as the Swan bands. It can also be easily understood why the star appears so red: there is simply no light in the blue end of the spectrum, below 4700 Å!

Quite a number of carbon stars are known in the southern Milky Way. The most comprehensive catalogue was published in 1971 by the former ESO Director in Chile, Professor B. Westerlund, who is now at the Uppsala Observatory in Sweden. This catalogue comprises 1,124 carbon stars, but since it starts south of declination –22°, the present star is not included.

Carbon stars were recognized already in the 19th century by astronomers like Father Secchi who classified the brightest stars visually through a small spectroscope. Since then the classification of carbon stars has undergone vast improvements and it is now generally believed that they are giant stars. It is very difficult to measure the temperature of a carbon star because of the heavy molecular bands in the blue, but most have temperatures around 3,000–4,000°K. The reason for their massive carbon-overabundance is not well understood.

Note added in proof:

Dr. N. Sanduleak of the Warner and Swasey Observatory has kindly informed us that this star is no. 744 in "A General Catalogue of Cool Carbon Stars" compiled by Dr. C. B. Stephenson (1973). Unfortunately this catalogue was not available at ESO/Geneva.

Some Recent Developments in ESO

While the successful completion of the ESO 3.6-m telescope was making the headlines, some other important developments were hardly noticed.

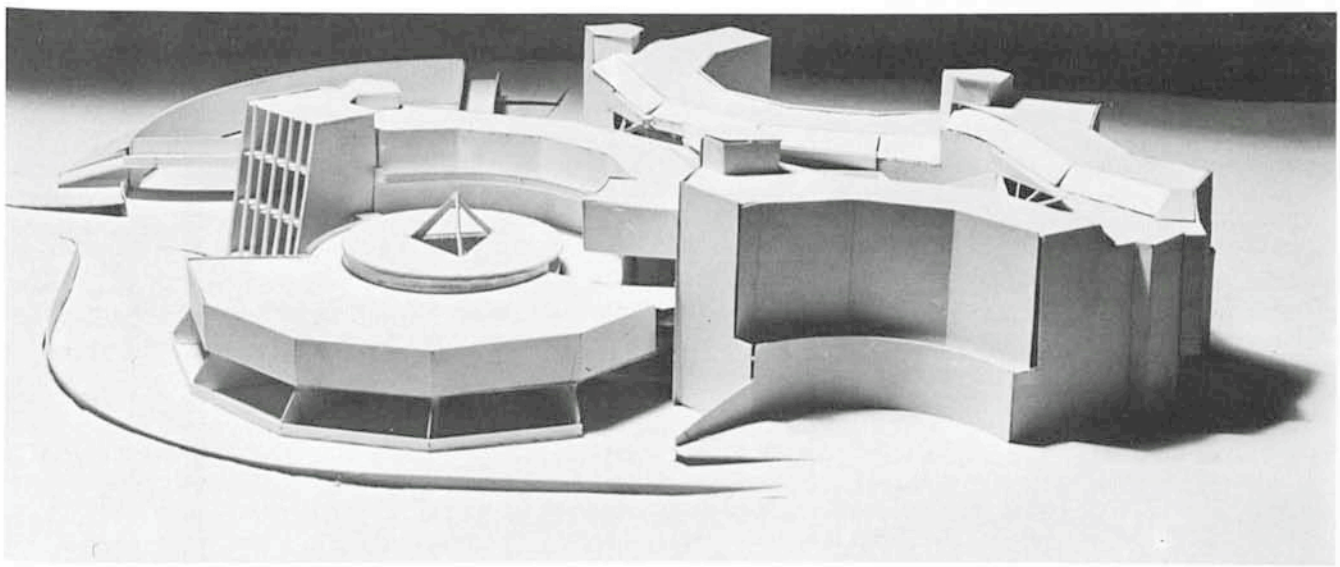
Auxiliary Construction Programme Nearing Completion

On La Silla, construction activities have been making rapid progress: the warehouse, the maintenance workshop, the four new Pelícano "dormitories" and the club house, the office and library building as well as the astro-workshop have been completed and are already in full use. The Pelícano water-treatment plant, the new heating plant and the gasoline station are finished or almost finished. Thus the Auxiliary Construction programme is now virtually completed.

Green Light for the ESO Headquarters Building

In Europe, an important step has been made towards the construction of the future ESO Headquarters in Garching. At its meeting of April 22, 1977 the Working Group created by the Council to deal with the planning of the Headquarters approved the plans submitted by Fehling and Gogel architects in Berlin. On the basis of these plans, tenders will be invited later this year, and construction activities are expected to start at the beginning of 1978. According to the time schedule, the building should be ready in the course of the second half of 1979. It will then house all ESO European activities carried out at present in Geneva and Garching.

A model of the building shown below will already give our readers an idea of the future appearance of the ESO Headquarters. The architects assure that the final product will significantly surpass this model in structural stability!



Architects cardboard model of the European Headquarters building to be constructed at Garching. The view is from the rear of the building and does not show the main entrance.