



● La Silla
● La Serena
● Santiago

● Hamburg

● Geneva

No. 1 — May 1974

To All ESO Staff Members

A todo el personal de ESO

With this issue, we launch the ESO MESSENGER in its orbit in ESO, and wish it a fruitful mission. Its task will be, first of all, to promote the participation of ESO staff in what goes on in the Organization, especially at places of duty other than our own. Moreover, THE MESSENGER may serve to give the world outside some impression of what happens inside ESO.

The need for more internal communication within ESO is felt by many of the staff. The dispersion of our resources over several countries in widely separated continents demands a special effort to keep us aware of what is going on at the other establishments. Our tasks are always part of one large adventure that can fare well only if each of its components is healthily adjusted to the others.

The contents of THE MESSENGER will be varied to include occasional progress reports on our main projects as well as information on general developments and messages concerning personnel. This first issue may be taken as an indication of the character we have in mind, but clearly it will be only in the course of time that THE MESSENGER will find its proper shape. Time also will show how large the newsletter should be and how often it should appear. For the moment we think that three-month intervals will be about right. Certain articles for this first issue were obtained at a rather early stage in the preparations, but they are considered to be still of sufficient interest for inclusion.



Prof. A. Blaauw
Director-General, ESO

Con la presente edición estamos lanzando EL MENSAJERO ESO en su órbita y le deseamos una exitosa misión. Su objetivo será en primer lugar informar al personal de ESO sobre lo que sucede dentro de la Organización, especialmente en lugares distintos al propio lugar de trabajo. Además, EL MENSAJERO servirá para dar una impresión al mundo externo de lo que ocurre dentro de ESO.

Un gran número del personal de ESO ha sentido la necesidad de tener una mayor comunicación interna. Debido a la dispersión de nuestros recursos en varios países ubicados en distintos continentes se requiere un esfuerzo especial para informar sobre lo que sucede en los demás establecimientos. Nuestras tareas siempre forman parte de una gran aventura que sólo puede llegar a un feliz término si todos sus componentes se ajustan sanamente unas a otras.

En cuanto al contenido del MENSAJERO éste tendrá la suficiente variación como para incluir informes sobre el progreso de nuestros principales proyectos como también mensajes sobre el desarrollo en general y sobre el personal. Rogamos aceptar esta primera edición como una indicación sobre lo que estamos tratando de presentar, porque sólo con el transcurso del tiempo EL MENSAJERO encontrará la forma más apropiada. También sólo el tiempo demostrará el tamaño que deberá tener este informativo y la frecuencia con la cual deberá aparecer. Por el momento opinamos que una publicación trimestral es la más indicada. Algunos

The editor, Mr. Walsh, has asked several members of our staff to help in acquiring contributions and it has been agreed that a few coordinators will act at the various establishments: Dr. Havlen in Chile and Mr. Rodgers in Geneva. Their collaboration will be much appreciated.

THE MESSENGER is intended to reach all ESO staff whatever their native language, and therefore we shall include contributions in Spanish. Abstracts of some of the other articles will be given.

A. Blaauw

artículos en esta primera edición fueron recibidos hace ya bastante tiempo, pero pensamos que aún tienen suficiente interés para incluirlos.

El redactor, Sr. Walsh, ha pedido la cooperación de varios miembros del personal para recibir informaciones y se ha acordado que este trabajo será realizado por algunos coordinadores en los distintos establecimientos: Dr. Havlen en Chile y Sr. Rodgers en Ginebra. Su colaboración será altamente apreciada.

Es nuestra intención que EL MENSAJERO llegue a todo el personal de ESO cualesquiera que sea su idioma, y es por eso que incluiremos artículos en castellano. Se harán resúmenes de algunos de los demás artículos.

Preparations for ESO/SRC Conference

Preparations are under way for the ESO/SRC conference on "Research Programmes for the New Large Telescopes", to be held at CERN on May 27-31, 1974.

This conference will be in line with previous ESO meetings dealing with large telescope design and with auxiliary instrumentation developments, and the emphasis is to be on the southern hemisphere.

With three large southern telescopes soon becoming operational (CTIO, Anglo-Australian and ESO), there are good reasons for having joint discussions with participants from the large projects outside ESO concerning the first areas for research with these instruments.

The programme as presently outlined will comprise seven half-day sessions — one afternoon will be devoted to an excursion to the CERN laboratories — covering the following topics:

Research programmes for large telescopes now in operation,
Southern hemisphere problems,
Observational cosmology,
Instrumental capabilities,
Philosophy of telescope use.

The conference will start on Monday afternoon with an introductory talk given by Dr. J. L. Greenstein of the California Institute of Technology and the Hale Observatories, dealing with large telescope astronomy in general. Dr. Greenstein has been chairman of the Astronomy Survey Committee of the U. S. National Academy of Sciences, whose task it was to consider the need for major new astronomical facilities in the United States during the seventies. The results and recommendations of the Survey Committee are embodied in two volumes, entitled "Astronomy and Astrophysics for the 1970s". Clearly Dr. Greenstein's involvement in this project makes him eminently suited to give the introductory talk at the conference.

Dr. Greenstein's lecture will be followed by shorter contributions by speakers from the big observatories

— Hale, Lick and Kitt Peak — on research carried out or planned for the near future at these institutes.

Following the first introductory session, lectures on specialized topics are scheduled for the next day: infrared astronomy, nearby galaxies, quasi-stellar objects, globular clusters in the southern sky and so on.

In the afternoon session of the second day, theoretical aspects will be covered, an introductory paper being followed by shorter contributions on specialized subjects.

The Wednesday morning session will be devoted entirely to the Magellanic Clouds, on which a special symposium was arranged in Santiago in March, 1969, in connection with the inauguration of the ESO Observatory on La Silla.

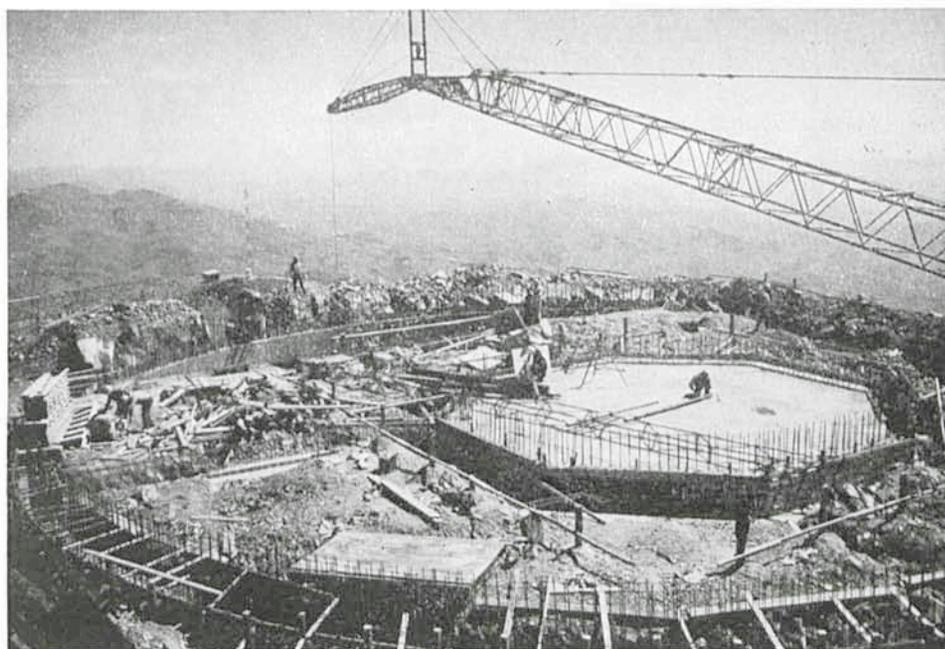
The afternoon is reserved for an excursion to the CERN facilities.

The Thursday morning session will deal with observational cosmology, an introductory talk followed by contributions presenting optical and radio-astronomical aspects of cosmological problems.

In the Thursday afternoon session instrumental capabilities will be discussed from a classical point of view. The new photographic emulsions and new powerful techniques for sensitizing photographic plates are bringing about a renaissance in astronomical photography. This session will be in the form of a panel discussion with four introductory speakers, dealing with the astronomical applications of the new emulsions, the extraction of information from photographic plates using fast computer technique and further reports on the ESO Sky Atlas and the parallel Science Research Council southern sky Schmidt project.

The last session, on Friday morning, will be in the form of a panel discussion on a subject being raised probably for the first time at a conference: the philosophy of telescope use. This discussion concerning the allocation of time on large telescopes, with reference to the very high hourly operational costs, the search for more efficient methods of telescope use and so on, will undoubtedly give rise to a varied exchange of opinions.

A. Reiz



The Big Telescope Building Shows Up at La Silla

From its inception in March, 1973, it took just nine months for the first visible bit of our building to appear over the rocky soil of La Silla's highest mountain top. Now it has only to rise and grow.

For several months past the eruptions from rock-blasting on the platform of the truncated peak have provided a little spectacle on most afternoons. Since 1968 this platform has offered, as it were, a standing invitation to further activities. Now about one half of it has been levelled down two metres more in order to make sufficient room for the building. Another two metres down in the earth are trenches and holes blasted into the rocky soil.

On the remaining half of the platform the contractor installed his site facilities, consisting of a carpenter's shop, a magazine and office barrack, and a concrete plant with storage for gravel and sand.

In January, 1974, a full view could finally be obtained of the octagonal concrete foundation for the pier which will later support the telescope. Further out, a circular trench of 30 m diameter for the outside wall surrounds the light grey plate.

It goes without saying that the first bucket filled with concrete and poured into its proper place was hailed as marking the birth of the edifice, and this event was celebrated with a gay little ceremony. W. Bauersachs

ESO/Chile and CERN SB Division Make Agreement

In January, the Technical Department of ESO / Chile concluded an agreement in principle with the CERN Sites and Buildings Division for a number of projects, including road improvement at Pelicano and La Silla, the central heating system, the low tension electrical distribution network and the water softening plant.

CERN (J. Rouel's service) will carry out the studies for this work and propose solutions. A prime mover is H. Laporte, head of the SB Division, who has visited Chile in this connection; and M.-A. Peuch, Asst. Director, ESO / Chile, is also closely involved. N. Rodgers

Exhibition on Role of ESO

A historical picture exhibition on the role of ESO was held at CERN in the first half of November, 1973. This show is still available and can be placed at the disposal of any agency wishing to use it. It will probably be displayed at the Palais des Découvertes in Paris, within the near future.

TP Division Extends Premises

At the TP Division, Geneva, an assembly hall, mechanical workshop and optical laboratory are under construction and will be completed probably in July, 1974. The new buildings will be occupied mainly by W. Richter's group on the design and assembly of the 3.6 m telescope.

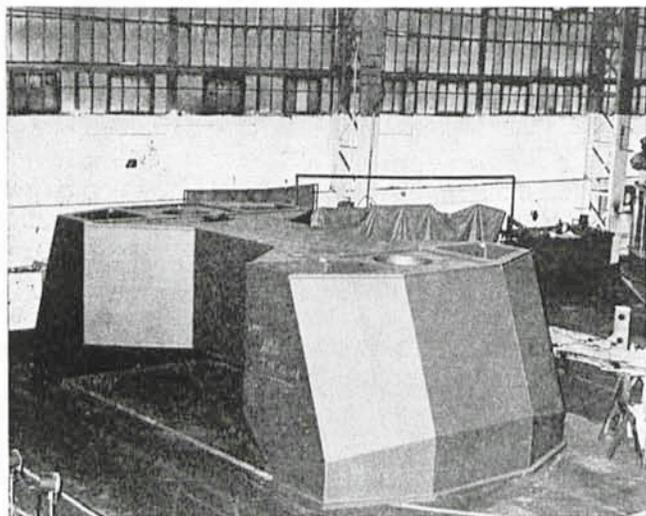
The optical laboratory will be used by J. Van der Lans for tracking experiments and—in cooperation with R. Wilson—for optical experiments and tests.

The MESSENGER is at present planned as a quarterly publication. Contributions for issue No. 2 should accordingly be received by the editor by July 15, at the latest. They may be sent directly to The Editor, The Messenger, ESO / Hamburg, or via the local correspondents, namely:

- R. Havlen, coordinator, Chile
- M. de Groot, La Silla (scientific matters)
- G. Anciaux, La Silla
- M. Becker, Santiago
- N. Rodgers, ESO TP Division, Geneva

3.6 m Telescope Headed for Testing and Erection

The big telescope moves on towards its big day in 1976. In the Creusot-Loire plant at Saint-Chamond, near Grenoble, where a large part of the work has been done, all the major components have now been welded and stress released. Machining and the manufacture of all the smaller parts will be completed by the summer of 1974. Then, after testing of some 20 sub-assemblies, the assembly of the whole telescope will begin and it will be completed by January, 1975. A six-month period is allotted for the telescope tests and adjustment of the drives. The alignment procedures will also be determined during this time.



The cross-beam linking the two fork prongs to the polar axis is shown here at the stage following welding and before machining at the Creusot-Loire plant at Saint-Chamond. This is one of the larger sections to be transported, being 4 m wide, 2.4 m high and weighing 16,000 kg.

In the latter half of 1975 the telescope will be dismantled and packed for transport to Chile. All components, including the aluminizing plant, will go in the same ship. They will be unloaded at Huasco, a small port some 150 km north of La Silla. From there the convoy heads straight for the mountain. The firm of Creusot-Loire will then put the whole telescope together within about three months.

After the mechanical tests, the mirrors will be aluminized and installed for the first time in the telescope. This event, initiating the final steps towards making the big telescope operational, is scheduled for 1976.

W. Richter

ESO/Hamburg Goes Over to Computer

At the Director-General's Office, the Finance Service switched over to computer on the first day of 1974. The firm selected to carry out the work was Treuarbeit AG, Hamburg, and it used a Honeywell Bull 415 computer. The first tryout, in December, 1973, lasted one week and gave satisfactory results.

An existing programme has been adjusted to the current requirements of ESO book-keeping; the future

needs of the Organization are also taken into account. For the Hamburg Administration this means that the time-lag in operations is now reduced from one month to one week and there will be more time for non-routine work.

However, the manual accounting system was continued until March 31 to permit regular checks on the computer output.

Under the previous system, the ESO / Chile Administration received a single debit note giving the total figure and then made the break-down. This note is now replaced by a complete and detailed specification of expenditure in Hamburg, charged against their budget by budget item.

Early in 1974, definite proposals were made concerning partial implementation of the ESO / Chile accounting in the EDP programme.

P. H. Huijmans

Wilson Completes Optics Study

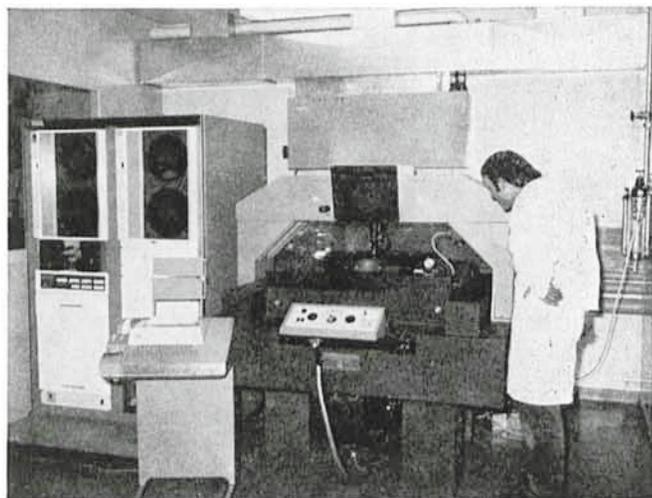
ESO recently was able to make some return for the technical aid given by CERN when Dr. Raymond Wilson, towards the end of 1973, completed a study on the optics of scintillator counters for the 300 GeV experimental area.

Dr. Wilson, who is British, took his doctorate at the Imperial College and came to ESO from Zeiss of Oberkochen in September, 1972. Acknowledged as one of the foremost experts in optical design, he has given many lectures on optics and instrumentation at international conferences, particularly at the last two ESO / CERN conferences. With the linguistic attainments added during his twelve years in Germany he can be regarded as the complete European.

Dr. Wilson is chairman of the Geneva committee of the ESO Staff Association.

ESO Pioneers with S-3000 Measuring Machine

An OPTRONICS S-3000 SPECSCAN measuring machine has recently been installed at the ESO Sky Atlas Laboratory in Geneva where it is undergoing installation tests.



ESO S-3000 measuring machine

This machine, which is the first of its kind in Europe, is capable of measuring positions (to 1μ) and densities (to .02 D) of astronomical plates up to 14" x 14". It will first be used for positional calibration of the Sky Survey plates which are taken with the ESO and SRC Schmidt telescopes, and also for quality control by means of image evaluation. However, it is expected that the machine will attract users of Schmidt plates within ESO as well as astronomers from institutes in ESO countries who want to evaluate plate material they have received from ESO.

The manufacturer is the Optronics Co. of Chelmsford, near Boston, USA. R. West

New Electric Power Plant at La Silla

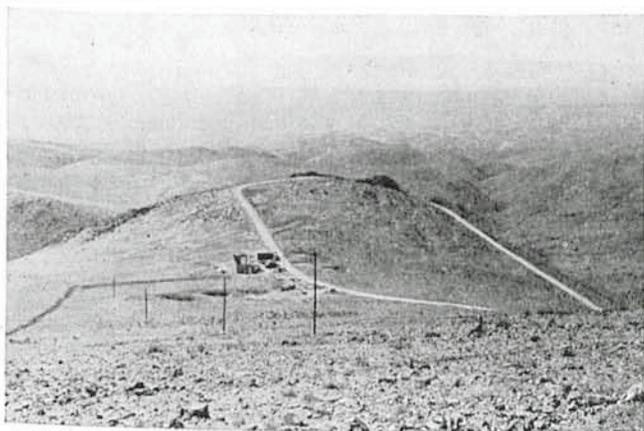
On March 7, news was received that all three diesel motor generator sets had just become operational. Within the following days they were taken fully into service for the supply of power to the Observatory.

Begun in June, 1973, the new electric power plant is part of the general plan for developing the installations at La Silla to meet the energy requirements of the 3.6 m telescope. It was assembled by Motoren-Werke of Mannheim, Germany. The location is at Km 17.5 on the road from Pelicano to La Silla and about two kilometres from the hotel.

The plant consists of a main engine-room measuring 22 x 8.5 m — i.e. 187 m² — and 5.8 m high inside; moreover, a small room containing the 6,000 volt starting cells, the four cells for the transformers that raise the generator tension from 380 V to 6,000 V, and, finally, a small combined workshop-store. The plant will have three groups of diesel generators of 480 kVA each, for a start, with space reserved for a fourth group later on.

Three external mazout tanks with a capacity of 150 m³ each will permit independent functioning for more than two months, with one group operating continuously at full strength.

The operation will be entirely automatic and the characteristics of the generator groups have been determined with a view to permitting the Observatory site to be supplied normally by a single group, the second being



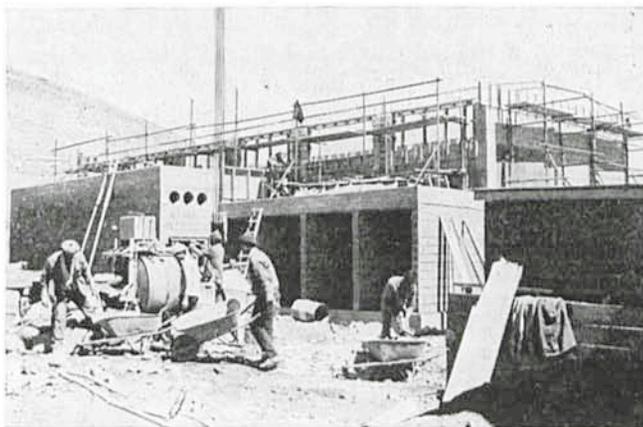
Site of the new electric power plant on the road from El Pelicano to La Silla. On the left is the outline of the 6,000 V cable connecting the plant with La Silla.

held as a reserve or a complement, if need be, and the third for maintenance.

The new power plant will eventually supply the whole La Silla site by means of an underground 6,000 V cable about two kilometres long. It will also supply the installations at Pelicano and the pumping stations along the road through the present 6,000 V aerial electric cable connecting Pelicano with La Silla.

It will replace the plant operating at El Pelicano since 1967. This has been supplying the whole ESO area through the aerial cable, but, with its three old groups of 115 kVA diesel generators, it can no longer ensure an adequate supply for the Observatory.

J. Rouel



Construction in progress, October, 1973. View from the road, with the transformer cells in the foreground on the right and the edge of the high-tension cells (6,000 V) with the three orifices for a future cable extension on the left. In the background is the superstructure of the engine-room housing the diesel-generator groups.

Filming the 3.6 m Telescope

The Rodgers-Pillet film unit at Geneva is keeping well up with construction work on the 3.6 m telescope. Footage recently taken at the REOSC plant at Ballainvillers and Creusot-Loire at Saint-Chamond, also in France, has included some larger sections of the telescope, such as the horseshoe and the fork. The film, 16 mm soundtrack and in colour, follows the progress of the telescope, its aim being to provide a visual documentary record of the whole project.

The producer is N. Rodgers and cameraman-for-Europe B. Pillet. They will bring together the material from the various construction locations and edit it at the ESO TP Division in Geneva. The finished product will be distributed outside ESO also—e.g. to observatories and teaching institutions—but not commercially.

N. Rodgers

Letters Department

Letters on subjects of ESO interest are invited. They should be relatively brief and addressed formally to The Editor, ESO MESSENGER, Hamburg.

Christmas Party

As in previous years, the Christmas party was held in the Guesthouse garden. Almost all the Santiago staff came and there were about 80 children. The party began at 6 p. m. Conveniently low tables, laden with Christmas cookies and soft drinks for little hands to reach were strategically placed around the garden and the trees had been decorated with "Silkspapper" candy surprises, especially made for each child by Mrs. Westerlund.

Soon Santa Claus made his spectacular appearance. He (Mr. F. Casas in Prof. B. E. W.'s personal Santa Claus suit) arrived, atop a real donkey, guided by one of the wise kings dressed in regal robes for the occasion (Mr. F. Browne, Imports). Santa Claus was neatly placed on a special stand and the gifts removed from the D. B. pouches were handed out by him and his helpers. After the gifts were opened and the toys duly inspected by young experts, a cold buffet was served and turkey and roast beef was enjoyed by all.

When dinner was over, the donkey gave rides to whoever wanted one (there was a long waiting line) and it was very late when the parents finally managed to take their tired, happy, sticky children home.

S. Labarca

Quick Blue Survey Forges Ahead

Production of film copies of the ESO (B) Atlas started in February, 1974, Dr. R. West reports from the Sky Atlas Laboratory in Geneva.

Popularly known as the Quick Blue Survey, this Atlas will be a preliminary job, not of such high quality as the coming rival of the Palomar Atlas, but good enough for practice and the general purposes of astronomers.

Hans Schuster took the first plates with the 1 m Schmidt telescope on La Silla last spring and so far has shipped more than 80 to Geneva. There production began in November. Of the 40 original plates accepted for the QBS, 20 have now been copied, each in 20 on-glass copies.

A few more figures: according to the Agreement with the Science Research Council of the United Kingdom, 6 atlases are to be delivered to them by ESO. Of the remaining 14, 3 stay with ESO, 8 are deposited at institutes in the ESO Member States and 3 are sent to the United States of America.

† Mr. Johan Bloemkolk

News of the death of Mr. Johan Bloemkolk, former Manager of ESO, on April 3 was received with deep regret by his friends and colleagues in the Organization.

Mr. Bloemkolk was one of the old-timers of ESO, having joined the staff in 1963, even before the Convention was signed. In close cooperation with Professors Heckmann and Ramberg, he did much important work in connection with the establishment of the ESO administration and preparations for the building programme, thus contributing essentially to the realization of the ESO project. He resigned in 1972 because of ill health.

Our sincere sympathy is extended to Mrs. Bloemkolk in her bereavement.

A. B.

Resúmenes de algunos artículos

Preparativos para la Conferencia ESO / SRC

Se hacen preparativos para la conferencia ESO / SRC sobre "Programas de Investigación para los Grandes Nuevos Telescopios" que tendrá lugar en CERN, Ginebra, del 27 al 31 de mayo de 1974.

Esta conferencia continuará la serie de conferencias de ESO que trata del diseño de los grandes telescopios y del desarrollo de la instrumentación auxiliar, empleados principalmente en el hemisferio austral.

El programa incluirá siete sesiones de medio día — una tarde se ocupará en una excursión a los laboratorios de CERN — y tratará los asuntos siguientes:

Programas de investigación para los grandes telescopios actualmente en uso,

Problemas del hemisferio austral,

Observación cosmológica,

Capacidad de los instrumentos,

Filosofía del uso de los telescopios.

Tratado ESO / CERN

En enero, el departamento técnico de ESO / Chile ha hecho un tratado de principios con la División de Sitios y Edificios de CERN para ciertos proyectos incluyendo mejoramiento de los caminos de Pelicano y La Silla, el sistema de calefacción central, la red de distribución eléctrica de baja tensión y la central ablandadora de agua.

ESO / Hamburgo utiliza computador

Desde el primer día de 1974, el Servicio de Contabilidad en la oficina del Director General da los datos a la firma Treuarbeit AG, Hamburgo, para procesarlos. El computador empleado es un Honeywell Bull 415.

Progreso del gran telescopio

La construcción del telescopio de 3,6 m se adelanta hacia el día de la inauguración, en 1976. En la fábrica de Creusot-Loire, cerca de Grenoble, en Francia, todos los grandes componentes han sido soldados y la tensión liberada. Después de hacer algunas pruebas, la fabricación de los elementos menores será terminada en el verano de 1974, y el montaje del telescopio tendrá lugar en enero de 1975. Hacia fines del mismo año, el instrumento será transportado a Chile.

Película

En Ginebra, la película sobre el telescopio de 3,6 m corre junto con el trabajo sobre este instrumento. El equipo de Rodgers-Pillet (productor-fotógrafo) estuvo recientemente en las fábricas de REOSC y de Creusot-Loire en Francia, donde se ha filmado el trabajo con algunos grandes componentes, tales como la herradura y la horquilla, con el fin de hacer una documentación sobre todo el proyecto.

Esta película será de 16 mm y en colores. Será distribuida dentro y fuera de ESO, incluyendo observatorios, colegios, etc., pero no en forma comercial.

La base aparece!

En enero de 1974, la base del edificio para el gran telescopio se ha hecho visible sobre el suelo pedregoso de La Silla. Ahora, sólo es necesario que crezca.