ESO'S EARLY HISTORY, 1953–1975

VI. Further Developments in Chile; 25 March 1969: The First Phase Dedicated; The Introduction of National Telescopes*

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"La construcción del observatorio de La Silla – – – es un ejemplo notable de lo que se puede lograr por medio de eficiente y, sin duda trascendente, cooperación internacional."
From the speech by Olof Palme on behalf of the ESO member states at the dedication of the Observatory.

The Inauguration

On March 25, 1969, an audience of more than 300 people: members of the ESO Council, Government officials, representatives of AURA, CARSO, IAU and CERN, other guests and staff members of ESO were assembled in the large dome on La Silla which years later would house the Schmidt telescope. They celebrated the completion of the first phase of the construction programme. Three years and one day earlier, the road to the summit had been dedicated and an extensive building programme then lay ahead. Now, the Observatory entered its full operational phase with the middle-size telescopes.

Many speakers marked the occasion: after an introduction by ESO's Director, O. Heckmann, they were, in this order: J. Sahade as Vice President of the International Astronomical Union; Olof Palme, Minister of Education of Sweden; J.H. Bannier, President of the ESO Council; Gabriel Valdes S., Minister of Foreign Affairs of Chile; and Eduardo Frei Montalva, the President of the Republic of Chile; after which the Archbishop of La Serena, Msgr. Juan Francisco Fresno pronounced the benediction. The inauguration proper was pronounced by President Frei, who for this occasion had landed by helicopter on La Silla. At the lunch following the ceremonies, the audience was addressed by the French Minister of Education, Jacques Trorial.

The texts of the addresses, with translations into or from Spanish, have been published in *ESO Bulletin* No. 6 of July 1969. Olof Palme spoke, in Spanish, on behalf of the six ESO Member States. Let me quote some parts of his speech in the English translation:

"The erection of the La Silla Observatory – – – is not only of vast importance for the future of astronomical research, but also a striking example of what may be achieved through efficient, and truly far-reaching, international cooperation. – – – Scientific progress and interna-

INAUGURATION CEREMONIES ON LA SILLA

On March 25, 1969 inauguration ceremonies took place on La Silla, celebrating the completion of the first construction phase of the Observatory.
The top photograph *shows the President of the Republic of Chile, Eduardo Frei Montalava, pronouncing the inauguration. It took place in the dome which, several years later, would house the Schmidt telescope, before an audience consisting of the ESO Council and many guests among whom Chilean government authorities, representatives of other scientific institutes, and ESO staff.*
The bottom photograph, *taken during one of the preceding speeches, shows in the front row from left to right: Otto Heckmann, Director General of ESO; Gabriel Valdés S., Minister of Foreign Affairs of Chile; Olof Palme, Minister of Education of Sweden; President Frei; and Hendrik Bannier, President of the ESO Council.*
From a series of photographs in the ESO Historical Photographs Archives.

* Previous articles in this series appeared in the numbers 54 to 58 of the *Messenger*.

tional cooperation are important instruments in the realization of the objectives of any modern society."

On the occasion of the inauguration several other events, among which Council's second meeting in Chile, took place to which I shall return later in this article. Let us first look back upon the developments that had led to the completion of the first phase. In the course of the three years since the dedication of the road, buildings for the telescopes, the Hostel, dormitories, workshop, storage space, etc. had been erected and in Santiago the Headquarters building had been completed. We shall not follow these developments here in detail, only main lines will be sketched. The photographs accompanying this article show the changing face of La Silla over these years.

Developments on La Silla, 1967–1969

An interesting report on the situation early 1967 results from a visit to La Silla of the Dutch Ambassador in Chile, D.G.E. Middelburg on 17 February 1967 [1]. He was one of those in the European Diplomatic Corps in Santiago who followed ESO's activities with great interest and active support, and he developed a special relation to ESO through his son Frank [2]. From the Ambassador's report to the Dutch Ministry of Foreign Affairs I quote a few lines in translation from Dutch: *"––– On the mountain I met considerable activity. Provisional lodgings, dining and office rooms are in use since some time. A Dutch telescope is housed in a provisional steel dome. Concrete foundations are now being laid for three large domes and for a hostel. ––– As an illustration of the considerable problems that have to be solved, let me mention that all personnel, all building materials, all tools, supplies and provisions have to be brought from far away. ––– The relation to the Chilean authorities is very good. Weak points in the organization are: communications and personnel. ––– La Silla has neither telegraph nor telephone connection. By means of their own radio telephone emitters and receivers ESO has created a provisional connection Santiago–La Serena–La Silla. ––– One can imagine what delays and misunderstandings may arise when passing on technical and sometimes complicated messages to collaborators of different nationalities –––. Personnel problems arise partly from these poor connections. Obviously [these] are unavoidable for an organization manned with Dutchmen, French, Belgians, Germans, Swedes and Chileans –––. Difficulties were also encountered with young astronomers, coming from the intimate European academic circles and transferred to the loneliness of an almost uninhabited desert. Some of these lack the pioneering spirit of their elder colleagues –––. For this problem, too, the ESO Direction may well find a solution in due course. ––– The ambitious and daring project ––– develops favourably –––."*

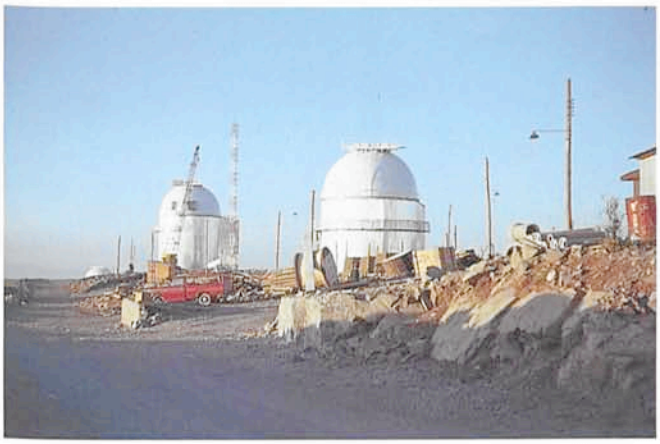
By the end of 1967, Camp Pelicano had been extended with several facilities including a clubhouse and a soccer field for the personnel. On La Silla, a Camp had been added for the personnel of the construction firms, and the buildings for the 1-m, 1.5-m and Schmidt telescopes were almost completed as well as the heating plant. Construction of the GPO building had been started again after a lengthy interruption due to road constructions in the neighbourhood. Also the building for the first of the "national telescopes" (about which we will have to tell more below), the one of the Bochum Observatory, was completed except for the mounting of its dome. For the purpose of measuring atmospheric temperature fluctuations by the method devised by Siedentopf (and described in article II), a second 24 m high mast had been erected on the secondary summit of La Silla in addition to one on the highest top which had been erected in 1966. Supervision of the construction work had been taken over from the retiring engineer H.O. Voigt by his successor Raul Villena per August 1, 1967.

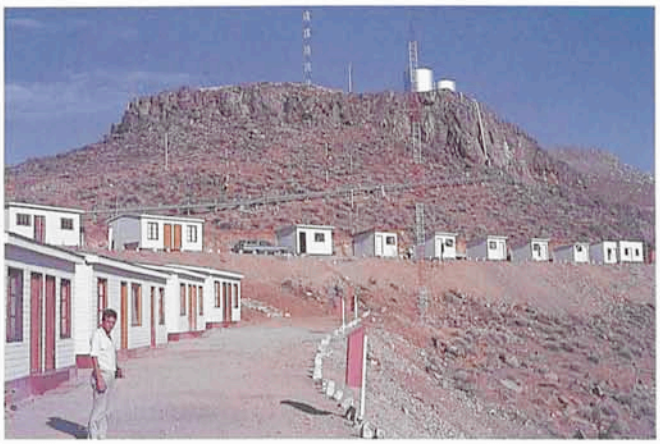
Astronomical activity with the 1-m telescope in its provisional dome had been well under way throughout the year. In Santiago, concrete foundations for the Headquarters and the connected mechanical workshop were partly finished.

In the course of the next year, 1968, almost all elements on La Silla assumed their intended functions. The 1-m telescope was transferred from the provisional dome to its definitive one in September, the 1.5-m telescope was installed in its dome in the middle of the year, the GPO was put into operation in June, and an aluminizing plant was installed in the building of the 1.5-m telescope [3]. The Bochum 60-cm telescope was installed in September. Preparations were made for the erection of the building for a second "national instrument", the 50-cm Danish photometric telescope (see below). The Hostel was finished and became available for those, staff and visitors, who during those early years had had to be satisfied with the provisional huts, dining rooms,

MAY 1967, CONSTRUCTIONS ON LA SILLA

Left photograph: *The building for the 1.5-m Spectrographic Telescope taking shape. In the foreground, left, part of the provisional dome for the 1-m Photometric Telescope.*
Right photograph: *Construction of the Hostel. Both photographs from slides by the author.*





LA SILLA, DECEMBER 1967

Left photograph: *Buildings and domes for the Spectrographic Telescope (left) and the Photometric Telescope (middle) nearly completed, as seen from a site near the GPO.*
Right photograph: *La Silla's earliest Residential Quarters, Office Buildings, Catering Facilities for night- and day workers, etc., located on the western mountain slope, beneath the water tanks and near the Schmidt Telescope building. Both photographs from slides by the author.*

etc. – they had been primitive, yet not unattractive for the pioneering-minded.

A very important improvement of the operations was the conclusion of a contract with the Chilean national communication system ENTEL by which La Silla was incorporated in the national telephone system in exchange for ESO allowing ENTEL to place one of its relay stations on La Silla [3]. From that moment on, the Observatory felt considerably better integrated with the rest of the world.

In 1968 also the road on the summit area was extended to the top where ultimately the 3.6-m telescope was to be placed. Moreover, in order to create sufficient space on this site, the top was lowered by about 9 metres [3]. This enlargement of the area was found necessary because a geological fault across the site had been detected, limiting the space of the telescope foundations to either the one or the other of the two approximately equal parts.

The Santiago Headquarters

Meanwhile, an important development had taken place in Santiago: the creation of the ESO Headquarters building. The ESO Convention contains no mentioning of a Centre or Headquarters in the country where the Observatory is established, nor is there reference to it in the Convenio, the agreement between ESO and the Chilean Government. Yet, from the beginning of its activities in Chile, ESO planned it, in Santiago, besides the main facilities on La Silla and the Office in La Serena. Before we follow the realization of this project, it is useful to have a brief look at the philosophy behind it, the more so because the role of the Santiago establishment was drastically reduced in the second half of the 1970's.

Already during the site testing in South Africa, the question of the infrastructure of the Observatory was occasionally taken up by the ESO Committee, although not to the point where basic decisions were to be taken, for the switch to South America became more and more a reality. Nevertheless, it was the concensus of opinion that ESO would have to create, besides its Observatory in the Karroo desert, a centre in or near the city of Capetown at a distance of some 300 km. Such a centre would serve for entertaining contacts with Government authorities, for transport services, and almost certainly also as a base with offices for administration and staff scientists and with technical laboratories from where much of the operation of the Observatory would have been conducted. A serious drawback for the operations on the sites tested, particularly of the one at Zeekoegat, would have been the remoteness from centres with sufficient educational and cultural facilities to make employment attractive for staff members with families coming over from Europe. Capetown seemed the natural candidate for such a centre. Thus, in the report on their visit to South Africa in August–September 1962, Fehrenbach and Heckmann wrote: *"––– Nous sommes convaincus que l'établissement de l'Institut à Capetown est non seulement parfaitement possible, mais très indiqué –––. Les possibilités de la ville de Capetown sont considérables. –––"* [4].

Transferring this structural aspect from South Africa to Chile, the choice was less obvious. The capital Santiago is at a distance from the Observatory about twice what Capetown would have been. With La Serena much nearer, it was clear that here the base for the building activities had to be established. But should it also serve as a base for the scientific and technical staff, and hence become the staff's residential area?

At this point let me briefly refer to a somewhat connected aspect of ESO's role in European astronomy about which opinions were not always unanimous: should ESO become a scientific institute in its own right – or should it rather be what our French colleagues used to call an *"Observatoire de mission"?* By this we mean, a facility of which the function is basically to serve astronomers from the participating institutes to collect observational data which they then carry home for further analysis. The Convention is not explicit on this point; in its preamble it speaks of *"creating an observatory equipped with powerful instruments ––– and accordingly promoting and organizing co-operation in astronomical research"*. Co-operation only in running the facilities – or also in the joint effort in the study of the heavens? The same uncertainty is encountered in the initial historical statement of 26 January 1954 reproduced in my first article.

I may have occasion to come back later to this recurrent matter of policy. In the present context we note that in the 1963 stage of planning a Centre called Headquarters was foreseen in Chile including among other items: a large lecture room, many offices for astronomical staff besides those for visiting astronomers, a rather complete library, photographic services, etc., clearly suggesting a research centre of considerable scope. (See, again, Ramberg's article in *ESO Bulletin* No. 2 referred to before.) But, where to build this Centre?

SEPTEMBER 1968, MOVING THE 1-m TELESCOPE

In September 1968 the 1-m telescope could be moved to its permanent dome. Dismantling it and taking it out of the provisional dome required taking the latter apart, for the slit was too narrow to let telescope and base through.

Left-hand photograph: *The telescope tube hangs on the crane, in the foreground left the provisional building and in the right foreground the dome. In the background the building of the Bochum Telescope.*

Right-hand photograph: *Telescope tube and base on their way to the new dome.*

Photographs by Eric Maurice in the ESO Historical Photographs Archives.

At the July 1963 meeting of the ESO Committee, in the context of the report on the visit of some Committee members to Chile (the "Summit meeting" described in article III), its Chairman is quoted mentioning that *"– – – AURA is setting up its Headquarters in La Serena. In this little town few English speaking people are living; yet is has a small English school. Santiago offers better possibilities for cultural life; it has two good French schools, two German, one English, and one Swiss school. – – –"*

The matter was discussed again on January 20, 1964, on the occasion of an informal preparatory meeting of the ESO Committee (preceding the meeting with representatives of AURA and CARSO mentioned in article III). The Directorate referred to the better contacts with Government authorities, embassies and representatives of international firms in Santiago, and to the advantage of the presence of universities and European schools. On the other hand, the importance of La Serena as a centre for the co-ordination of constructions was obvious and there was the important fact that AURA established here its Headquarters. According to the minutes *"The discussion converges towards the opinion that the ESO Headquarters should be located in Santiago and an ESO supply office should be erected at La Serena. – – –"* [5]. A decision was postponed until more experience would have been collected in Chile. Yet, the decision in favour of Santiago was taken already at the second Council meeting, in May 1964. The minutes report that, after discussion of the various arguments mentioned before, and in particular upon the expression of preference for Santiago by the previously hesitant French delegation, the decision was taken unanimously.

The Vitacura Donation

Meanwhile, for the Council meeting of May 1964 the Directorate had prepared a presentation of various offers for land in the Santiago area [6]. However, shortly after this, in August 1964 the Chilean Ministry of Foreign Affairs generously suggested that ESO might receive as a donation state-owned grounds in Santiago. These grounds were adjacent to the United Nations building in the Vitacura district, an attractive and prestigious location. By letter of September 18, 1964 the Chairman of the Finance Committee authorized the Director to react positively, and after study of the proposition from architectural and technical points of view and an extensive series of internal Chilean legal steps [7], the contract between the Chilean Government and ESO was signed on October 30, 1964 [8].

The donation concerned an area of about 3.4 ha. Conditions from Chilean side were only that no residential buildings should be included, and that realization should start within one year after the signing of the contract. For purposes of architectural harmonization, consultation took place between ESO's architect de Vlaming and the architect (Duhart, a pupil of Corbusier) of the adjacent UN building – one of quite unorthodox design. By the time of the dedication of the road on La Silla, March 1966, the architectural designs had been completed [9]. Construction began early 1967, and at the time of the 1969 dedications the building was just ready to receive ESO's guests and start its function in science and administration. It was of simple, yet distinguished style, fitting the representative aspect of its future intended role.

The National Telescopes

Returning now to La Silla, we must first report on an originally unforeseen element.

The intermediate-size telescopes described in article IV and erected on La

Silla in the second half of the 1960's, as well as the Schmidt and the 3.6-m telescope that would follow later, all belonged to the Initial Programme defined in the ESO Convention. The term "Initial" indicates that beyond these, at some stage in its development, ESO might wish to add other instruments. What one had in mind were instruments of different properties but having the same status as the earliest ones. A small addition of this kind was realized in the year 1971: the 50-cm photoelectric telescope, not only because of the need for such observational data but also because it was to serve for trying out automation designs in the development of the large Telescope [10]. It was a duplicate of the Copenhagen 50-cm national telescope put on La Silla in 1969 as described below, and it became part of the regular budget.

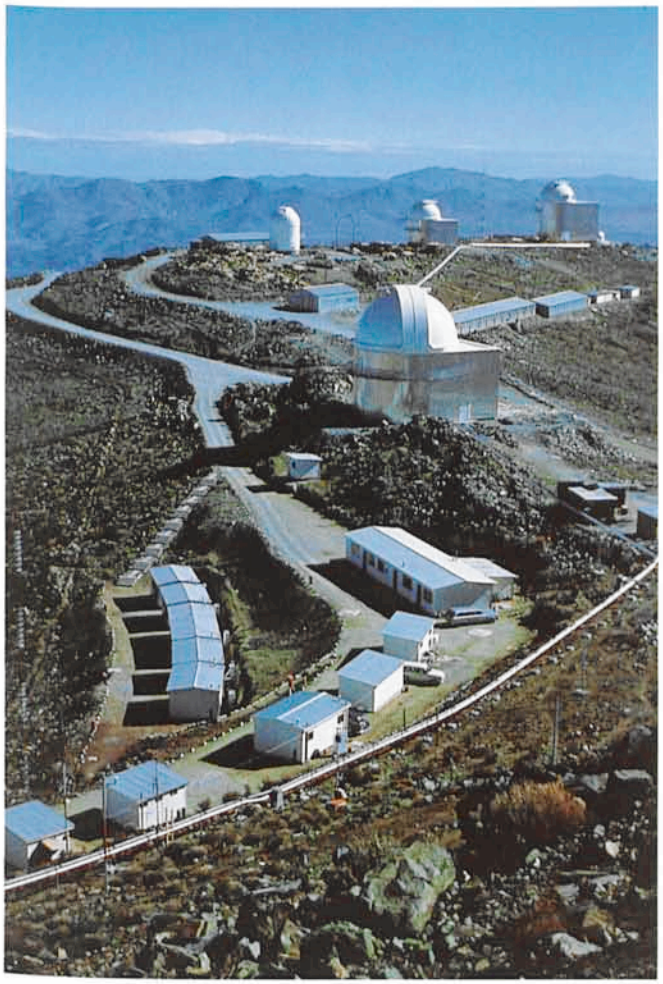
However, an extension of the telescope park not foreseen in the early days constituted the so-called national telescopes. They may be defined briefly as telescopes which are the property of one of the member states or, even narrower, of an institute in one of these states and placed on La Silla, making use of La Silla's favourable climatic conditions and logistic facilities, and for which, as a compensation for ESO's services, ESO then obtains a certain fraction of the observing time. In practice, ESO as a rule has provided the building for the telescope, with or without the dome. In the course of time these telescopes have become an important and, from the point of view of the community of observers, virtually integral part of the ESO facilities. In the following I shall briefly review their early history: by the time of the dedications in 1969 the first proposals of this kind had already been realized.

The First National Telescope: the Bochum 60-cm

The first proposal for such a telescope was an initiative of the Director of Bochum Observatory, Th. Schmidt-Kaler, discussed by Council in its meeting of November 1966 following pre-discussion in the FC. The telescope, meant for photoelectric work, was to be acquired with financial support from the Deutsche Forschungsgemeinschaft (DFG), the national science foundation of the German Federal Republic. Accordingly, partners in the negotiations were ESO, the DFG and Bochum University. In his presentation of the proposition to Council, Heckmann placed it from the outset in the context of possibly having more such additions to the ESO facilities. The Bochum proposal was in principle approved at the same Council meeting, but the contract between the three parties in its final form signed only in 1969 after successive approximations [11]. Principal conditions of the contract were that ESO would be granted 30% of the observing time, that apart from the telescope, the DFG also paid for the dome, and that neither of the parties would terminate the agreement within 20 years.

Meanwhile, the building for the Bochum telescope was completed in 1967, and equipped in April 1968 with a prefabricated dome as had also been done for the preliminary housing of the 1-m telescope. Contrary to what was done for later national telescopes, the Bochum building included dormitory facilities for the observers. The telescope was installed in September 1968. A description, including the Bochum photometer, has been given by Th. Schmidt-Kaler and J. Dachs in *ESO Bulletin* Nr. 5 of December 1968.

Already on the occasion of this first Council discussion, in November 1966, there was reference to two other potential proposals. A. Reiz, attending the meeting as "observer" on behalf of Denmark that would join ESO in August



OVERVIEWS OF LA SILLA, 1968

Left photograph, June 1968: *Taken from near the water tanks, from foreground to background: the provisional Residential Area, the Schmidt telescope building, and, from left to right, buildings of the GPO, the 1-m, and the 1.5-m telescopes.*

Right photograph, October 1968: *Aerial photograph taken from the South-West. From left to right: the buildings of the 1-m, the 1.5-m, the provisional 1-m, and the Bochum telescopes, and the Hostel. In the foreground before the Hostel, site preparation for dormitories. This photograph may be compared to the one taken from the same position in October 1966, shown on page 30 of the previous article. Both photographs by Eric Maurice in the ESO Historical Photographs Archives.*

MEALS IN OLD AND NEW AMBIENCE

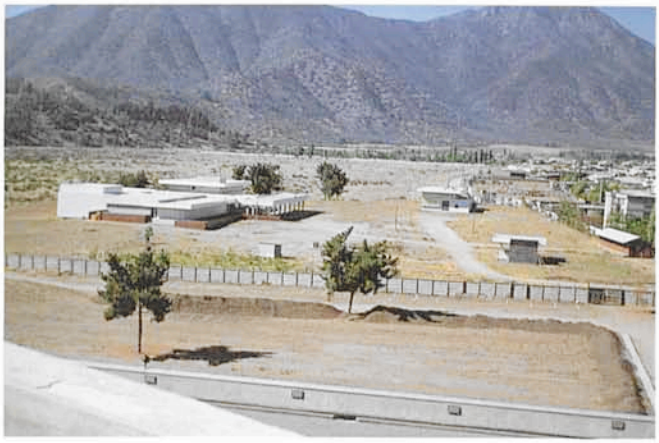
Left photograph: *May 1967; Kapteyn Laboratory observers M. de Vries and R. Mulder, with ESO's mechanic J. Doornenbal, relishing a meal in the provisional restaurant.*
Photograph from a slide by the author.
Right photograph: *January 1969; Tea-time in the new cafeteria. At the foreground table from left to right: Albert Bosker, anonymous, J. Palisson, Hans-Emil Schuster and A. Siméon.*
From the ESO Historical Photographs Archives, in collection marked "January 1969 von Dr. Muller".

1967, expressed the hope that a national 1.5-m Danish telescope, still in the planning stage, might be put on La Silla, and there was also reference to a (distant) possibility that Uppsala Observatory might move the Schmidt telescope it had in 1957 installed at Canberra, Australia, to La Silla – a proposition that was never realized. We shall return later to the Danish 1.5-m telescope.

The Danish 50-cm Telescope

The second national instrument installed was the 50-cm photoelectric telescope belonging to Copenhagen Observatory. Early consultations with the Director of ESO led to a proposal for the Council meeting of December 1967, just after Denmark's joining ESO. At that time, the telescope was meant to be temporarily only on La Silla, for a specific programme, and it therefore was first, in February 1969, installed in the provisional building of the 1-m telescope after the latter had been moved into its proper dome. However, already in the course of 1968 Council agreed in principle to install the telescope on a more permanent basis, which led to first draft contracts between ESO and its

Following the dedication ceremonies in March 1969, the German Minister of Education, Dr. Gerhard Stoltenberg, visited the ESO Guesthouse where he made acquaintance with members of the ESO staff and their wives. In these three photographs Director General O. Heckmann introduces to Dr. Stoltenberg from left to right: Mrs. Ursula Villena, Raul Villena, Harold Hyslop; André Muller and Johan Bloemkolk; Mrs. Louise Muller and Mrs. Olga Hyslop.
From a series of photographs in the ESO Historical Photographs Archives.



THE HEADQUARTERS IN THE VITACURA SUBURB OF SANTIAGO

Left photograph: *December 1967, the construction stage visited by Victor Blanco (left) and Jürgen Stock (middle) of AURA-Cerro-Tololo, with Raul Villena of ESO.*
Photograph from slide by the author.
Right photograph: *December 1968, view of HQ from the roof of the adjacent United Nations building: main building of HQ is to the left of the middle of the photograph.*
Photograph by Eric Maurice in ESO Historical Photographs Archives.

owner of 1968 [12]. The agreement in its final form between Copenhagen University and ESO was signed only in 1975, simultaneously with that for the Danish 1.5-m telescope [13]. For the housing of the telescope a new dome was built, identical to the one for the ESO 50-cm instrument. These buildings were finished in 1972 and in it the telescope became operational again in 1973.

The Danish National 1.5-m Telescope; Basic Considerations

It would take many years until the next national telescope would be installed: the Danish 1.5-m. (A 40-cm telescope with its housing and adjacent office space was installed in 1975 by the Geneva Observatory; however, as Switzerland was not yet a member state of ESO at that time, its status was different from that of the telescopes discussed here.) The Danish 1.5-m was the subject of an application by Reiz and Strömgren of 9 November 1968 [14] which was accepted in principle by Council in its meeting of June 1969. However, the telescope became operational only a decade later, in October 1979, an epoch well beyond the period covered by this series of articles. Council's approval in 1969 must be seen in the context of far reaching proposals for extensions of the telescope facilities submitted in the year 1968 by the Scientific Programmes Committee, a committee installed in December 1967 and to the activities of which I shall return in the next article.

It was this Danish telescope that in an early stage evoked more thorough discussion of national telescopes in general than Council had devoted to them in the beginning. This started at the December 1968 meeting and continued at the meetings of March, June and December 1969. In these discussions the French delegation, whereas it fully supported the acquisition of the Danish telescope, stressed the importance of formal aspects such as the question whether these telescopes would fit within the ESO Convention and the Convenio with Chile, it warned for overcrowding on La Sillla, and insisted on careful selection of such telescopes and certain scrutiny of their observing programmes, and study of the financial implications. The first French remarks were added as an addendum (by P. Lacroute) to the minutes of the December 1968 Council meeting [15].

Further discussion was based on two documents: "Instruments étrangers implantés à La Silla; Essai d'évaluation de la valeur de la contribution de l'ESO" [16] prepared by the French delegation, and one by the ESO Directorate: "General Conditions for Admission of National Telescopes on La Silla" [17]. The laborious discussions, at which the French delegation took the view that national telescopes should be considered in the category of Supplementary Programmes as defined in the Convention (see my article I) – did not lead to a clearcut policy for future applications. It had fallen into the background by the time when, years later, the matter of national telescopes became of interest again. However, the discussions were symptomatic for growing concern among Council with regard to developments in ESO. In the next article we will return to these worries. For the moment we will forget about them, just as Council did – superficially at least – when it proceeded to Chile for the festive dedications . . .

The Dedications

On their way to Chile, Council on March 17, 1969 paid a visit to AURA's Kitt Peak National Observatory near Tucson, Arizona. Confrontation with this observatory, of comparable size to what ESO intended to become, naturally should be instructive, and was prompted by a history of mutual collaborative attitude and AURA's counsel in ESO's instrumental developments. AURA's President W.A. Hiltner and Kitt Peak Director N.U. Mayall were, in turn, guests at the ESO ceremonies in Chile.

Council arrived in Santiago on March 19 and acquainted itself that same day with the Headquarters in Vitacura. The next day it visited the Guesthouse, enjoyed the swimming pool and a reception by the German Minister of Education Dr. G. Stoltenberg, and on March 21 visited Cerro Calan Observatory and its Director Claudio Anquita followed by a general reception at ESO Headquarters. On March 22 a full-day Council meeting took place there. On March 23 Council flew to La Serena and visited this town and its surroundings, and on March 24 it went by bus to Pelicano and next to La Silla. Council members stayed in the Hostel and visited the many installations in operation: telescopes, workshops, powerplant, storerooms, dormitories, etc. On March 25 the inauguration ceremonies described in the beginning of this article took place. On March 26, Council paid a visit to Cerro Tololo Interamerican Observatory, and after hav-

ing spent the night in La Serena, they flew back to Santiago on March 27 [18].

The Dedication Symposium on the Magellanic Clouds

The dedications also induced ESO to organize its first broad scientific symposium at the Headquarters in Santiago on March 28 and 29. Subject were the Magellanic Clouds, one of those objects of research at which ESO had aimed from its very beginnings. Participants came from Argentina, Australia, Chile, Mexico, South Africa, the United States and, naturally, from the ESO member states. The Proceedings of the symposium, edited by André Muller, were published in 1971 [19]. The symposium underlined ESO's taking up its tasks in astronomical research – although at that time modest observing programmes had been underway with the first telescopes, as we shall see in the next article. An early report on the subjects discussed at the symposium was given by Bengt Westerlund in *Sky and Telescope* of July 1969 (Vol. 38 No. 1).

References and Notes

Abbreviations used:
EC = ESO Committee, the committee that preceded the ESO Council.
EHA = ESO Historical Archives. See the description in the *Messenger* No. 54 of December 1988.
EHPA = ESO Historical Photographs Archive.
FHA = Files belonging to the Office of the Head of Administration of ESO.

[1] EHA-I.A.2.14.
[2] Frank Middelburg became an ESO employee in 1967. By the time of his untimely death in the year 1985 he had become a specialist in the fields of image processing and software systems. See the obituary by A. Ardeberg in the *Messenger* No. 42 of December 1985.
[3] See the ESO Annual Report for 1968.
[4] A copy of this report occurs in the Oort Archives of the Leiden University Library; a duplicate from this has been put in EHA-I.A.1.18.
[5] EHA-I.A.1.22.
[6] Cou. Doc. Chi-7 in EHA-I.A.2.14. and minutes of the 2nd Cou Meeting.
[7] Cou. Doc. Chi-12 and 14 in EHA-I.A.2.14. and letters of Heckmann to Oort of 4 and 13 Oct. 1964 in EHA-I.A.2.10.
[8] ESO Basic Texts, Section B4.
[9] See the sketches included in the Annual Report 1965.
[10] See, for instance, Ann. Rep. 1968, p. 10. The realization of this telescope became part of the task of the ESO TP-Division.
[11] See FHA File 2.9.2. The last one of the signatures was on Sept. 11, 1969, by the Chancellor of the Un. of Bochum.
[12] See FHA File 2.9.3.
[13] See Doc. Cou-205 of Nov. 7, 1975 in FHA File 2.9.3.
[14] See Council Minutes December 1968.
[15] "Problèmes posés à l'ESO par l'implantation sur ses terrains d'Instruments étrangers".
[16] See Minutes 13th Cou Meeting, p. 12.
[17] Cou-doc No. 55 of May 30, 1969 in FHA 1.1.1/1.2.1.
[18] Details of the programme of the Council visit are in EHA-I.A.2.16. See also B.E. Westerlund's report in *Sky and Telescope*, Vol. 37, No. 6 of June 1969.
[19] A.B. Muller, ed., *The Magellanic Clouds*, Astrophysics and Space Library, Vol. 23, Reidel Dordrecht 1971.

REPORT ON THE FOURTH JOINT ESO/CTIO COLLOQUIUM

"The 1001 Nights of SN 1987A"

Compiled by P. BOUCHET, ESO

1. Introduction

The fourth joint ESO/CTIO colloquium was held at La Silla on November 20, 1989, in order to celebrate properly the results of the 1001 nights spent after the outburst of SN 1987A. This colloquium consisted of informal talks followed by debates and a round-table discussion dealing with the acquired experience in a supernova follow-up, the current observations of SN 1987A, the future joint ESO/CTIO monitoring of SNs, and the preparation for the next bright supernova(e?) (observations in Chile).

Most of the staff astronomers and visitors from the three observatories of the IVth region of Chile (La Silla, CTIO, Las Campanas) were able to attend the meeting, which largely contributed to its success.

The colloquium ended in the gymnasium of La Silla where the ESO Astronomy volleyball team brilliantly defeated the CTIO one, in an intense game. To conclude in the very best way this pleasant and fruitful day, a cocktail was then offered to everybody.

We present in the following a summary of the talks given during the meeting.

2. VISIBLE SPECTROPHOTOMETRY: Mark M. Phillips/CTIO

SN 1987A in the Large Magellanic Cloud has provided a unique opportunity to study the spectral evolution of a Type II supernova. Taking advantage of the superb observing conditions that characterize the "Norte Chico" of Chile, astronomers at ESO and CTIO have led the way in obtaining precise spectrophotometry of this important object at visual wavelengths. These observations have yielded a number of important findings, a few of which are listed below:

2.1 Abundance Anomalies in the Hydrogen Envelope

The first spectra obtained of SN 1987A were characterized by strong H and He P-Cygni emission lines. Attempts to model these early spectra have suggested that the helium abundance in the outer envelope of the supernova may have been as much as a factor of 2-3 times the solar value. As the supernova expanded and cooled over the following weeks, strong ab-

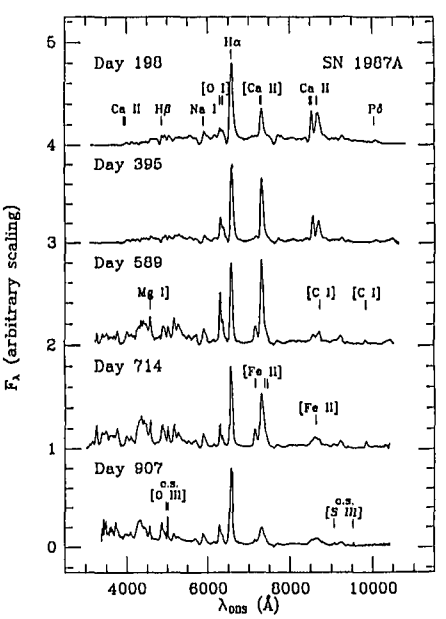


Figure 1: *Selected optical spectra of SN 1987A obtained at CTIO which illustrate the evolution from days 198–907. Identifications of the most prominent emission and absorption features are indicated. The narrow [OIII] and [SIII] lines visible in the spectrum for day 907 are due to the circumstellar material that surrounded the progenitor Sk -69202.*