

The Idea of the European Southern Observatory

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ESO's Mission

Five years, twenty issues of the *Messenger* later, I take this opportunity to denote my attitude towards our Organization, my understanding of its mission, which has consistently guided my actions the years I have held this office and exercised its responsibilities. This is not the time to comprehensively summarize the achievements and disappointments, which can in any case be culled from Annual Reports and from five years of *Messengers* by perceptive readers.

For me ESO is the embodiment of an idea, conceived in Leiden by Oort and Baade in 1953 and developed in interaction by a small group of leading European astronomers and a few farsighted administrators from then till ESO's birth in October 1962. The essence of this idea is to promote astronomical research in the community comprised of the astronomers in the member States. That mission has many facets, the foremost task being the construction and operation of world class observing facilities for the users from the community. Derivative tasks are evident: to exploit the facilities so provided to the full, requires a community that is competent, ambitious, interactive, collaborative and competitive.

To stimulate these characteristics a host of activities can be thought of and indeed have been deployed: workshops, conferences, summer schools, fellowships, technical panels and interdisciplinary working groups, telescope advisory committees. These are ways and means to achieve interaction between ESO and its community and among community constituents, across boundaries of nations, languages, traditions and subdisciplines. This mission sums up to ESO's central characteristic, namely that of a European astronomy service organization. To further develop the quality of this mission I have initiated numerous measures which are now operational. I mention some highlights.

Astronomy on La Silla

On La Silla the astronomy group was revitalized under new leadership, with improved facilities and with an increase of youthful team members, as the Astronomy Support Department. The ASD has organized itself to cope with the introduction and assistance of a growing number of visiting astronomers who come to use a large suite of ever more

sensitive, flexible but more complex equipment. ASD members are themselves active observers, compete as do community members for observing time in the OPC. There are many collaborations among them and with community colleagues, they have an active scientific life, with weekly internal research presentations and frequent colloquia by visitors. Young people circulate between the community and the ASD, spending one or two years as students/cooperants or up to three as fellows on the mountain, all with service tasks and research in combination. Returning to the community, they enhance the connectivity with ESO of the institutes they join.

Activities in the Science Division

This is equally true for the fellows and students appointed to the Astronomy Group of the Science Division. For them the service tasks are more modest and they have many opportunities for collaborative connections with ESO staff and with visitors to the Science Division. That visitors' programme has been enlarged the past two years, in both Image Processing Group and Astronomy Group. Although as a science service organization ESO's in-house research is a secondary objective, meant to enhance the prime objective, by having critical users in house directly interacting with other staff and carrying out part of the service functions themselves, the in-house research is nevertheless very extensive. At the present time some seventy-five scientists who do research part time or full time, including paid visitors, are employed by ESO. Fully half of all astronomy publications based on or related to La Silla observations and other ESO services, have at least one author who is on the ESO payroll!

Our image processing system MIDAS has been drastically improved in these years and is now installed at more than 150 institutes. Ways have been developed to enable community users to contribute to MIDAS utilities by paid residence periods in Garching. MIDAS will be the VLT's data handling system and is finding its way into La Silla domes now. The La Silla ASD team is actively contributing to the system. With the stimulus of VLT standardization and the ubiquity of powerful workstations, MIDAS will serve European astronomers in the long term, also where institutes use several systems side by side.

Key Programmes

To counter trends of increasing research fragmentation and, positively, to promote inter-institutional and multinational collaborations for ambitious strategic goals, the idea of Key Programmes was defined, implemented and tuned. Some two dozen KPs, involving more than two hundred astronomers in all member States as well as from many other countries are now running, typically for three to five years. The past sixteen or so issues of this journal have seen profiles of these programmes, in order to acquaint the community at large with the work in progress, information which itself has influenced the direction of normal programmes and sometimes led to enlargement of the KP teams.

Action in the VLT Division

In the VLT Division the past five years have been turbulent, very full with new technology and with the learning process of working on the preparation and execution of many institutional and industrial contracts at once. At the same time, but after commissioning of the NTT largely in the context of VLT preparatory activities, work for La Silla continued. I mention the development of adaptive optics, in a major collaboration with several French institutions and of remote control systems, in collaboration with Trieste. All this in addition to the continual delivery of ever improving optical and infrared array detectors and associated cameras.

The VLT programme itself is now nearing the halfway mark, both in time and in the resources contractually committed. The work of the Division is rapidly shifting from tendering preparations to contracts executions. The tendering process has been very professionally standardized and ESO has engaged many industries in a remarkably extensive set of R & D contracts and preliminary enquiries as preludes to that process. An aspect of ESO's mission is to further technology development in European industry, a task systematically developed over the past ten and more years.

Instrumentation Plan, VLTI and the Community

A quite new aspect of ESO interfacing with the community has been the development of both the VLT instrumenta-

tion plan and of VLT Interferometry. Both were defined with the intense participation of a community Instrumentation Panel and an Interferometry Panel. New ways of collaborating, based on contractual arrangements adapted to the new circumstances, were outlined, discussed and implemented step by step. I consider these contracts, which greatly multiply ESO material and human resources by highly skilled human resources from the community, as a major and successful innovation. For the Instrumentation Plan it is already far on the way with a number of contracts, both for predesign and for design and construction work, signed and in progress. For VLTI all preliminary work is complete, the Interferometry Panel has completed its work, its final report is in press and contracts with industry and with community institutes consortia are in preparation. VLTI promises to be on the cutting edge of the VLT Observatory's exploration of new domains in parameter space, with community staff playing a dominant role in the venture.

The VLT programme scientist is a key figure guarding the science objectives of the programme as he monitors all VLT Division activities. A particular set of activities form the formation and conduct of Instrument Science Teams, one for each VLT instrument, consisting typically of three or four community astronomers and one staff member from the Science Division. These ISTs of which four are now active, are an effective means of exerting the future VLT users' influence on the programme as well as ascertaining that knowledge of that programme can diffuse into user circles. For VLTI it is intended to form Interferometric Imaging Science Groups (IISGs) which will bid to build VLTI instruments and commit themselves to help ESO commission, tune and operate the VLTI on Paranal.

Administrative Matters

One measure of the administrative load of an organization is the amount of money it spends. The ESO annual budget, with the VLT capital programme in full swing, is now about twice as high as it was five years ago. A modest increase in staff, further computerization and the cumulative experience of the several teams have maintained ESO's reputation of effective administrative procedures as the work load grew. Especially the Contracts and Procurements department is affected by VLT activities. It has risen to the task with remarkable effectiveness, often evoking appreciative remarks from our contractors even as they squirm under the rigours of our contractual conditions and their meticu-

lous application. The reliability and consistency of our relations to industry are an important feature of ESO's reputation as a contractual partner.

ESO Public Relations

In the Office of the Director General the Information Service has during my time taken on several additional tasks. Press releases and press photos continue to be issued as developments warrant; we produce no managed news, no froth. This group, the IPS, has acquired new skills in the production of video programmes and video clips, in a remarkably short time achieving a level of professionalism equal to its more classical photographic forms of expression. The travelling exhibitions, also enhanced by ESO videos, were increased in number and scope. Part of ESO's mission is the dissemination of astronomical discoveries and insights to the public-at-large: our astronomers' explorations are journeys to be shared. That the group at the same time mass-produces and distributes posters and slides, looks after the *Messenger* and the Annual Report as well as preprints and conference proceedings is well known. Less known but important for the world-wide community is the task we took on of producing and disseminating the Palomar-ESO Atlas of the Northern Sky.

The Scientific Committees

The most direct feedback the DG gets about La Silla is from staff and fellows returning from an observing trip and via the end-of-run reports which I always read and act upon where necessary. Less direct, but comprehensive and official is the annual meeting of the Users Committee. The UC in my time has become more assertive and also more systematic in its reporting and advising. For that the members, one from each member state, have to stay in touch with their national user-colleagues, a tall order especially in the three large nations. The UC has stimulated a lot of activities, both on La Silla, e.g. the writing of a whole series of operating manuals as well as the general ESO Users Manual; and at Headquarters, e.g. measures to stabilize the MIDAS core.

The committee with the most hard labour is the OPC, the Observing Programmes Committee. In my five years the OPC adjudicated some four thousand proposals for periods 42 through 51; for the latter there were 492 normal proposals plus 8 Key Programme proposals. This stream of ideas for which telescope time is requested far exceeds the capacity of La Silla, so

the work of the OPC is hard, some members say heartrending. The Visiting Astronomers Section in the DG's Office handle and prepare this semiannual flood for OPC assessment and then process the decisions by converting them into a La Silla schedule and a travel schedule for hundreds of our users. Here also the increasing workload had led to only a much smaller increase in staff time and a large increase in productivity by further automation, and sheer experience and dedication. This interplay between ESO staff and OPC members is a pleasure to monitor. The OPC has been strengthened by three members at large in addition to the national representatives, to balance the committee in special expertise and to cope with the load. Nevertheless each member spends between four and six working weeks per year for the cause. And then the national representatives have to try and answer the difficult questions of disappointed colleagues as to why their brilliant idea did not get the telescope time it so evidently deserves. Because more than half the proposals get no time at all, for the big telescopes only one in five is successful. So the frustration is large, the questions are tough. Churchill said that democracy is the least bad form of government; we have each time to convince our friends that peer review is the least bad form of distributing scarce science resources. . . . The OPC spends, necessarily, a lot of time on Key Programmes, where I have from the start also involved referees external to the OPC who send their report to the OPC to complement the members' assessments. The OPC has again reached the limits of its capacity and my successor will either have to expand it again or split the task for several subdiscipline groups as is done for the HST. Whatever is done, the OPC has shown exemplary dedication and unflinching professionalism in which it has been very rewarding to participate.

The Scientific Technical Committee has in these five years seen its role much enhanced, in part by the VLT programme which has so much occupied its attention, in part by the agreement in my first meeting with the STC to not avoid controversy, to forget politics and have substantial, frank science and technology exchanges (this in marked contrast to the style when I was myself a member of the STC). The result has been a deeper involvement with much more community input as well as intellectually more rewarding meeting days. No doubt this has rather increased the feedback to the institutes where STC members are active. All in all a considerable gain in approaching the idea of ESO.

Of these three science committees all people asked to serve as members in my time have consented without fail. This is, I think, a mark of ESO's stature in our community.

The Member States Delegations

The science committees are from member States but the members come as scientists, do not represent member State governments. The members of the Finance Committee and of the Council do; we fly the flags when they meet officially, as they normally do twice per year. Their task and authority are set out in the ESO Convention and in the Financial Protocol. The Director General receives instructions and guidelines from Council, which also approves the budget and major decisions, including appointments of senior members of staff.

The FC advises Council and exercises several functions delegated to it by Council, most important of which perhaps is that of approving executive proposals to conclude contracts. The introduction to the Annual Report 1991 gives an interesting example of this activity in VLT practice.

This is not the place to elaborate on the Executive's relations with delegations or on the delegations' internal relations. It is clear that there is a great variety of interests, national and individual, of personalities and styles, which combine to form a complex and sometimes unpredictable whole. My profes-

sional training, as one Council member put it to me, has made me articulate but not very diplomatic. In the end the tremendous workload and my diplomatic weakness, which could perhaps have been corrected by a much greater time investment, time I did not find, resulted in increasing estrangement between several delegations and myself. Thus the confidence base, essential for successful continuation, eroded.

The delegations have, for these five years, persuaded their governments to provide ESO with all the means necessary for its mission. The limits of our work were in human resources, not in funding. Council understandably and effectively controls the expenditure growth by putting ceilings on the numbers of the several categories of staff that can be on the payroll at the same time. That actually determines the scope of ESO's work and the pace of its VLT programme. The member States' support has been very impressive and has relieved us of the constant money worries which plague so many other organizations, so that we could fully concentrate on the work itself. That is ground for appreciation and optimism.

A Personal Note

Ending this "farewell article" on a personal note, I must admit I had underestimated the cultural complexity of ESO at all levels. In governing bodies, in committees, in management teams and among personnel, there are so many

perceptions of authority, notions of hierarchy, appreciations of frankness and openness, that the learning process is a long and subtle one. In Chile this is even more difficult. This culture diversity is extremely interesting in its dynamic patterns; it is extremely difficult to handle managerially and in policy making.

Looking back, I am convinced we have collectively achieved a great deal. I worked on the premise that all-out service to the idea of ESO, to the furthering of research opportunities of the community for which it exists, was necessary and sufficient. I have no regrets of being an idealist in this respect.

As an ESO staff member and advisor to the new Director General, I hope, at some distance, to continue to serve and observe. I look forward to resuming my scholarly work, to meeting community astronomers in their own institutes and at conferences. The Council decision may well be a blessing in disguise for my personal and our family life. After two activist decades in Leiden and five exciting but exhausting years in ESO, I anticipate a welcome change of pace. I have not had a chance for full time study, research and writing since my graduate student days in Cambridge thirty years ago!

I express my gratitude to all who have made these years so fascinating, many of whom share with me the idea(l) of ESO. May it flourish on Paranal, on La Silla, in Santiago, in Garching and throughout Europe's astronomy community.

Developments in ESO/Chile

In the course of 1992 important events took place related to ESO activities in Chile. Some of them require clarification in order to avoid the circulation of unnecessary rumours related to ESO's relations with the Government of Chile, the local staff and the Paranal site.

Relations with Chile

Concerning the general relations with Chile, the ESO Council decided in its 67th Meeting on June 4 and 5, 1992, to offer Chile membership in ESO and invited a Chilean delegation to start discussing this issue with ESO in Europe. This offer was made on the background of similar discussions which had already taken place in the 1960s and taking into account the wish of the Chilean astronomical community for closer scientific cooperation with ESO, including the desire to obtain a fixed percentage of observing time.

The offer of membership was transmitted to the Chilean Government in June this year, followed by some high-level meetings with Chilean government officials in Santiago. Apart from more formal communications confirming the receipt of this offer and its appreciation, the Chilean side has not yet replied to the invitation to begin discussions aimed at ESO membership.

The ESO Council at its 68th Meeting on December 1 and 2, 1992, discussed this issue, and a new initiative by ESO is now in preparation.

Local Staff Matters

Issues raised by the ESO local staff in Chile concentrate on the recognition within ESO of a national syndicate which the Chile local staff has established on the basis of national Chilean law and also on the request to reach a salary level comparable to that of the international staff.

Like other international organizations, ESO, because of its status, cannot accept national trade union activities within the organization.

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