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Italy's entry in the ESO organization: an historical review

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Abstract. The story leading to the entry of Italy in ESO after twenty years from its foundation is reviewed, no doubt with a personal touch of a person deeply involved in the process.

1. Introduction

The first question that comes to mind is why Italy did not join the foundation of ESO. As described by Adriaan Blauuw (1988) the foundation of ESO as the European organization for astronomical research in the southern hemisphere was the result of almost ten years of intensive discussions and political promotion involving leading astronomers from various western European countries. The ESO Convention was finally signed in Paris on October 5, 1962, by the legal representatives of five countries (Belgium, France, German Federal Republic, Netherlands, Sweden). It took about an extra year for the parliamentary ratifications of most countries, except for Belgium (1967), while Denmark joined ESO in 1967. All this shows that there would have been ample time for Italy to participate in the building up of ESO, if one wanted to, and this is exactly the point. In Blaauw's detailed and well documented historical review no mention is made of any interest whatsoever expressed by the leading Italian astronomers of the time. Moreover it is stated that in the process of constructing a case for ESO one has profited of the experienced advise from influential members of the CERN Council, and Italy has been one of the founding countries of CERN. So, it would seem surprising that no attempts have been made towards the involvement of the Italian astronomers. Its of course a matter for the historians of the Italian astronomy to dig into the archives of the leading Italian astronomers and observatories to find out whether there are documents of the '50s and earlier '60s that might bring some light on this matter.

I myself have no personal recollections of this time. I graduated in physics at the end of 1959 and my research interests were in other fields, rather than in optical astronomy, but nonetheless I never heard about organized discussions or initiatives for the participation of Italy to ESO until well over 1970. Later on my impression was that the optical community, traditionally rooted in the astronomical observatories, was largely divided, each observatory essentially pursuing its own scientific and instrumental development. Even the dream of the old sought national large telescope, the project of a National Astronomical Observatory (OAN), did not find the compact cohesion of the astronomers that the size of the enterprise would have required.

This part of the story is well summarized by Livio Gratton (1978), who had returned to

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Italy from Argentina in 1960, in a detailed report on problems facing astronomical research in Italy that he sent to Senators C. Bernardini (physicist) and A. Faedo (mathematician, president of the Senates Committee on Education and former president of the National Research Council CNR). Among other things he writes: *"(translating) ...it's certain that the [Italian] astronomers of this time [1950s] made a wrong evaluation. Perhaps it was feared that the entry in ESO would have hampered the just started initiative for a National Observatory, or may be some thought that Italian astronomy was underdeveloped and therefore it would have accessed to ESO in conditions of inferiority, or the leading Italian astronomers did not hold a sufficient trust in Europe"*. Then he goes on by mentioning that back in Italy he had finally convinced his colleagues of the need to join ESO, but *"...unfortunately the Italian economy was already deteriorating [and] the CNR did not consider possible to overcome the financial problems"*. An important chapter of the report is then dedicated to the history and status of the OAN project: the 3.5m mirror blank and support cell acquired and stored in the villa Il Gioiello (The Jewel), the last residence of Galileo on the hills of Arcetri; the drawings of the mechanical structure of the telescope completed; the possible site (Toppo di Castelgrande) inspected. About 2 billions Italian lire (ITL) is Gratton's evaluation of the total investments already made in the OAN, but *"Since 1973 the situation is in a complete deadlock"*.

Obviously, Gratton's estimate of the total expenditure on resources made available by the Ministry of Education and the CNR over the years (now corresponding numerically to 1 million euro, but not in real terms since it refers to more than 35 years ago) was quite sizeable and represented a potential obstacle to any initiative trying to secure an ESO membership independently from the fate of the OAN project.

2. Italy towards ESO

A number of favourable circumstances developed in the second half of the '70s. In 1975 Lodewijck Woltjer succeeded Adriaan Blaauw as Director General of ESO. Because of our scientific collaboration I was regularly visiting him at the ESO HQ at this time located in the CERN premises in Geneva, and this location turned out to be particularly relevant for the later developments. I also had frequent conversations with Franco Pacini, who had joined the ESO staff in Geneva in charge of the newly created science group. Franco and I shared the view that the participation of Italy in ESO had to be strongly pursued for two main reasons: first, to enable the access to state of the art optical instrumentation as soon as possible, and, perhaps even more important, to promote collaboration and competition on a wider international scale for a national community that was still somewhat parochial. Indeed, as it later turned out, the participation of Italy in ESO has provided a tremendous boost for the development of Italian astronomical research, and not only in the optical domain.

I still hold notes of a first informal conversation with Woltjer on January 10, 1976, in which we explored various possibilities, their economical impact and limits: (1) a full membership of Italy entailing a yearly contribution of about 5.7 million DM (~1.52 billion ITL; 1 DM ~270 ITL), a share of 17.44% of the 1976 -77 ESO budget of 32.5 million DM based on national income (CERN/ESO formula), plus an only once contribution (to be evaluated) to repay ESO of previous years' investments; (2) a participation in the science and technology of ESO Europe only, entailing a yearly contribution of about 1.2 million SF (about 300 million ITL) based on a shared cost of the ESO HQ in Geneva, and (3) an agreement to allow stages of Italian researchers at ESO. Woltjer was very much in favour of option (1): the ESO 3.6m in La Silla was coming to completion and a widening of the ESOs member States would have been important for the future of the organization. However, given the economical effort and the rather long procedure implied by option (1), the other options could also be considered as a transition period, but it was made clear that any solution involving less than about 1 million SF/year would not have been politically attractive, unless accompanied by an Italian commitment to apply for full membership as soon as possible.

Following this conversation I tried to establish contacts with the Permanent Mission of Italy to the International Organizations based in Geneva, including CERN. On the following March 26 I received an informal hand-written letter from Dr. A. Martinazzoli, a member of the Italian delegation at an UN Committee on Space Utilization, asking for more details about a possible partial participation in ESO at a minimal cost and mentioning that a top level officer of the Permanent Mission recalled him of an attempt (?) made four years before which had been turned down by the ESO member countries. I have never followed up on this, but it would be interesting for historical reasons to look into the ESO archives.

No real progress took place until 1977 when I was elected member of the national Committee for Physical Sciences of the CNR on behalf of the astronomical community. The Committee was chaired by Edoardo Amaldi, the internationally renowned physicist of the University of Rome and a founding father of CERN. Soon thereafter I talked to Amaldi updating him on ESO and its projects and on the importance of joining this organization in order to boost astronomical research in Italy and in Europe, too. One did not need to spend too many words with Edoardo: he was extremely quick in picking up the essential points and in a matter of a few days he arranged for an appointment with Amb. Sergio Romano, at this time Director of the Department of Cultural Affairs at the Ministry of Foreign Affairs. As it turned out the meeting with Amb. Romano was very positive and informative. As an immediate follow-up the CNR President sent an official letter of interest to the ESO-DG and as a result an Italian observer was invited to attend the ESO Council meetings, an important step forward allowing an informed communication link while things were worked out. According to the CNR regulations Amaldi left the Physics Committee late in 1978 for age limit and I succeed him as president. As an aside I should mention that at the first ESO Council meeting I attended as Italian observer I met a somewhat discouraged prof. Marcel

Fig. 1. The San Domenico Palace Hotel in Taormina (Sicily) where the decision about the entry of Italy in ESO was taken – a panoramic view.

Golay, a distinguished astronomer and observer for Switzerland since a number of years, a not encouraging perspective.

3. The crucial years (1979–82)

During one of the visit at ESO I was introduced to Amb. Umberto Vattani, at this time Chief of Cabinet of the Italian Minister for the Coordination of Science and Technology Activities (1978-80) and later Chief of the Secretariat of the Prime Minister (1980-81), who was in Geneva attending a CERN Council meeting. We met in one of the ESO's offices and I briefed him about ESO and how important it would have been for the development of the Italian astronomical research to join the organization. I do not remember if on this occasion, or a following one, I also introduced him to Woltjer. This represented a key turning point since Vattani took upon himself the role of promoting a full membership of Italy in ESO.

Soon thereafter Vattani attended an ESA Council meeting in Paris where he met with Dr. Peter Creola, the Swiss delegate, and, as he told me later, they decided that both Italy and Switzerland would become ESO member States (they also bet on which of the two countries would be first in completing the lengthy procedures - a sort of diplomatic race reminiscent of the lively soccer competitions between Italy and Switzerland).

Because of the large investments already made, as outlined in the Introduction, it was clearly important to workout a viable solution

Table 1
The succession of Italian Governments in the relevant time period

Period	Prime Minister	Sci&Tech	Foreign Affairs	Treasury	Finance
04/08/79-04/04/80	F.Cossiga I	V.Scalia	Malfatti/Ruffini	F.Pandolfi	F.Reviglio
04/04/80-18/10/80	F.Cossiga II	V.Balzamo	E.Colombo	idem	idem
18/10/80-28/06/81	A.Forlani	L.Romita	idem	B.Andreatta	idem
28/06/81-23/08/82	G.Spadolini	A.Aniasi	idem	idem	S.R.Formica

for the long-standing problem of the OAN. A possible scenario was elaborated: the thin mirror blank of the ESO New Technology Telescope (NTT), whose realization would have been boosted by the entry of Italy, could be obtained by slicing the thick OAN blank in two parts, subject to feasibility and quality control, one for the NTT and the other for the Italian national telescope, essentially a twin of the NTT in the northern hemisphere. After a few months, during which the community was duly informed via the National Group of Astronomy (GNA) of the CNR, the proposal was ready to be submitted to Vito Scalia, Minister of Science and Technology, who decided to consult the astronomical community before deciding. On January 17, 1980, a wide representation of astronomers from all over Italy was convened at his HQ in Rome, together with representatives of the various Ministries involved in the procedure. The pretty large hall was completely filled. I still vividly recall that the Minister introduced the discussion by simply saying something like *"Prof. Setti (sitting on his right) has proposed on behalf of the astronomical community that Italy should join ESO Is this a priority? Is there any objection?"*. A moment of tense silence followed. Then several hands were raised asking for permission to speak, the ice was broken and many colleagues intervened with short speeches, all greatly in favour of the idea and some also underlying the need to proceed as quickly as possible. For once the astronomical community showed a very compact willingness that impressed the Minister. Action immediately followed.

Already on the following month of February a high level Italy-ESO meeting was convened in order to discuss the conditions for Italy's full membership. It took place at the San Domenico Palace Hotel (Fig. 1) located in Taormina (Sicily), with its inspiring surroundings and not far from Catania, the home town of Min. Scalia. ESO was represented by Prof. J.-F. Denisse (President of Council) and Prof. L. Woltjer (Director General); for Italy, Umberto Vattani (Chief of Cabinet) and myself as advisor. At the end of the first day I was very worried as it appeared to me that the rather difficult discussion had reached a deadlock. After dinner Denisse and Woltjer retired in their rooms, while we had a long walk in the cloister of the XIV century monastery, now a wing of the hotel, where Vattani kept on reassuring me that I should not worry. On the second day an agreement was finally reached, the basic points being: 16 million DM as a contribution to previous ESO investments, 4 of which in nature (inclusive of the OAN semi-blank), to be paid over 6 years; the annual contribution based on the GNP could start in 1981; the possibility of making use of the NTT project and technical drawings for an Italian national telescope. The Minister was briefed by Vattani on the telephone and showed up in the late afternoon to mark the positive conclusion of the meeting; then a very relaxed and excellent dinner followed.

The news spread very quickly. Vittorio Castellani, at this time President of the GNA, forwarded to me copy of the faxsimile sent to Min. Scalia *"(translating) The Italian astronomical community expresses its greatest* *satisfaction for the entry of Italy in ESO and the foreseen development of the national astronomical observatory"*.

On March 26 the ESO Council met in Geneva in special session and unanimously accepted Italy and Switzerland as new Member States (The Messenger,1980). The Council also decided that the contributions for past ESO investments could be used to expand the observing facilities in La Silla, *de facto* a green light for the subsequent realization of the NTT and the acquisition of the technological expertise leading to the large telescopes of the future, such as the VLT, as stressed in an accompanying commentary by the Director General.

On December 19, 1980, the Italian Government approved the proposal presented by E. Colombo, Minister of Foreign Affairs, for the participation of Italy in ESO and the bill was sent to the Parliament, thus initiating the ratification procedure. One may wonder why it took so many months since the Taormina meeting. The point is that in this time interval there have been two governmental crisis and corresponding top level alternations in the (five) relevant ministries (Table 1), so that it is not surprising that all this may have caused a slowing down in the procedures.

The bill was approved by the Senate on July 28, 1981, about a month after yet another governmental crisis (Table 1), sent back to the Chamber for the final approval that was obtained on March 2, 1982, and published on the Gazzetta Ufficiale a week later (Legge 10/03/1982 n.127-G.U. Suppl. Ord. No.92). Francesco Cossiga was the proposer of the bill at the Chamber presided by Oscar Luigi Scalfaro, both to be subsequently elected President of the Italian Republic in 1985 and 1992, respectively – a most remarkable and high level coincidence to mark the entry of Italy in ESO. In his introductory speech to the bill Cossiga (1982) explicitly mentions and confirms the basic agreement reached in Taormina, the construction of a national telescope, similar to the new ESO telescope to be installed in southern hemisphere, for which Spain has already agreed to allocate a site on the Canary Islands, and the promotion of Italian industry. It is interesting to note that Art.4 of the bill details an ordinary contribution of 6 million DM to the ESO budget 1981, close to the estimate of 1975 (par.2 above), but it should be noted that in the meantime the rate of the ITL to the DM increased by a factor almost 1.8!

On May 24,1982, the Italian Ambassador in Paris deposited the instrument of accession with the Ministry of Foreign Affairs of the French Republic, as foreseen by Art.13 of the ESO Convention (The Messenger, 1982), and Italy became the eighth member State of ESO (Switzerland completed the accession procedure on March 1st - Vattani may have lost the bet with Creola, but both of them won the race).

4. Concluding remarks

It all ended positively in less than seven years since my first informal discussion with Woltjer, and this despite the complicated Italian political scene, as exemplified by the alternation of four governments in less than four years (Table 1), and the difficult economical situation. As I have described, a collection of favourable circumstances made this possible, but it is also true that circumstances become favourable if one is ready to fully exploit them.

The Italian astronomical community must be grateful to the late Vito Scalia (Catania 1925-Rome 2009), the Minister of Science and Technology who effectively started the process for the accession of Italy to ESO. A particular gratitude should be expressed to Amb. Umberto Vattani whose painstaking attention and continuous efforts over the years have been of decisive importance. One should also recognize the very important role played by the National Research Council (CNR) with its structured disciplinary representation.

The entry of Italy in ESO has certainly been of fundamental importance for the development of the Italian astronomical research, but it has also been equally important for the European astronomy because it has empowered ESO with a pivotal role leading, among other things, first to the NTT (1989) and just ten years later (1999) to the VLT, the world largest and most advanced telescope. Today in

Europe we cannot imagine research in astronomy without ESO as demonstrated by the increased size of the organization that now comprises 14 full member States.

Unfortunately colleagues and friends who have greatly contributed to the success of the entry of Italy in ESO and to the advancement of astronomical research have since passed away a most heartfelt thought of gratitude to Franco Pacini and Vittorio Castellani

References

Blauuw, A., 1988, The Messenger, 54,1

Cossiga, F., 1982, Atti Parlamentari, VIII Legislatura, Camera dei Deputati, 2746-A, 2

Gratton, L,. 1978, Att.1 to the minutes of the OAN Commission, Padua 22/01/1979

The Messenger, No.20, pg.1, March 1980

The Messenger, No.28, pg.1, June 1982