

# The history of the creation of Astronomy and Astrophysics

S.R. Pottasch<sup>1</sup>

Kapteyn Astronomical Institute, P.O. Box 800, 9700 AV Groningen, The Netherlands (pottasch@astro.rug.nl)

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## 1. Introduction

History began with the meeting of 8 April 1968 at the Leiden Observatory. Everything that happened before that date can be considered as pre-history. It is essential to understand the pre-history to make sense of the history, but it is not easy to describe. This is because it consists of unrecorded discussions of individuals in small groups, feelings concerning whether ones papers are being read, etc. And all this must be put in the context of a rapidly expanding European astronomical community with an outdated publication structure.

In the early 1960's European publication was splintered. In the best cases each country had its own publication(s); this was sometimes also true of smaller countries. In addition most observatories had their own publications, which were sometimes simply reprinted articles that appeared elsewhere, but sometimes were the only source of original work. This system worked more or less when there was a limited number of astronomers; in that case it was possible for authors to know who was working in their particular field, and to send these persons reprints. As the number of astronomers increased, this system began to break down. It is easy to imagine that a substantial number of astronomers blamed the publishing situation for the fact that their work was not having the impact that they expected.

The following journals were active in western Europe at this time (with the date of founding in parenthesis).

- *Annales d'Astrophysique* (*Ann.d'Ap*)(1938) published in French with occasional English
- *Bulletin Astronomique* (1884) published in French
- *Bulletin of the Astronomical Institutes of the Netherlands* (1921) in English (*BAN*)
- *Journal des Observateurs* (1915) published in French
- *Monthly Notices of the Royal Astronomical Society* (*MN*) (1895) in English
- *Zeitschrift für Astrophysik* (*ZfAp*) (1930) published in German with some English

In addition other journals existed in Italy, East Germany, Scandinavia, Poland and Czechoslovakia. The number of subscriptions to these journals was roughly 300 to 450 except for *Monthly Notices* which was higher. This probably was due to the large number of amateurs who subscribed and not to a substantially larger number of astronomers. The *Astrophysical Journal*, on

the other hand, did have a substantially larger number of astronomer subscribers. While many of these subscriptions were American, personal subscriptions to the *ApJ* by European astronomers was much more common than personal subscriptions to European journals by Americans.

The financial situation of each of the European journals was different. The French journals were completely financed by the government (CNRS). The *ZfAP* was owned and financed by a private publishing house (Springer Verlag). The Dutch journal was financed from the budget of the individual Dutch observatories. The *Monthly Notices* was owned and financed by the Royal Astronomical Society. The choice of the editor, and the editorial policy was thus not always in the hands of astronomers.

When I came to Groningen University in 1963 I was appointed Editor-in-Chief of the *BAN* by the directors of the Dutch astronomical institutes. In the course of the first year in this function, I became aware of several important shortcomings in the journal. First of all there was not an adequate refereeing system. The articles were submitted through the directors of the astronomical institutes who were responsible for the scientific content. This is a form of refereeing which works better in small institutes than in large ones. Secondly the publication time was sometimes long. This was because it was necessary to wait with publication until sufficient articles were submitted to fill an issue. This could cause a delay of six months in publication, but it was unpredictable. Thirdly, because the Dutch astronomical community was small and specialized, the *BAN* was read more often only by astronomers in these fields. This led to a growing feeling that the journal was not widely read, and that when one had an important result it should be published elsewhere. A final difficulty was that the journal was distributed free of charge to the staff and students. Because of the easy access the students consulted the *BAN* too often, and the other astronomical journals too little. It generated 'inbreeding'.

Jean-Louis Steinberg became Editor-in-Chief of the *Ann.d'Ap.* at about the same time (1963). We knew each other quite well since 1959 when I had worked at the Meudon Observatory. We met several times in the course of the following years to discuss the problems of publication. The *Ann.d'Ap.* had problems similar to those faced by the *BAN* with the additional problem that the widespread use of the French language discouraged certain groups of astronomers from reading it. We decided

to investigate the possibility of combining the two journals, and initiated discussions in our respective countries. As might be expected, the initial reactions were reserved, but still encouraging. One of the reservations was whether the combination of only the two journals was a big enough step considering the difficulties which were involved. One encouraging reaction was from the director of publications of the CNRS, Y. Mazière, who saw the possibilities in internationalizing French publications and who lent his full support to the project.

At about the same time I received an invitation from A. Reiz, at that time the director of the Copenhagen Observatory, to visit with the purpose of discussing the possibility of combining the Scandinavian journals and Observatory publications with the BAN. The spontaneous interest of the Scandinavian astronomers led to contact with the Swedish ministry, whose representative, Dr. G.W. Funke, immediately took an active interest in the formation of a European journal. A meeting took place in February 1967 in Copenhagen. Present were the directors of all Scandinavian astronomical institutes (4 Swedes, 3 Danes, 2 Finns, Jensen representing Oslo and Funke) and myself, representing the Dutch. There was agreement in principle to establish a joint Scandinavian-Dutch journal, and a meeting to work out the details was to take place later in the Netherlands. This meeting never took place because the possibility of establishing a larger journal took precedence. The Scandinavians made it clear however, that if a larger journal was not set up, they would establish their own journal.

The two major countries for which problems existed were Germany and Great Britain. The situation in these countries was similar in the sense that both had existing astronomical journals. There was an important practical difference however, since the ZfAP was owned by its publisher while MNRAS was owned by the Royal Astronomical Society. This difference was, at least to some extent, responsible for the way in which the German and British astronomers viewed the situation. The German astronomers who were most active in this matter are: the chairman of the Council of West German Observatories, L. Biermann, the Director of ESO and the Hamburg Observatory, O. Heckmann, and W. Fricke. All were strong proponents of a European journal. They all felt that it was not an important priority to try to incorporate the ZfAP into the European journal. They felt that the German ministry would financially support the new journal and that the ZfAP would eventually disappear. The British astronomers looked at the situation differently. The most important contact was D.H. Sadler, director of the Greenwich Observatories, who was very sympathetic to the idea of a European journal. Another was F. Graham Smith. The subject was discussed at a meeting of the Council of the RAS on 13 October 1967, after arguments were assembled by letter. A merger of MNRAS with other journals was rejected. The arguments given were (1) that MNRAS was an old journal with a long tradition, and (2) that the Royal Astronomical Society would have little function if MNRAS were given up. This last argument probably weighed heavily, since the sale of MNRAS was by far the largest source of income for the R.A.S. This decision was painful because

the MNRAS was highly regarded by the continental European astronomers.

This had been the second painful event that had occurred in 1967. The first was the announcement by Z. Kopal (in a letter dated June) that a new journal had been formed. Besides Kopal, very few astronomers were involved in its formation. The financial basis for this journal was the willingness (perhaps desire) of the Reidel Publishing Co. to do the publishing. Reidel was at the same time owner of the journal. The new journal, called "Astrophysics and Space Science" was not the only astronomical journal published by Reidel, and there was some suspicion that it was formed on Reidel's initiative. Though this has been denied, the project was kept completely secret until Kopal's announcement, for what Reidel called "commercial reasons". It was hard for astronomers to see in this new journal a replacement for the existing national journal for several reasons. First of all it was seen as a commercial undertaking in which the wishes and desires of the astronomers were subordinate to those of the publishers. Furthermore, there were no checks on the scientific quality, since the editor was appointed for an indefinite term by the publisher. For these reasons various astronomers (among them J.H. Oort and J.C. Pecker) wrote letters to Reidel and to Kopal protesting the formation of the new journal, and using as argument the ongoing discussions on the merger of the European journals. Kopal's answer was interesting. In a letter dated 7 August 1967 addressed to Oort, Kopal says "As to the possibility of an European journal, I heard the idea being mooted about at least for 10–15 years now - usually to forestall some other budding development; and when this aim has been accomplished the project went back again to slumber. I am afraid Great Britain will sooner join the European Common Market than all west-European astronomers will agree on a joint journal; neither you nor I may alas live long enough to see it happen."

Contrary to Kopal's insight, the European astronomers were serious. At the beginning of November 1967 the Dutch astronomers met to discuss the situation. They concluded that it would be desirable to form a new journal sponsored by France, the Netherlands, Belgium and Scandinavia. They added the stipulation that the European Southern Observatory be asked to sponsor the journal as well. They agreed to give up the BAN when the new journal was formed. I was asked to inform the French of this, which I did through contact with Steinberg. He had already prepared a note on the subject, in which he came to the conclusion that a merger of European journals was not only desirable but necessary as well. With this note as basis, Steinberg and Denisse called a meeting of the French astronomers. The meeting, which took place in December 1967, was attended by all astronomers with a Ph.D. level or higher. The result was that 75% of those present agreed that a new journal was desirable. Steinberg and I then prepared a proposal which can best be described as the "ground rules" for a new journal. This proposal was then sent to Reiz, the chairman of the Scandinavian group for their opinion. Steinberg contacted the Belgians. In a less formal way several German and Italian astronomers were also informed.

At this point it was necessary to discuss the matter in a more formal manner. In a letter dated 27 March 1968 I invited a number of astronomers to a meeting on 8 April 1968 at the Observatory in Leiden. The purpose of the meeting (as stated in the letter) was fourfold.

1. To discuss the general principles under which the new journal would operate,
2. To discuss the financial implications of the new journal,
3. To begin a discussion of the detailed operation of the new journal,
4. To agree on a date for beginning the new journal.

Those who attended the meeting, aside from Steinberg and myself, were: Reiz(Scan.), van Bueren(NL), Ledoux(Belg.), Schatzman(F), Mazière(F), Oort(NL), and Biermann(G). Velghe(Belg.), Swings(Belg.) and Funke(Scan.) wrote that they were sympathetic with the plans but were unable to come. In addition Funke wrote that the Swedish Research Council was interested in sponsoring the journal. ESO representatives Heckmann and Blaauw were not in Europe, but indicated that ESO would like to co-sponsor the journal. The minutes of the meeting were taken by Mrs. Ondei, Oort's secretary.

All persons present saw the desirability of merging the existing journals to form, on the widest possible European basis, a new journal. It was proposed that the new journal be called 'ASTRONOMY and ASTROPHYSICS, A European Journal'. Steinberg stated that the French astronomers had agreed to stop publication of the *Ann.d'Ap* when the new journal begins publication, but the CNRS was yet to approve this step. Oort stated that the Dutch were in principle agreed to stop publication of the *BAN*.

The main policy making body of the new journal was to be the "Board of Directors", consisting of senior astronomers or government representatives of the sponsoring countries. It would normally meet once a year to discuss the yearly report of the Editor and the state of the journal. It would also elect the Editor(s) and approve the appointments to the Editorial Board. Each country was responsible for the appointment of its member(s). New sponsoring countries would mean an expansion of the "Board of Directors". Most of those present felt a single editor, appointed for 5 years, was optimal. However in the initial stages of the journal two editors, of different nationality, were proposed, which was to ensure that no individual country would dominate the journal.

Articles could be submitted by citizens of any country in the world. Acceptance would depend only on its scientific quality. There would be no page charges. The journal would be the property of the astronomers, represented by the "Board of Directors", who would be responsible for the scientific content. A publisher would be contracted to print and distribute the journal. He would be responsible for the technical quality of the journal and for its promotion and sales.

Because the "Board of Directors" had no legal status, a number of problems arose. For example, the CNRS was not able to send funds to a private organization outside of France. And who had the authority to sign a contract with the publisher?

To circumvent the possibility that a treaty among the sponsoring countries would be necessary, which would involve several years delay, it was thought desirable to involve ESO as one of the sponsors, and let ESO handle the finances and the legal side of the journal. The choice fell on ESO, although the IAU and ESRO (the present ESA) were also considered, both because most of the countries acting as sponsors were also members of ESO and vice-versa, and because ESO was sympathetic to the proposed journal. At the time of the meeting only informal contact had been made with ESO, and although the initial response was positive, the matter was to be formally discussed by the ESO council at its meeting in July.

The question of who should publish the journal was raised. Two offers were already made, one from Reidel Publishing Co., the other from North Holland Publishing Co. That from Reidel was 10–15% cheaper, but after much discussion it was decided not to further consider Reidel as long as he continued to publish *Astrophysics and Space Science*. Furthermore his ability to publish the journal for a longer period at the price quoted was questioned.

It was agreed that the following "countries" would support the journal financially and would be represented on the Board of Directors: France (with 4 representatives), Netherlands (2), Scandinavia (2), Belgium (1) and ESO (1). Concerning Germany, the situation was less clear. Biermann stated that, although the *ZfAp* would continue for the time being, this did not preclude German participation as a sponsor of A&A. He further indicated that many German astronomers, especially of the younger generation, favored an international journal. All present felt that it would be important to have German participation right from the beginning. Steinberg and I (as editors of the two largest journals which would cease publication) were asked to write a letter to the Council of West German Observatories requesting it to sponsor the new journal. Germany would be free to decide on the number of representative it would have on the Board of Directors.

It was considered desirable to begin publication of the first issue of A&A on January 1969. The copy must be in the hands of the publisher by 30 September 1968 at the latest. It must be refereed before that date. The future timetable: agreement by the (astronomical) councils who act as sponsors and financiers should be obtained by the end of June. The Board of Directors should meet directly after the ESO meeting to appoint the Editor(s), decide on the publisher and consider the appointment of an Editorial Board. The journal was beginning to take shape, and quickly.

The next meeting took place on 3 July 1968 in the University Foundation, Egmontstraat, Brussels. This was scheduled to coincide with an ESO Council meeting in Brussels, which had just been completed. Although decisions were to be made at this meeting, as they were at the April meeting, this is not yet considered as the first meeting of the Board of Directors. The participants were the same as at the Leiden meeting, except for van Bueren and Ledoux. In addition, Heckmann (ESO), Blaauw (ESO), Velghe (B), Fehrenbach (F), Kovalevski (F) and Voigt

(G) were present. The minutes were taken by Miss Geier (ESO) and I was chairman.

The situation at the beginning of the meeting was as follows:

**France:** The CNRS has endorsed the merging of all major French astronomical publications in A&A, and has agreed to pay a \$ 24.000,- subsidy. The French delegates to the Board will be Mazière, Delhaye, Schatzman and Fehrenbach.

**Netherlands:** The Dutch Astronomical Council has agreed to merging the BAN in A&A, and has agreed to pay \$ 10.000,- subsidy. The Dutch delegates will be Oort and van Bueren.

**Belgium:** The Belgian delegate will be Velghe, but it is not yet official. The subsidy will be \$ 3.000,- in 1969.

**Scandinavia:** The delegates will be Stromgren and Funke, and the subsidy \$ 10.000,-.

**Germany:** The Germans now have agreed to sponsor A&A. Biermann, Fricke and Unsold will be the delegates to the Board. The method of paying the subsidy is still under discussion. The possibility of merging the ZfAP depends on negotiations underway with Springer.

**ESO:** The ESO Council agrees to make its administrative and legal services available to A&A. The ESO Council has authorized its Director to conclude (1) a contract with A&A, and (2) a contract with the publisher. It would therefore be possible for ESO to act as financial agent for the Board, although the financial responsibility remains with the Board. ESO would not contribute financially to the journal, although it did not charge for "legal" services rendered to A&A.

The situation as regards a publisher had changed somewhat since the last meeting. There were now four publishing houses which had made offers: Springer Verlag, Reidel, North Holland and Wolters Noordhoff. Reidel and Wolters Noordhoff were the cheapest, but the reason for not further considering Reidel had been discussed in the previous meeting. The Board considered Wolters Noordhoff too inexperienced. Springer had indicated in its bid that if it were chosen it would stop publication of the ZfAp. Since this would enhance the chances of success for the new journal, it was attractive. But the meeting felt that this was not a strong enough reason to accept a higher price. Heckmann, voicing the sentiment of the meeting, proposed contacting Springer again to negotiate a price reduction. He stated that "One should not be afraid of dropping Springer, as the ZfAp will slowly die once the new journal is formed." The meeting was adjourned for 20 minutes, while a telephone call was made to Springer. This resulted in the agreement by Springer to lower his bid to that of the lowest bidder. Detailed negotiations were to take place in the near future. Although it was not until October that a final agreement was reached, Springer was hereafter considered as the foremost candidate for publisher of the journal.

At this point another problem arose. Kovalevski, speaking for a group of fundamental astronomers mostly from France, proposed to split the not yet formed journal into two parts: a large one for astronomy and astrophysics, and a smaller one for celestial mechanics. The reason given was the specialized needs

for publication in this field. While the meeting was sympathetic to this view, soon after Fricke objected to such a division, since it might lead to a subsequent splitting of the journal into a number of over-specialised journals. Eventually Fricke, Kovalevski and Morando prepared a short paper in which their conditions for publishing on *Fundamental Astronomy and Celestial Mechanics* were stated. This subject became one of the original sub-sections of the journal, and no further problems were forthcoming.

Toward the end of this meeting the first Editor-in-Chiefs were appointed. Oort took the initiative in proposing "to the Board of Directors" that Steinberg and I should take over this task. We accepted, and later prepared a memorandum on the division of the tasks between us. With this step the date of 1 January 1969 for the start of the journal became more realistic. The biggest problem now was to finalize the contract with the publishers.

The following meeting is officially regarded as the first meeting of the Board of Directors. It took place in Paris on 11 October 1968. The meeting began with a word of welcome by the Director General of the CNRS, Professor Jacquinet. The meeting had been called on at short notice because Mayer-Kaupp, who was in charge of the negotiations for Springer had been away until 23 September, and it was only useful to hold the meeting if a reasonable draft contract was available. Because of the short notice, five of the eleven Board members were unable to attend, so that it was decided that all decisions made were to be provisional.

The first act of the Board was to elect Blaauw as its first Chairman. Mazières was elected as Treasurer of the Board. The main business of the meeting was to discuss the draft contract with the publisher. The advice of the ESO lawyer, Walters, was also available. The Board went through the contract, article by article, and made changes where it saw necessary. Then Mayer-Kaupp, who was present in the building, was invited to attend the meeting and given the proposed changes. He accepted them and the new contract was then adopted by all the Board members present. The contract, between ESO and Springer, would be signed at the next meeting. Since it was now already October and the first issue of the journal was scheduled to appear in January, this had to be a formality.

Other matters discussed were (1) an agreement between the Board of Directors and the Editors, (2) a draft agreement between the Board and ESO, (3) the matter of Sub-Editors (it was decided that there would be no sub-editors), (4) the composition of the Board of Editors, and (5) the sections which would be listed in the table of contents. Finally the matter of the Supplement Series was discussed. This publication was to be independent of the Main Journal and Springer, and was to be published by the Board of Directors. It was decided to approach Braes of the Leiden Observatory to ask him to take charge of the publishing. All articles would be submitted to the Editors-in-Chief and would only be sent to Braes after they had been refereed and accepted. It was not clear at this time where the binding and mailing would take place. In contrast to the Main

Journal a page charge would be levied. The first issue of the Supplement Series appeared in January 1970.

It was clear that a new meeting would be necessary within the near future, if only to sign a contract with the publisher and make certain that no insurmountable problems made it impossible for A&A to appear on time. Therefore the 2nd meeting of the Board of Directors took place on 2 December 1968 at the ESO headquarters on the Bergedorfer Strasse in Hamburg. An interesting sidelight of this meeting was the interest shown by two other countries to become part of the journal. Switzerland sent the director of the Geneva Observatory, J. Golay, as observer, and Italy sent the director of the Trieste Observatory, M. Hack.

This meeting gave an official form to the journal. A contract was signed between the Board and ESO, which now gave a legal status to the decisions of the Board, and enabled it to take financial responsibilities. A contract was signed between ESO (acting for the Board) and Springer Verlag to publish the journal for a 5 year period. A contract was signed between the Board and the Editors for a 3 year period. A memorandum was prepared by the Editors on the sharing of the responsibility for the editorial work, which was discussed by the Board. The Standing Rules for the Board of Directors was approved, which included rules for membership, expansion and financial contributions. A vice-chairman was elected: B. Stromgren. All was now complete: the first issue of *Astronomy & Astrophysics* was to appear 5 weeks later.