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European Astronomers Decide to Consolidate Their Journals

A new journal, *Astronomy and Astrophysics*, has resulted from the merger.

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In the fall of 1968 European astronomers decided to merge five existing astronomy or astrophysics journals of long standing into a single new journal, with the title *Astronomy and Astrophysics, A European Journal.* The journals which merged are the following: *Annales d'Astrophysique* (France), founded in 1938; *Bulletin of the Astronomical Institutes of the Netherlands*, founded in 1921; *Bulletin Astronomique* (France), founded in 1884; *Journal des Observateurs* (France), founded in 1915; and *Zeitschrift für Astrophysik* (Germany), founded in 1930.

In a period during which new journals of varying size, scope, and quality are being founded at the rate of several per year, it might be interesting to analyze the motives behind this unusual decision which created *Astronomy and Astrophysics* and the method of operation of this journal.

In order to understand the reasons for the founding of this new journal, one has to understand the situation in astronomical publication in the mid-1960's. At that time the periodical *Astrophysical Journal* (United States) was the most prominent astronomy journal in the world. Its circulation was from three to ten times larger than that of any of the other astronomy journals. The quantity of material it published was considerably greater than that of any of the other astronomy journals, and the content was of high quality. Some medium-sized European astronomical institutes had two subscriptions to this journal, whereas one subscription to the other journals was considered sufficient. Many European astronomers subscribed to it personally, and also to their own "national" journal. It is small wonder that in such a situation some European astronomers began thinking about publishing their own work in the *Astrophysical Journal* in order that it be more widely read.

It was true that work not published in the *Astrophysical Journal* was less likely to be cited, for example, in some review articles, especially by American authors. And often articles of more limited interest published in the smaller European journals were never seen by some astronomers. Many European astronomers would therefore order 300 to 500 reprints of their articles in these smaller journals and mail them to those who might possibly be interested. That such an inefficient and time-consuming method of circulation was thought necessary was an indication that something was wrong. Another indication was that such journals as the *Annales d'Astrophysique* and the *Bulletin of the Astronomical Institutes of the Netherlands* were each cited in the list of references in the *Astrophysical Journal* only about 1 percent of the time, and the articles in English in the *Annales d'Astrophysique* were cited twice as often as the articles in French.

All of this evidence suggested that the older journals, which were "national" or "seminational," were not growing as fast as the total number of articles on astronomy or astrophysics. Astronomers solved the problem of where to publish these articles in two ways. First, some articles have been published in newly created journals, which have begun to appear over the last 10 years. These were sponsored by private publishers whose main interest was not in science. Because a certain number of libraries and astronomical institutes subscribe to all publications on astronomy, a small profit is assured to each of these publishers. But the astronomy literature can easily suffer from this kind of proliferation. Second, since the expansion of research in astronomy in the rapid tempo of the last 10 years was accomplished in part by physicists, some of them began publishing results of their research in astronomy in physics journals, mainly because they were familiar with these journals and there existed no obvious alternative astrophysics journal.

Confronted with this situation, many European astronomers took initiatives, at first independently and later jointly. In addition to the efforts of individuals

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in those countries whose journals were later to merge, the Scandinavians, under the leadership of Professor A. Reiz, made an important contribution to the initial talks. These talks led to a series of long discussions held at Prague in 1967 at the occasion of the meeting of the International Astronomical Union. At these discussions representatives of Great Britain were also present. Unfortunately, shortly thereafter, the Royal Astronomical Society decided not to merge its *Monthly Notices of the Royal Astronomical Society* with the other European journals. In spite of this, however, the European astronomers, supported by scientific and government organizations, decided, at a meeting held in Brussels early in 1968, to go ahead with the merger.

The goal was clear: to establish an international journal, with a "European flavor," which would take its place as one of the leading astronomy and astrophysics journals in the world. The journal would need to have the widest possible distribution, very high scientific standards, and very quick publication times. Furthermore, it was clearly desirable that the editorial staff be completely independent of the publisher.

In contrast to the situation which prevails in the organization of most "commercial" journals, the editors and the editorial staff of *Astronomy and Astrophysics* are not under contract with the publisher, but the publisher is under contract with the scientific organizations that sponsor the journal. This situation is very similar to that of the journals of the American Institute of Physics and the *Monthly Notices of the Royal Astronomical Society*. The publisher is responsible for producing, marketing, and selling the journal, whereas the scientists on the editorial staff are responsible for the scientific content; the board of directors sets the policy of the journal. The publisher, selected from among five firms that made proposals, is Springer-Verlag (Berlin, Heidelberg, New York). The journal is printed in English, French, and German.

The sponsoring countries have arranged to cover the editorial costs of the journal in proportion to their gross national product, as is also the case for CERN (Centre Européen de Recherche Nucléaire). For most of these countries, this arrangement is very much cheaper than the publication of a national astronomy journal.

The money is administered by E.S.O., an existing European organization set up to build and operate the European Southern Observatory and to which funds could be transferred by the organizing countries. The alternative to using an existing international organization would have been to create a new one. But this would have required that a treaty be signed by the foreign minister of each of the countries involved, and this requirement might have delayed the start of the journal for several years.

Subsidies are also required to run the *Astronomy and Astrophysics Supplement Series*, in which we publish large amounts of basic data, most of it in the form of tables and figures. Atlases are also published in the supplement series, which essentially replaces the older observatory bulletins. It is hoped that within the near future the supplement series will become self-supporting. Unlike the main journal, this series is published by the board of directors and is produced at the Leiden Observatory, under the direction of L. Braes.

The scientific part of the journal content is the responsibility of two editors in chief. Their decisions reflect the policy set by the board of directors, which represents the scientific agencies that subsidize the journal.

Referees are selected for each paper received by the editors; the choice is guided by members of the board of editors. If several scientists are equally competent in the required field, the list of references in the manuscript is used to locate a referee who has recently published a paper on the same subject. Another criterion is the number of papers we have recently sent to the potential referee, since we try not to overload any one person. Even with such a complex process, no manuscript has ever been kept more than 48 hours at the editor's office before being sent to a referee.

Referees who are chosen are never those who live in the country in which the work has been done (most European countries cannot afford to support several competing teams working in the same field). In this way it becomes necessary for the various research groups to "open their windows" and to accept criticism from foreign colleagues.

It is considered of paramount importance that criticisms offered by the referees be improvement-oriented and as detailed as possible. An author has the right to reject the referee's conclusions after giving his own arguments and to ask that another referee read his paper. Direct discussion between authors and referees is encouraged. After some exchange of correspondence between the referees, often several of them, and the authors, a decision is made jointly by the editors who are aware that after discussion most of the responsibility for corrections and improvements in the manuscript must be left to the authors.

During the first 2 years of the journal, this system has worked remarkably well. The referees have been very cooperative, and the authors have agreed to enter into discussions with their colleagues. Most of the authors have even been enthusiastic, and some of them have shifted publication of their papers from "national" journals because of the benefit they have derived from discussion with the referees.

In 1969 some 1500 journal pages (21 by 29 centimeters) were published. In 1970, 3000 pages were published together with 800 to 1000 pages in the supplement series. Delays in publication have not exceeded 3 to 4 months, on the average, after acceptance of the paper. Each monthly issue is mailed the first week of the month. The response of the readers has been excellent: the circulation among European astronomical institutes at the end of 1969 was 50 percent higher than that of any of the separate journals in 1968 before the merger, and a larger number of personal subscriptions at reduced rates have been received. Papers are being received from all over the world, many from the United States. There is no charge for publication in the main journal and no discrimination based on country of origin.

The organization of *Astronomy and Astrophysics* is open to any nation, European or non-European, under the condition that it accepts the principles upon which the whole undertaking is based. The member countries at present are Belgium, Denmark, Finland, France, Germany, Netherlands, Norway, Sweden, and Switzerland. The United Kingdom and Italy have not joined as yet, but it is hoped that they will do so. The Eastern European countries have not yet been approached because currency exchange problems have been anticipated. Conceivably, the organization of *Astronomy and Astrophysics* might serve as the nucleus of a "European astronomical society" to be created in much the same way as the European Physical Society, established a few years ago.