

WELCOME ADDRESS

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Dear Colleagues Astronomers,

I am quite pleased to welcome you on these premises on behalf of the Royal Academy of Belgium. The room we sit in at the moment is not one of our meeting rooms and we are working here courtesy of the Royal Flemish Academy of Medicine. I want thank their authorities for putting this auditorium at our disposal.

The Royal Academy of Belgium was founded in 1769 by Empress Maria Theresa of Austria. At that time, Brussels was the capital city of the Austrian Low Countries, since we were ruled by the Habsburg dynasty of Austria. The Academy has a total membership of 300, including 150 Foreign Associates. Our Company is divided into three sections: Sciences, Letters and Moral and Political Sciences, and Fine Arts.

At the time our Academy was founded, there were few scientific journals in circulation. The *Philosophical Transactions* of the Royal Society were already propagating scientific discoveries and in France appeared the *Journal des Sçavants*, but the latter was under the supervision of the Jesuits of the Sorbonne University. These people were suspicious that heretic ideas would be propagated by scientific papers. However these journals were publishing summaries of each others's journals, although we can read that the French editors regretted that they were unable to review some of the papers of the *Philosophical Transactions*, "for reason that some of them were published in English". These papers were written in the *lingua franca* of the scholars rather than in common languages used by common people, as is shown by

the fact that the *Acta Eruditorum*, where most of Leibnitz's works were published, appeared in Latin.

This is why the existing academies played an important rôle in publishing scientific memoirs and bulletins. Our own Academy published 222 memoirs, among which some of them concerned the transit of Mercury in 1786, and another one the total eclipse of the Moon in September 1783, while some writings were dedicated to the then newly discovered planet Uranus. This series was discontinued in 1795, when the Academy was disbanded by the French Revolutionary Convention, as were all the French scientific societies existing under a so-called *Royal Privilege*. The Academy was to be re-established after the Waterloo battle (just 15 km from here) when we were under the rule of the King of Holland.

We are still publishing memoirs nowadays, mostly in English as far as scientific matters are concerned. They generally constitute extended review articles or proceedings of scientific meetings organised under the sponsorship of the Academy. So the publication of scientific results by academies is a matter that finds its roots way back in the past, at least to the middle of the seventeenth century.

In astronomy, a lot of changes occur since the first publication of the *Astronomische Nachrichten* and of the *Monthly Notices of the Royal Astronomical Society*. Lots of journals appeared and lots of them disappeared in the meantime. We are presently left with let us say five professional journals in astronomy for the planet and we know that the economic situation of some of them is not always flourishing.

In astronomy, one may evaluate that, at least in West European countries, the total money investment to produce a page in a scientific journal is around €60,000, i.e US\$82,000. This cost is somewhat higher in France and in Switzerland, but about half of this amount in Holland, and about 3/4 in the U.K.

Of course, the publication cost is just a modest percentage of this amount, but for developing countries, it represents an almost insurmountable effort. We also know that the production of astronomical papers is highly dependent on the economic activity of a given country. A recent count I made in *Astronomy and Astrophysics* for the years 1995 to 1997 indicates that, in Western Europe, one page in *Astronomy and Astrophysics* is published per billion US\$ of gross national product. Again, this is an average amount, and this production is double in the U.K. and in the Netherlands. However in Latin American countries for instance, where money is to be devoted to other sectors than astronomical research, this record may fall down to one tenth of a page per billion US\$ of GNP.

So we can ask what electronic publication can bring to starting astronomical activities in these countries. They must first have access to the

current literature, which implies that they have the proper equipment and secured links.

On the other hand, according to Unesco evaluations, the average cost of publication of a paper in a scientific journal is about US\$4000 (compared to US\$2000 in the *Monthly Notices*), while it could be reduced to something like US\$6 for a world-wide dissemination by electronic means. So there seems to be lots of room for an important margin to cover the editorial costs and profits.

However, the problem remains to evaluate the quality of scientific production and it is clear that in research organisations, the recruiting teams will badly need indices of scientific performance of candidates to be appointed or promoted to higher responsibilities. The impact factor is normally used for this purpose. It is however well known that this factor is drawn from an enormous amount of citations of a lot of papers written by a wide variety of authors; furthermore these papers were produced in the past, while the goal of such a “citation tool” is to evaluate what sort of fate a specific paper yet to be printed will receive in the future.

I am pretty sure that this type of issue is going to be debated during our meeting and, whatever the outcome may be, I wish all of you a lot of fruitful discussions, a fact which is not, I hope, incompatible with a pleasant stay in Brussels.