

## EDITORIAL

Editing books is a gratifying experience, albeit a humbling task.

The conception of a volume, the research of and the contacts with potential contributors, the subsequent, sometimes laborious, interactions with authors and referees, the work with safety margins in an optimized schedule involving other components of the publishing chain, the strict deadlines to get the masterpiece out in time for big events, etc., all the successive steps are often both exciting and stressing. Not infrequently, editors swear, when delivering the material for a book to the publisher, that they will never undertake such an endeavor again. But, struck by the virus, they do not need much time to launch new projects ...

The rôle of editors and referees involved in journals and magazines has already been discussed in these volumes (see *e.g.* Abt 2001, Cramer 2001, Lequeux 2000, Pottasch 2000 and Robinson 2002). In edited books, the task is essentially to get the best out of chapters solicited from authors initially approached for their expertise<sup>1</sup> and a contribution is very rarely turned down.

Of course, there are sometimes difficult cases requiring psychology and diplomacy. *Prima-donna*-like behaviors, leading to psychodramas, are seldom met. More worrisome is the increasing proportion over the years of no-shows and failures to provide formally committed contributions. Reasons for such a significant trend remain unclear. Overload of work? Quickly changing priorities? Conflicting channels for visibility and career progress? Decreasing sense of responsibility regarding commitments or word given? Here are a few questions for sociologists of science.

<sup>1</sup>Other criteria are applied too, sometimes *a contrario* such as the ability to meet deadlines and to write in proper English (although this editor, as many of his colleagues, occasionally re-writes valuable contributions when delivered in poor language). Balancing themes and geographical coverage is also part of the policy, whenever feasible, for the OSA series.

Authors do not always realize the extent of their own expertise, especially in the context of an unusual series in astronomy such as the OSA volumes, and they have to be encouraged to go as deep as possible. There is sometimes a tendency to spend too much time on presentation details or to interfere with typesetting prerogatives of editors and publishers. The function of publication professionals to improve the impact and the “sexiness” (in editorial meaning) of the various contributions – while leaving untouched their very substance – is not always fully understood.

Conversely, in spite of their qualifications, editors cannot be competent in all aspects of the fields they are dealing with. They might sometimes meet difficulties to ensure the books they produce cover adequately the corresponding themes. A remarkable multivolume work on space science was published not so long ago by a world-renowned company. Producing such a masterpiece required dedication from its editors forcing admiration. Yet matters for insatisfaction were there. Just to give a couple of astronomy-related examples, the longest, most successful astronomy space mission with also far-reaching history-making operational consequences, the International Ultraviolet Explorer (IUE – see next section), was not even covered by a full chapter; and exotic pointers to astronomy catalogs were provided instead of the well-known resources maintained by Strasbourg Astronomical Data Center as official references for the International Astronomical Union (IAU) and the Federation of Astronomical and Geophysical Services (FAGS).

Quality is also in details. Getting *ad hoc* advising might be a challenge. This is typically one of the rôles devoted to editorial boards, but there are many ways to see an editorial board: from people with oily hands actually working together as a team towards a specific publication, to a list of name-giving well-known specialists patronizing a series; from a group of senior scientists acting as relays for their sub-disciplines, students and friends, to board members acting as parapets and verifiers for an essentially lone editor-in-chief. What is the best scheme? There is certainly no golden rule and, apart from what can say again sociologists of science, it is certainly up to each venture to find the optimum formula for itself.

The last step of the publication chain is the distribution of the book which implies ‘sales’, a dirty word for some scientific circles. For some mysterious reasons, astronomers always seem to expect to receive things for free or cheap<sup>2</sup>. But exactly because the astronomy community is small, the circulation of professional astronomical publications can only be small and prices of commercial products cannot be brought down as much as one would hope for.

<sup>2</sup>This comment could be put in parallel with the discussion by Albrecht (2003) about astronomers abhorring commercial software packages also for some unclear reasons.

Colleagues and librarians have to be continually reminded that the prices of Kluwer's books, including this one, are of the same order as those of any books of the same quality, be they reference works, contributed or edited books, monographs or others. In order to lower their prices (and the inherent financial risks), some publishers request book editors, conference organizers or institutions to purchase themselves a minimum number of copies. The retail price is then a reduced amount, the discounted part having already been paid for by others.

### Pioneering IUE

The *International Ultraviolet Explorer (IUE)*<sup>3</sup> (see Fig. 1), launched on 26 January 1978, has been the first space-borne instrument welcoming visiting astronomers in real time, just like most ground-based observatories – with the difference that the telescope was not in an adjacent dome, but in a geosynchronous orbit over the Atlantic Ocean. It was shut down on 30 September 1996 after 18.7 successful years of operations (while its expected lifetime was three years), having become by then the longest astronomy space mission with more than 100,000 observations of celestial objects of all kinds, ten dedicated international symposia and more than 3,500 scientific papers at the time it was turned off. A fantastic achievement for a 45cm telescope.

In many respects, IUE has been the precursor of modern astronomical observing. Integral to the satellite exploitation were the strict procedures, such as those for spacecraft handover between the two ground stations operating it<sup>4</sup>, as well as the chains of commands and responsibilities needed in space operations for the instrument safety and for the efficiency of observing: visiting astronomers, resident astronomers, telescope operators, spacecraft controllers monitoring also communications and computer resources, plus overall permanent IUE control at NASA.

People realized that those procedures used for a spacecraft in geosynchronous orbit at some 36,000km from the Earth could be applied for remotely piloting a telescope at “only” a few thousand kilometers distance somewhere on Earth – saving travel money, substantial travel time, time difference disturbance and fatigue to the observers.

They also realized that the assistance provided to visiting astronomers through the team of resident ones, as well as the flexibility and dynamics

<sup>3</sup>For details on the *International Ultraviolet Explorer (IUE)*, see for instance the eight post-commissioning papers published in *Nature* **275** (5 October 1978) and the commemoration volume edited by Kondo *et al.* (1987). See also Stickland (1996) and the IUE chapter in Wilson (2001).

<sup>4</sup>NASA's Goddard Space Flight Center (GSFC) in the US and ESA's Villafranca del Castillo Station (Vilspa) in Spain.

introduced in the scheduling – for targets of opportunity and service observing for instance – could be extrapolated to ground-based instruments for optimizing their return (see *e.g.* Robson 2001). Additionally, with the panchromatization of astronomy and the multiplication of joint observing campaigns (see *e.g.* Peterson *et al.* 2001), procedures were progressively generalized and standardized for all instruments, ground-based or spaceborne.

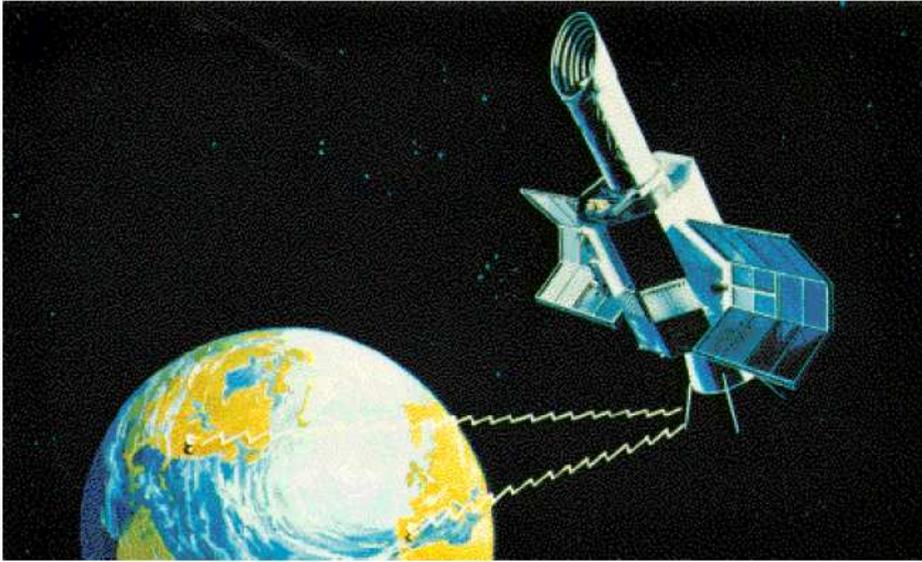
Finally, the space agencies operating IUE (NASA, ESA & SERC) agreed on effective data policies which inspired modern astronomical archives avoiding, as had happened too often in the past, data disappearing for ever on the shelves or in the drawers of the original observers – when they were logged at all. An IUE policy was to declare the data publicly available one year after the corresponding observations had been conducted. This meant too that an *ad hoc* service had to be set up by the agencies, providing access to the data archived. This, in turn, involved sometimes reprocessing large amounts of data, or transferring data to new media as the technology evolved. Living archives were born. Lessons from IUE can also be found in projects for “virtual observatories” (see *e.g.* Benvenuti 2002).

Being part of the IUE staff was a formidable human experience, be it only for the various aspects already mentioned, but also for the exciting task to set up, virtually from scratch and in a three-agency venture, a space observatory welcoming visiting astronomers. Together with their colleagues at GSFC, the initial European team – the founders of the IUE Observatory at Vilspa – were not only writing the history of ultraviolet astronomy and of novel observing, but they were also working in another historical context: the democratic transition in Spain.

This included a series of national events from the approval of a democratic constitution to the first local and national democratic elections since decades on a background of violent episodes such as frequent assassinations and bombings by extremists groups of various obediences, involving in turn roadblocks and occasional collateral killings<sup>5</sup>. In February 1981, a military putsch attempt was firmly subdued by King Juan Carlos I<sup>o</sup> demanding the democratic constitution be obeyed by all. The King had formally inaugurated Vilspa on 12 May 1978, with a dynamic participation unknown to subjects of other European monarchies whose representatives are silent and essentially “passive” at such ceremonies.

The story of space science is marked by events reminding that spacecraft launches and operations do not always follow mathematical predictions: from Hipparcos’ apogee boost trouble to Hubble’s blurred vision,

<sup>5</sup>On his way back home after an IUE shift ending well after midnight, the undersigned experienced once a ‘near-miss’ when getting at high speed and in full darkness onto a hidden and sleepy roadblock squad.



*Figure 1.* Bottom: observing with the *International Ultraviolet Explorer (IUE)* at Vilspa on 5 April 1978 during the first European observing run with visiting astronomers after commissioning the spacecraft. From left to right: Telescope Operator F.J. Castro, IUE Staff Astronomers A. Heck & M.V. Penston, and Visiting Astronomers M. Perinotto & S. Aiello. IUE has been the precursor of modern astronomical observing in many respects (see text). (Top picture: Courtesy NASA/ESA; bottom picture by the Editor.)

from SOHO's control problems to the destruction of the Cluster experience and to the current postponement of the Rosetta mission – to mention only a few examples.

History rarely speaks long of trains that arrive on time or of missions nominally fulfilled, but perhaps one day an art piece will be devoted to that brave space bird called IUE that went much beyond all the expectations initially put in her.

### **Astronomy in Daily Art**

Speaking of astronomy-related art in the broad sense, a long list of (sometimes unintended) pieces can be drawn:

- from the two *'Eclipse of the Sun'* by R. Lichtenstein (Nath 1997b) to P. Delvaux's many paintings involving astronomers or astronomy-related themes (Nath 1997a – see Fig. 2, left top);
- from C.O. Perry's 12m-high metallic sculpture *'Eclipse'* in the lobby of the Hyatt Regency Hotel at Embarcadero Center in San Francisco (Nath 1999) to G. Guygot's bronze and terracotta astronomers (Nath 2003a – see Fig. 2, left bottom);
- from E.M. Hemingway's erroneous appearance of Rigel in the sky of *'The Old Man and the Sea'* (Nath 2000) to E. Poniatowska's prize-winning novel *'La Piel del Cielo'*<sup>6</sup> (Nath 2001 – see Fig. 2, right top);
- from G. Balla's transit of Mercury in his *'Mercurio che passa davanti al sole'* (Nath 1998) to S. Rayner's superb composition *'Galileo's Eyelid'* (Nath 2003b – see Fig. 2, right bottom).

Away from art hard core and main stream, artistic implication of astronomy can also be found in first-class advertizing and cartooning (such as in the masterpieces of Belgian cartoonists Hergé and Franquin). Together with direct popularization and public outreach, those spreading channels of astronomy participate to its power for dream and aspiration to other dimensions and transcending universes.

Specific meetings have been/are devoted to the relations between astronomy and art. A series of such conferences have already been presented in the OSA pages (White 2000). However, from my own attendance to several art/astronomy events, a couple of comments are in order, especially on the actual participation of astronomers, too often accepting passively without comments wrong interpretations or representations of astronomical facts or phenomena.

<sup>6</sup>The life of the author's husband (Guillermo Haro) inspired the book. Names of well-known professional astronomers such as Harlow Shapley, Subramanyan Chandrasekhar, Donald Menzel, Guido Münch, Paris Pishmish, and others, are met along the pages.

There is no question the artists' creativity has to be left as unconstrained as possible, but full information makes no harm. At some stage, the astronomers have to jump in and explain what is scientifically correct and what is not – sometimes even opening additional avenues or new territories to the artists' imagination. These remain too frequently on the romantic ('star-gaping') side. There are even people not realizing that, when they speak of Jupiter (the God), this has nothing to do with the planet itself that just happened to be named after that God.

Whatever the following comparison may be worth, the philosophy of those astro/art events could be put in parallel with those meetings organized by statisticians with scientists from various disciplines (including astronomers) and where they make sure the algorithms applied are genuine statistical methodologies legitimately applied. If this is not the case, then there is no right to speak of valid statistical results.

In the case of art, if the astronomy component is pure fantasy, then there is no astronomy-related artwork, but pure fantasy. Quite the opposite if the astronomy involvement makes sense: the corresponding artwork is then also participating to our general public outreach. Its full perception by the public should be encouraged and will be all the more important insofar as it goes deeper into cosmic complexities.

The *Astronomy in Daily Art (ADA)*<sup>7</sup> project was launched recently and I intend to present from time to time in the OSA volumes some noteworthy astronomy-related art pieces.

### The OSA Books series

This book is the fourth volume under the title *Organizations and Strategies in Astronomy (OSA)* – and we switched to Arabic numerals (4) instead of Roman ones (IV) as we were told that the latter ones are no more taught in many countries.

These OSA Books are intended to cover a large range of fields and themes<sup>8</sup>. In practice, one could say that all aspects of astronomy-related context and environment could be tackled in the spirit of sharing specific expertise and lessons learned.

Thus this series is a unique medium for scientists and non-scientists (sometimes from outside astronomy) to talk of themselves and of their life, to describe their experience and to discuss points on non-purely scientific matters – albeit of fundamental importance for the efficient conduct of scientific activities.

<sup>7</sup>See for instance <http://vizier.u-strasbg.fr/~heck/ada.htm>

<sup>8</sup>See for instance <http://vizier.u-strasbg.fr/~heck/osabooks.htm>



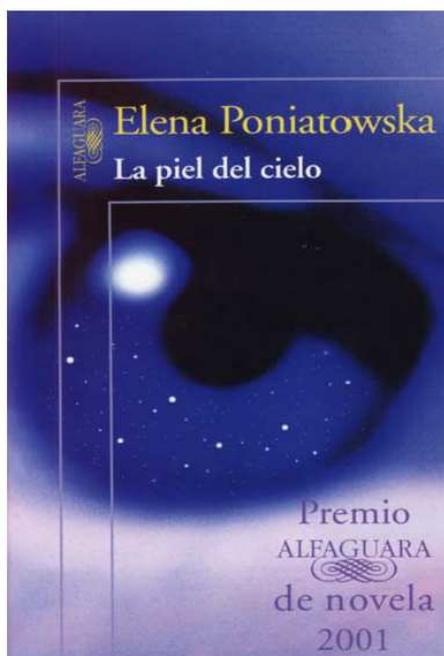


Figure 2. Examples, among many, of astronomy in contemporaneous art: opposite top, P. Delvaux's *'Les Phases de la Lune III'* (Courtesy Museum Boymans-van Beuningen, Rotterdam); opposite bottom, bronze and terracotta astronomers by G. Guygot (Photograph by Ph. Flaget); above top, E. Poniatowska's *'La Piel del Cielo'* (2001); above bottom, S. Rayner's *'Galileo's Eyelid'* (Photograph by the artist). See text for details and references.

## This book

This book starts with R.M. Bonnet sharing his long experience in a top level managerial position at the European Space Agency. Then G.D. McDonald & M.C. Storrie-Lombardi describe the current organization in the US of research in astrobiology.

Follow two chapters on adverse impact on observational astronomy: H.E. Schwarz details the effects of light pollution and the efforts to control it while R.J. Cohen tackles the equally important field of radioastronomy protection. Then L. Sage presents a elaborate historical account of the controversy – full of lessons – that surrounded Mount Graham International Observatory.

In the field of public outreach, D. Isbell & R. Fedele report the situation and illustrate the statistical trends at Kitt Peak while L.L. Christensen provides detailed guidelines for practical popular communication of astronomy. R. Ferlet then relates the historical background of the *Société Astronomique de France* and the challenges it is currently facing.

Three chapters then deal with education in the broad sense: C.M. Boily discusses, from personal experience and research, electronic aspects such as web usage and e-newsletters; J.P. Roller & M.J. Klein describe the remarkable *Goldstone Apple Valley Radio Telescope* partnership; and S. Isobe reports education-related activities of our world-wide professional league, the *International Astronomical Union*.

Moving then to publication-related matters, H.A. Abt tells the story of the *Institute for Scientific Information* and of its widely-used *Science Citation Index*, while D.J. Stickland describes the unique slot of the *Observatory Magazine*.

The organization of the very successful Meetings of the *American Astronomical Society* is subsequently detailed by D.T. Alexander, followed by H. Butcher summarizing the goals, structure and activities of the *European Astronomical Society*.

The next chapters are country-centered: G.A. Mamon tells us all on the selection of tenured astronomers in the various French structures; V. Castellani reports the substantial changes in the organization of Italian astronomy; and finally A.J. Carty offers, from his privileged position as President of the National Research Council of Canada, a vision of his country's involvement in international astronomy.

The book concludes with the updated bibliography of publications relating to socio-astronomy and to the interactions of the astronomy community with the society at large.

## Acknowledgments

It has been a privilege and a great honour to be given the opportunity of compiling this volume and of interacting with the various contributors. The quality of the authors, the scope of experiences they cover, the messages they convey make of this book the natural continuation of the previous volumes.

The reader will certainly enjoy as much as I did going through such a variety of well-inspired chapters from so many different horizons, be it also because the contributors have done their best to write in a way understandable to readers who are not necessarily hyperspecialized in astronomy while providing specific detailed information and sometimes enlightening 'lessons learned' sections.

I am specially grateful to Derek McNally for writing the foreword of this book and to the various referees who ensured independent and prompt reading of the contributions.

Finally, it is a very pleasant duty to pay tribute here to the various people at *Kluwer Academic Publishers* who are enthusiastically supporting this series of volumes.

The Editor  
*Picos de Urbi3n*  
May 2003

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