Organizations and Strategies in Astronomy 7 (OSA 7)
Ed. A. Heck, (c) Springer 2006

EDITORIAL

A Matter of Innovation

– Majesty, I thought it was the most promising work I heard in years.
– Well, then we should make some effort to acquire him. We could use a good German composer in Vienna. I am sure he could be tempted with the right offer, say, an opera in German for our National Theater.
– Excellent, Sire.
– But not in German, I beg you, Your Majesty. Italian is the proper language for opera. All educated people agree on that.
– Hmhm. What do you think, Chamberlain?
– In my opinion, Sire, it is timely we had a piece in our own language. Plain German for plain people.
– Hmhm. Kapellmeister?
– Majesty, I most agree with il Direttore: German is, scusate, too brutal for scene.
– Hmhm. Court Composer, what do you think?
– I think it is an interesting notion to keep Mozart in Vienna, Majesty. It should really infuriate the Archbishop [of Salzburg] beyond measure, if this is Your Majesty's intention.
– You are cattivo, Court Composer. I want to meet this young man. Chamberlain, please arrange this!

[Amadeus (Shaffer 1981, Forman/Shaffer 1984)]

The central point of this imaginary discussion around Austrian Emperor Joseph II about hiring W.A. Mozart is not so much about language and strategy than about timely innovation within an established context. Like many of you certainly experienced it already, when one wishes to undertake or launch something new, there are always choruses of people chanting it will never work and that it is not even worth trying. This happened with this series of *Organizations and Strategies in Astronomy (OSA)* volumes too.

But a survey carried out around mid-1998 among the world-wide astronomical community revealed a hard kernel of people interested in what this Editor then called the *socio-dynamics of astronomy*. Helmut A. Abt was among the strong supporters and, as shown in the bibliographic compilation at the end of each OSA volume, Helmut is the most prominent author in the field[1].

Rather than to publish yet another confidential newsletter, or to organize an even more confidential workshop, it appeared more appropriate to gather together major ("review") contributions in an edited book. This idea received a warm welcome at Kluwer Academic Publishers (now Springer) in the person of Harry (J.J.) Blom. And there has been so much material to be published that follow-up volumes were in order, produced at a yearly rythm until this seventh one, breaking records in terms of size and number of papers – all in all, an impressive collection of more than 150 chapters by an even more impressive gallery of authors, with grandees of astronomy honoring each volume with their Foreword. What an immense pleasure for the OSA Editor-catalyzer to put all this together!

The range of subjects tackled in those seven volumes has been quite broad and space is lacking in this Editorial to review the tables of contents in detail[2], but here are the main themes:
– characteristics and strategies of astronomy-related organizations (globally and specifically, nationally and internationally), with a planetary coverage including even Antarctica;
– recruitment and promotional policies;
– economy of activities;
– evaluation processes (proposals, individuals, institutions, etc.);
– policies for professional publications;
– bibliometric studies;
– evolving sociology of scheduling and coordinated observing;
– communication under its diverse facets;
– series of astronomy-related conferences;
– interactions with other communities and the society at large;
together with a long list of matters covering the astronomy-related life and context, in the spirit of sharing specific expertise and lessons learned.

Rather than being devoted to the publication of hard-science results, the OSA volumes describe how astronomy research lives: how it is planned, funded and organized, how it interacts with other disciplines and the rest of the world, how it communicates (education at all levels, public outreach, media relationships, ...), etc. Thus this series has been a unique medium for scientists and non-scientists (sometimes from outside astronomy) to

[1]He also contributed to this series with chapters in OSA 1, OSA 2, OSA 4 and OSA 6.
[2]See `http://vizier.u-strasbg.fr/~heck/osabooks.htm` and linked pages.

Figure 1. *'Les Phases de la Lune II'* [The Phases of the Moon II] (1941), oil on canvas ($143\times175\text{cm}^2$) by Paul Delvaux (1897-1994). The door largerly open in the centre gives way to a desertic or lunar nightly landscape, with a bright comet in an abundantly starry sky and a Full Moon. Or is rather this Moon an eclipsed one? Indeed a Full Moon would be so bright that neither the stars nor the comet would be visible. The way the Moon is painted, with a brighter left edge and details visible in the dark area, would ideally represent a full Moon at the limit of a total eclipse. The question here is whether the artist did it intentionally. Note the scheme on the blackboard describing the phenomenon of the phases of the Moon, also present in Delvaux's third version of the *Phases of the Moon* reproduced in OSA 4's Editorial, as well as in *The Astronomers* illustrating OSA 6's Editorial. When Delvaux was about seven years old, the secretary of his father (a lawyer) gave him a copy of Jules Verne's novel *Twenty Thousand Leagues Under the Sea*. His subsequent enthusiasm for Verne's works explains the frequent appearance in his paintings of Otto Lidenbrock (the geologist from the *Journey to the Centre of the Earth*) from the original illustration by Edouard Riou: he is the foreground character on the right with a kind of frock coat, the glasses on the forehead and examining closely an ammonite, a rock, an undefined object and sometimes ... nothing in his hands. He first appeared in March 1939 in the *Phases of the Moon I*. The middle-class gentleman with the bowler hat at the extreme right is another souvenir from Delvaux's youth: a man he saw passing every day at the same hour on the sidewalk in front of his house and who became a kind of concept, that of a civil servant from one of the numerous administrations or ministries in Brussels where he was living then (Debra 1991). This character is appearing in many of Delvaux's paintings. See Nath (1997) for more on Delvaux's pieces with astronomy-related elements. (Galerie Patrick Derom, by courtesy)

describe their experience and to elaborate on non-purely scientific matters – often of fundamental importance for the efficient conduct of our activities.

As illustrated by the histogram included in OSA 6's Editorial, the global number of astronomy-related papers on organizational, strategical and socio-dynamical issues is growing more than steadily, reflecting increased interest. Years ago, the term "sociology" was carrying a negative connotation in hard-science circles where only bibliometric counts were barely accepted. As exemplified by the above diversification, the overall approach has now evolved and matured.

The last paragraphs of OSA 6's and OSA 7's Forewords state eloquently the timeliness of dealing with strategical and organizational issues, insisting on the need of pursuing such publishing and related activities.

A Matter of Communication

Astronomy-related art is one of the facets participating to the general communication process and can be an excellent vector. Four examples, among many, of astronomy in contemporaneous art are illustrating this editorial. See the legends for specific comments[3].

Astronomy communication has of course many other important faces, be it at the intra-professional level or towards the society at large (see *e.g.* Heck & Madsen 2003). The theme has been a recurrent one in the OSA series, including in this seventh volume.

Here is a follow-up to some of the communication-related points raised in OSA 6's Editorial:
– the proceedings of the CAP 2005 conference, organized by the IAU Working Group on *Communicating Astronomy with the Public*[4] (see Robson 2006, this volume) are now available (Robson & Christensen 2005[5]); the next such gathering, CAP 2007, is currently under consideration for Autumn 2007 in Victoria, BC;
– after its 2005 national conference on the theme *Building Community: The Emerging EPO*[6] *Profession*, the Astronomical Society of the Pacific (ASP) stays on that line with the next one: *Engaging the EPO Community: Best Practices, New Approaches* (Baltimore, September 2006)[7];

[3]OSA chapters have been dedicated to the conferences on *The Inspiration of Astronomical Phenomena (INSAP)*: by Ray E. White in OSA 1 (2000) and by Marvin Bolt in OSA 7 (2006, this volume). Refer also to a survey on creativity (Heck 2001/OSA 2) and to a chapter (with CD) by Noël Cramer (2004/OSA 5) on Czech-born space artist Ludek Pesek. Several art pieces were reproduced in OSA 4's and OSA 6's Editorials.

[4]`http://www.communicatingastronomy.org/cap2005`

[5]`http://www.spacetelescope.org/about/further_information/books/pdf/cap2005_proceedings.pdf`

[6]EPO = Education and Public Outreach.

[7]`http://www.astrosociety.org/events/meeting.html`

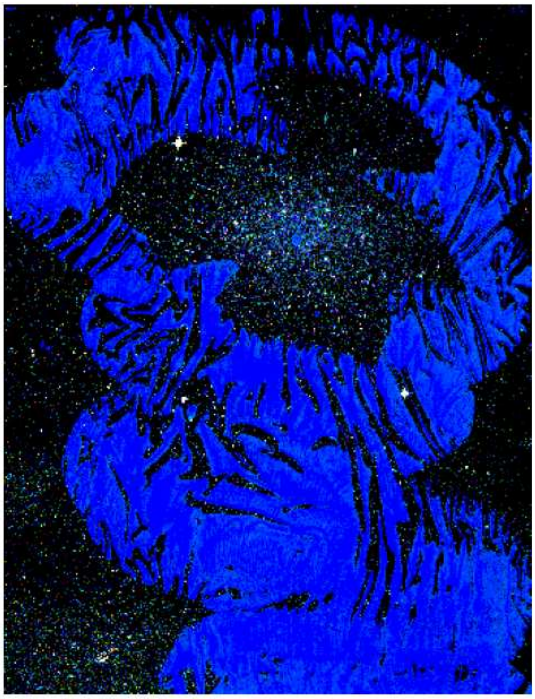

Figure 2. Top: Corinne Gerling's *Constellation* (1987), watercolor ($50\times70\,\mathrm{cm}^2$). Gerling's *Emergence of Knowledge* illustrated the cover of the Kluwer book on *Information Handling in Astronomy – Historical Vistas* (Heck 2003) and her *Pavé de Saint-Jacques* (an ancient regional name for the Milky Way) was used in the Swiss magazine *Orion* (Nath 2003a). Bottom: Elizabeth Bohlen's celestial *Embrace*. (Top: photograph by the Editor; bottom: digital file by the artist)

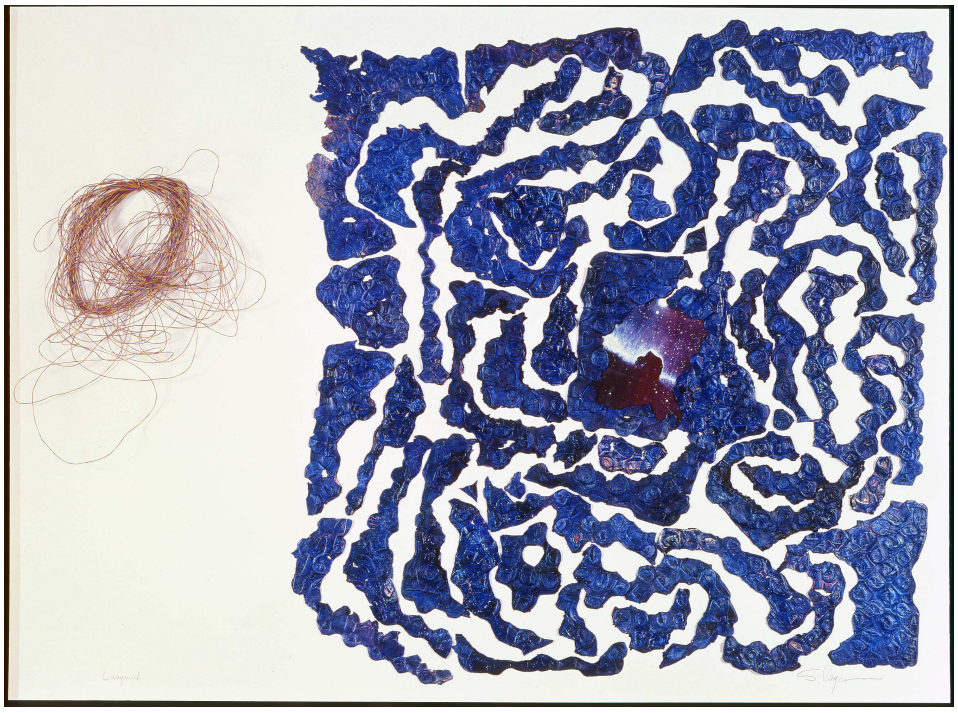

Figure 3. Stephanie Rayner's *Labyrinth* ($122\times168\,\mathrm{cm}^2$) is inspired from Daedalus' labyrinth designed after the pattern of man's entrails, symbolizing together internal and external fears from which it is almost impossible to escape. The Horsehead Nebula at the center represents both the beast within and the fundamental existential questions brought to man by the universe. The tangle of electrical wire on the left is a dual symbol: technological reminder of the mythological Ariadne's thread that allowed Theseus to get out of the labyrinth after killing the Minotaur ... or it can be seen as another labyrinth! See OSA 4's Editorial for Rayner's *Galileo's Eyelid* and Nath (2003b) for more on the artist's creations. (Photograph by the artist)

– an impressive *Hands-on Guide for Science Communicators* (Fig. 4) has been put together by Lars Lindberg Christensen (2006); together with examples from physics and astronomy, it offers an abundance of practical details in a good-humored style and will be a milestone of its kind.

But beyond all these events centered on communicating astronomy towards the outside world, there is a need today for the professional community to reflect again on its own internal communication channels – some fifteen years after the first international colloquium on professional electronic publishing in astronomy (Heck 1992), from which originate many of today's materializations and collaborations in the field.

See for instance Albrecht & Heck (2006) for a proposal of a peer-reviewed web service combining elements of both electronic and hard-copy

Figure 4. This book by Lars Lindberg Christensen (2006) presents, in a good-humored style, an abundance of practical details. It is a fundamental contribution to the field of science communication towards the public, *de facto* filling a gap. Lars contributed with an important chapter to OSA 4 (Christensen 2003) and is an active leader of the IAU Working Group on *Communicating Astronomy with the Public* (see Robson 2006 in this volume, Robson & Christensen 2005, as well as the OSA 6 Editorial). (Cover reproduced with permission)

publishing, a facility that could be hosted by a major research center or a professional society.

Quite interestingly, the field of astronomy communication is also maturing with investigations on matters such as hype and credibility as in a remarkable study conducted by Roskilde University students (Nielsen *et al.* 2006) having interviewed a number of astronomers (Fig. 5).

A Matter of Credibility

As explained in Nielsen *et al.* (2006), credibility has a number of acceptions. Some see it as resulting from the honesty of the source or of the public-relations (PR) officer while, for this Editor, *credibility occurs if the message conveyed has been received as credible by the receiver* – which is no excuse for deliberate cheating or avoiding to chase out possibly misleading formulations. In other words, it is not enough to be honest: one is largely responsible to tailor messages in a way they are correctly received. And this applies externally as well as internally[8].

Why do PR people make mistakes? For a number of reasons. They might be fresh and inexperienced, or incompetent, or poorly informed, or because they are not doing properly their homework, *i.e.* backing and verifying their information sources. They might also think it is not important to use the right wording. PR people could also be submitted to pressures – personal, institutional, temporal. But it is part of their job, as well as a sign of maturity and professionalism, to resist and overcome these. They might also be "intoxicated" by their sources, typically by scientists who can tell stories the contextual importance of which is difficult to be assessed correctly. PR people cannot be competent in all the subdisciplines covered by their institutions, but they could get the substance double-checked. And this is not because things are done according to the book that they come out right every time. The rules of the book can indeed be inadequate for a specific case, or in need of some upgrade – the basis of evolution and adaptation.

Now, why should one be extremely cautious when analyzing hyping cases and avoid to behave as prosecutors? Simply because one is dealing with human material and that nothing is simple. Behind those entities called "NASA", "ESA", etc. (so easily pointed at), are human complexities, often with internal conflicting interests, from scientists to managers via PR officers, each ones obeying to their own dynamics and trying to make the best out of internal and external pressures. Years ago, in the infamous case of the discovery of life on Mars, who was to be blamed for a hyping

[8]See OSA 6's Editorial for a few examples of internal 'discredibility' recorded by a fictitious visitor appalled by *weirdic* absurdities in *Weirdland*.

Figure 5. The Editor (left) being interviewed on hype and credibility issues by Roskilde University students Lars Holm Nielsen (center) and Nanna Torpe Jørgensen (Boston, November 2005). (Photograph: A. Heck)

announcement made shortly before an approval vote for a NASA budget? The scientists? The PR people? NASA's management? The gullibility of the media? The US President's cabinet (who issued a supporting release)? Or were these all benevolent accomplices? After the striking headlines, few readers noticed the rectifying statement (when published) in the inside pages of newspapers and magazines. But interested people noticed that the original information was wrong and they remember it. Some of our colleagues still make the mistake to believe that the taxpayers supporting most of our activities have little brainware or memory.

Why should hype and credibility be issues in astronomy communication and why should we worry at all about such things? After all, our disciplines have not the criticality of, for instance, life sciences that are often referring to ethical committees. Well, in the first instance, we all should be committed to truth and verified knowledge. Beyond this, wrong hype does affect the image of our community as a whole. Worse, it affects credibility in a way that has been so far unquantifiable. And at a time we are more than ever fighting for money and positions, this is definitely to be cared of. Should we also have an ethical committee? Such a label sounds probably too strong, but perhaps a kind of working group might provide exchange grounds on the matter, possibly also formulating recommendations and reference charters.

At a recent space-related forum, a prominent scientific reporter said in substance that his job was first of all to help his newspaper making money. This Editor does hope that we, from the scientific world, still rate first the conveyance of correct information.

This OSA 7 Volume

This book starts with a group of chapters reviewing the organization of astronomy in various parts of the world: in Britain, by P. Murdin; in Greece, by V. Charmandaris; and in Ukraine, by Ya.V. Pavlenko, I.B. Vavilova & T. Kostiuk.

They are followed by several contributions focussing on international institutions: the European Southern Observatory by C. Cesarsky & Cl. Madsen, the International Space Science Institute by Roger M. Bonnet, and the International Space University by Walter Peeters.

Two European networks are subsequently described: EuroPlaNet by M. Blanc and RadioNet by A.G. Gunn. Radioastronomy remains at the heart of the next chapters as D. Hogg and M. Grewing detail the selection and scheduling of observing proposals at the telescopes of the National Radio Astronomy Observatory (NRAO) and at the observatories of the Institut de Radioastronomie Millimétrique (IRAM) respectively. Then Chr. Veillet tells us how observing programmes are selected, scheduled and carried out at the Canada-France-Hawaii Telescope (CFHT).

Next, we move to another field with a *première*, a group of chapters authored by the managers of the major professional journals:
– the *Astrophysical Journal* and the *Astronomical Journal* by R.W. Milkey,
– the *Monthy Notices of the Royal Astronomical Society* by P. Murdin, and
– *Astronomy and Astrophysics* by G. Meynet.

The *Library and Information Services in Astronomy (LISA)* conferences are then described by astronomy librarians B. Corbin and U. Grothkopf.

Remaining in the field of information resources, the following contributions are dealing successively with:
– the Astrophysics Data System, in an interview of G. Eichhorn;
– the international penetration of the Strasbourg Data Center by A. Heck;
– the genesis of the International Astronomical Union (IAU)'s Working Group on Astronomical Data, by G.A. Wilkins; and
– biographical sources for astronomers by W. Dick.

This last chapter introduces a trilogy of contributions related to individuals and their 'systems':
– a history-making regard into German astronomy during the Third Reich by H.W. Duerbeck,

– the psychology of the physical science and scientists by G. Feist,
– the astronomer's thinking approach by M.E. Gorman.

The last substantial part of the book is devoted to public outreach in the broad sense, starting with the presentation of two magazines (*Mercury* by J.C. White II and *Sterne und Weltraum* by J. Staude) and of the IAU Working Group on Communicating Astronomy with the Public[9] by I. Robson, as well as of the Education and Public Outreach (EPO) activities at a number of institutions:
– Chandra X-ray Center by M. Watzke,
– Gemini Observatories by P. Michaud,
– McDonald Observatory by S. Preston, and
– Europlanetarium Genk by Chr. Janssen.

M. Bolt then reports on the INSAP V conference. Finally St. Miller and P. Murdin share their sound views on the astronomy communication phenomenology.

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

Acknowledgments

It has been a privilege and a great honor to be given the opportunity of compiling this book and interacting with the various contributors. The quality of the authors, the scope of expertise they cover, the messages they convey make of this book a 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 that is understandable to readers who are not necessarily hyper-specialized in astronomy while providing specific detailed information and sometimes enlightening 'lessons learned' sections.

I am specially grateful to Roger M. Bonnet, President of COSPAR and Executive Director of the International Space Science Institute, for writing the Foreword of this book and to the various independent readers ("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 *Springer* who are enthusiastically supporting this series of volumes.

The Editor
Montes Universales
May 2006

[9]See also the Editorial of OSA 6.

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