

# Astronomy and the Media<sup>1</sup>

**Henri Boffin**

ESO education and Public Outreach Department

E-mail: hboffin@eso.org

**Key Words**

Media relations

Journalists

In astronomy, as in other scientific or societal fields, communication is too important to be overlooked by any organisation. Public research organisations in particular should be accountable to the public for the tax money they spend. This is only possible if the public is informed about the work of the organisation. Communication is even more crucial when trying to secure additional funding for new projects. As one scientist said, perhaps a little bit too provocatively, *“the one percent spent on outreach brings the other 99 percent needed to get the project done”*. This may well be an overstatement, but the general principle is clear. Good communication is also a vital channel for maintaining the necessary excellent relations with local communities — some of the large astronomical observatories know a great deal about this. Communication is also essential for astronomy to fulfil a fundamental need in modern society: attracting bright youngsters to scientific careers. Although young people are increasingly moving away from science,

there is a great need for future scientists. And even if young people don't become scientists, it is important that they are exposed to science as a whole: as adults, they won't be able to avoid relying on science in their daily life, and they will have to take decisions with a scientific dimension.

For all these reasons, the communication strategy of research organisations addresses various target groups: the general public, scientists, policy-makers, educators and industry. But with limited resources, one needs amplifying outlets to reach a significant fraction of the targeted audiences. It is impossible to prepare all kinds of communication material, with different emphases, at all levels of complexity, and in all languages, so communicators have to rely on excellent amplifiers. Media outlets are an example. Not only are journalists trained to adapt the material to their public, who they know very well, but it is well known that the public are informed about science primarily through

these channels. The 2007 Eurobarometer on “Scientific research in the media” (Eurobarometer, 2007) shows, for example, that 61% of respondents in the European Union are informed about science by watching television programmes, 49% by reading science articles in general newspapers and magazines, 28% through the internet, 26% by listening to radio, and 22% by buying specialised press products. Similar numbers are observed in the US. Obviously, the media are an important channel for communicating science. However, there are caveats. Firstly, science on TV represents at most 2% of all news shown and, secondly, studies have revealed that only a quarter of all adults can read and understand the stories in the science sections of quality newspapers.

The crucial question is nevertheless whether the media are indeed an efficient channel for communicating astronomy. This is clearly a difficult question, and one which can be answered in several ways. Before

briefly attempting to do so, let me make a general remark. As discussed above and in various studies, there is no doubt that the media play a very important role by raising *public awareness* about science and its results, but it is doubtful how much the media are really able to *teach* science to the wide public. This is by no means an easy task. In their study of the public understanding of scientific terms and concepts, the US National Science Foundation (2004) found that less than 15% of people understand the term “molecule” while less than 50% know that the Earth goes around the Sun once a year! So any attempt to talk about topics such as gamma-ray bursts, redshifts, galaxies or interferometry faces formidable challenges. Scientists and science communicators must set realistic goals when interacting with the media and the public, and recognise that other activities are required to transform curiosity into knowledge, such as the internet, public events, science centres and so on. A nice example of a programme that tried to exploit several avenues was the Venus Transit Programme (Boffin & West, 2004; 2005). Other examples have been successfully organised in the framework of the International Year of Astronomy 2009.

Coming back to our main question, at first sight there are many reasons to be optimistic and to think that astronomy and the media have a love affair. For example, the online science section in *The New York Times* has two specific subsections, one on environment and the other on space & cosmos! Similarly, the British magazine *New Scientist* has a fairly successful specific space section, and one should not forget that the BBC’s *Sky at Night* programme is the longest running television series, on air since 1957 (although no longer at prime time, but very late in the evening). Here again there is an important *caveat*, which is that often space and astronomical news are put together, but their share is far from equal. The NSF 2008 study, *Science and Technology, Attitudes and Understanding*, reveals that the NASA Space Shuttle programme has taken a very large share of all science-related news in 2005 and 2006, but this is of course not astronomy as such.

Another important unfortunate aspect is the general tendency for the media to cut down on science coverage. As a journalist from the French newspaper *Le Monde* told me, of the ten journalists working for the science section in 1998, only four are still in place ten years later. The others had all been moved to other sections.

## Does astronomy sell?

In order to try to be a little bit more quantitative, I looked at the US magazine *Time*.

Since 1948, astronomy has been featured on the cover no less than 12 times. That is, about once every five years or so. The covers encompass a wide spectrum of the hottest astronomical discoveries:

- 4 September 2006: How the stars were born (dawn of the Universe)
- 25 June 2001: How the Universe will end (dark energy)
- 5 February 1996: Is anybody out there? (exoplanets)
- 23 May 1994: Cosmic crash (Comet Shoemaker-Levy 9 and Jupiter)
- 16 April 1990: Smash! (colossal colliders are unlocking the secrets of the Universe)
- 23 March 1987: Bang! (Supernova SN 1987A)
- 16 December 1985: Skywatch (Comet Halley’s return)
- 24 November 1980: Saturn, encounter in space (*Voyager* visit to Saturn)
- 20 October 1980: Showman of science (astronomer Carl Sagan)
- 27 December 1976: Stars, where life begins (exobiology)
- 11 March 1966: Astronomer Maarten Schmidt (quasars — exploring the edge of the Universe)
- 9 February 1948: Astronomer Hubble (expanding universe)

Twelve astronomy covers would be a nice result *per se*, especially when, by comparison, biology had only four covers in the same period, and chemistry only nine (mostly before 1965!). However, looking at other academic fields, things start to be less satisfactory. History was featured 24 times, and the environment took the front seat 90 times. The overall winner is medicine, which was featured on 248 covers. This is 20 times more frequently than astronomy! The same trend can be seen in the number of articles dealing with the various topics that appear in the magazine. In the 598 articles found by the search engine on the *Time* archive website, astronomy comes well behind most other scientific topics. Archaeology, biology, chemistry, physics, and the environment all do better, with, respectively, 1031, 1503, 2240, 2290 and 7764 articles. And again, medicine is the great winner with no less than 11 814 articles, almost 20 times as many as those devoted to astronomy!

This superficial study clearly illustrates that, while the media do not hesitate to talk about the greatest discoveries in astronomy, it is far from being the greatest hit. Is there any logic behind this? Given what I stated above, that journalists know their readers, I would assume so.

Looking back at another Eurobarometer — from 2005 this time — it is interesting to see that when asked “which science and technology developments are you

most interested in?”, astronomy only takes the 6th place, with 23% of respondents choosing it. People are more interested in economics and social sciences (24%), the internet (29%), humanities (30%), the environment (47%), and... medicine (61%). There is thus clearly the same logic here, although one could invoke the ubiquitous “chicken and egg problem” as a reason for this situation. Are journalists providing stories on subjects that are most interesting to people or are people interested in the stories reported by the journalists? As always, the truth must lie in the middle, but it is perhaps not such a surprise that what interests the majority of people is their health. A cause for optimism can be found however in the fact that the comparison between the 2001 and 2005 Eurobarometer surveys reveals an increase of 6% over four years in the percentage of people interested in astronomy. Let us hope that the International Year of Astronomy 2009, with its wide spectrum of amazing activities, will lead to a continuation of this trend.

## References

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## Notes

<sup>1</sup> This is a partial account of a presentation given at the IAU Symposium 260, *The Role of Astronomy in Society and Culture*, which was held at UNESCO, Paris, in January 2009.

## Biography

**Henri Boffin** holds a PhD in astronomy and an MSc in science journalism. He joined the ESO education and Public Outreach department in 2003 and he is now the Public Information Officer for the Very Large Telescope, La Silla and the European Extremely Large Telescope, and still continues research whenever possible.