

## The importance of the public talk

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### Abstract

Many of the IYA2009 activities that were discussed at this meeting involve the internet, podcasting, television, radio or other technology-driven methods of spreading the word about astronomy to the wider world. These are essential ways of reaching our audience 24 hours a day and the IYA2009 project could not happen without them. But they are sometimes rather impersonal ways of communicating. We are so used to this that we forget that the quick and easy transmission of information without personal contact is a relatively new possibility. We have evolved as social creatures, and what I want to champion here is a social activity that involves a live audience and an even livelier performer.

### Introduction

The public talk is a special kind of theatre that usually involves only one performer, and like all live performances, if it is done well it is remembered with pleasure for years afterwards. This legacy is important because the public talk audience is self-selected and motivated enough to turn up in person, often as a family group. They are ready and willing to be informed, educated and entertained, and these ingredients must be part of any public presentation about science or astronomy.

You may well ask why, in these days of mass communication, when it is easy to direct your message to millions with seemingly little effort, you bother with audiences of a few hundred. The answer is here, in this conference room. The words, images and ideas that have been exchanged at this meeting could have easily be collected by the organisers and transmitted to all the interested parties. But none of us would sit down for days with a DVD or explore a website to share in the richness of this occasion, and we would have lost the opportunity for dialogue and discussion.

Instead we chose to travel across the world at some expense and inconvenience to listen to the presentations in person. Of course we also come to conferences to meet collaborators and friends, and to enjoy interesting cities such as Athens. But the main reason we come is to listen to the talks. We respond strongly and positively to the kind of direct personal interaction where some individual stands before an assembled audience and talks with authority and a sense of purpose. We have been exposed to this kind of communication for tens of thousands of generations. It makes us feel part of a group, one of the tribe, with an intimate connection to the speaker and to the spoken word. And we all love good story tellers.

Our ancestors knew how culturally cohesive this was, and much effort went into constructing theatres and auditoriums we find all over the ancient world. Many survive and the tradition of aural presentation continues to thrive. So story-telling is old fashioned. But is it effective? There is good evidence that it is. People remember the occasion and the content. They remember the performer as a real person, with a personality, new ideas, a sense of humour, a good turn of phrase, and, if they are an astronomer, questionable dress sense.

In the same way that the performers in live theatre or a live musical imprint themselves on our memories more effectively than movie actors on the silver screen, in a public talk about science the audience can make a personal connection with a scientist. Scientists in general and astronomers in particular are a relatively rare species, sometimes nocturnal, and many people will never have met one in person. They may thus appear to be remote, perhaps eccentric and probably incapable of normal social interaction. A successful public talk removes these negative perceptions.

In my view it is important for every country that is serious about the intent of IYA2009 to arrange a series of public talks, using their nation's most capable astronomy or science communicators. It is useful if these people are "a name" or perhaps a distinguished scientist; but their most important function is to connect with the audience, to be human, warm and approachable as they enthuse about their vocation. However, talk alone is rarely enough and I want to outline the essential ingredients for a successful public event, and to mention why these events work and why they sometimes fail.

## The preliminaries

Ideally the speaker should be well known, however, it is equally important that the talk has an intriguing and attractive title. *Things to See and Do in the Dark* is more likely to attract an audience than *Looking at the Sky at Night*, no matter how well known the speaker. The talk should be advertised locally and often, starting a few weeks in advance. Local newspapers and radio are effective, and it is good if the speaker is available for radio and TV interviews, but appropriate e-mail exploders (to amateur astronomy clubs, for example) also work well. The advertising should define the audience with phrases such as "non-technical", "entertaining", "suitable for families", "richly illustrated" and the like, and if youngsters are expected the starting time should not be too late.

## The venue and the data projector

The venue should obviously be readily accessible to the intended audience; in a city centre rather than a remote university campus, for example. The setting should be theatre-like, with good acoustics, comfortable seats and completely controllable lighting. However, it does not have to be a theatre; a public hall or university auditorium can often work well if it can be darkened.

Assuming that the talk includes some projected illustrations, it is very useful to be able to illuminate the auditorium and speaker with subdued light in such a way that the screen is in darkness, so that the images are shown to best effect. However, total, cinema-like darkness is to be avoided

since the speaker then becomes disconnected from the audience, a disembodied voice rather than a visible presence. In my experience it is always good to have the screen set forward in the proscenium so the speaker can stand in the projected image occasionally, briefly pointing out some feature, actively engaging with the visual component of the talk.

I show lots of photographs in my talks, so the quality of the data projector is very important to me. It should be tested and if necessary adjusted well in advance of the talk. And adjustment usually is necessary. Unfortunately, it is not uncommon to find worn out projectors that are incapable of adequate brightness, contrast or dynamic range for astronomical images and it's good to let it be known well in advance of the talk that this is a critical issue.

I include a setup slide in all my PowerPoint files that has full dynamic range grey-scales, a spectrum and some colour patches in it. It is an invaluable aid in checking that any available data projector is adjusted so that the subtle shadow and highlight detail that I strive for in my images appears on the screen. The test file is downloadable<sup>1</sup> as a JPEG or PowerPoint and instructions for its use are in the notes to the PowerPoint slide. All of this technology must be unobtrusive and it is very unprofessional to be involved in the projector setup or microphone tests as the audience is filing in. Don't forget that a public talk is a show, not a seminar, and the presenter is, for a while, the public face of the astronomy community.

## The presenter

In general the speaker must be confident, interesting and enthusiastic, and speak clearly, ideally without notes, avoiding unexplained technical phrases and insider jargon. Other things to avoid are colloquialisms, slang and cultural references that might mean nothing to the audience, even if the audience nominally speaks the same language as the presenter. I am thinking of British/USA/Australian differences here; even more care is needed if the all or part of audience does not have the presenter's language as its native tongue. This does not mean that the talk should be stilted or stuffy, indeed a few jokes or at least a gentle sense of humour is a great asset, but cultural sensitivities are just that, sensitive, and should not be ignored.

Public talks to foreign language audiences with simultaneous translation can work, though some jokes might not translate, and it is difficult to time the appropriate turn of phrase or idea to the appearance of an image on the screen. As in all performances, timing is important. Public talks with sequential translation are much less satisfactory for both audience and speaker and the content has to be reduced or the allotted time increased to allow for the translation. Forget about the jokes.

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<sup>1</sup> file: <http://www.aao.gov.au/images/captions/greyscale.html>

## The content

This is of course entirely up to the presenter, but in general the length of the talk itself should not exceed 50 minutes, especially if there are many children. The style and structure of a talk similarly varies enormously from person to person, but it should usually start with a clear sense of direction, and embody a strong story, with interesting facts and anecdotes scattered throughout before arriving at distinct conclusion. The structure should be seamless, so if your latest discovery is included at the last minute it should appear as part of the narrative rather than a jarring aside. The standard teaching dictum of starting with the familiar before moving to the unknown is good advice, especially in astronomy. It is also useful to leave some aspects of the topic obviously incomplete to encourage questions after the talk itself.

I tend to show images during the last part of a talk, the first 10 minutes or so is simply talking to the audience, developing a theme and outlining the context of what is to follow. I have been to hour-long public talks where no visuals have been used at all, and they can be very successful if you have a presenter who can think in paragraphs and speak in complete sentences, but in astronomy a well-illustrated presentation is both expected and effective. However, it is not essential to do anything elaborate. The most effective television I have seen in recent years is the work of Ken Burns. His programmes about the American Civil War and about Mark Twain were very moving. They are strong stories sparingly told with still black and white images as the backdrop. Essentially they were an old fashioned slide show, but beautifully done – and memorable.

## The stories

As astronomers we have an almost endless range of wonderful and inspirational stories to tell. They may be about our intimate connection to the stars in general and to the Sun in particular. The narrative might describe some tortuous path to understanding the nature of stars, galaxies, quasars, pulsars or black holes, tales littered with interesting characters, lateral thinking, missed opportunities and cloudy nights on remote mountain tops. We can mingle the ancient legends of the stars with our modern understanding of them, emphasising the long history and cultural nature of astronomy. In 2009 we will no doubt claim that modern science began when Galileo turned his telescope to the stars 400 years ago.

We can also hint at the possibility of intelligent life elsewhere in the Universe. Even thinking of this obliges us to view life on this planet in a different and enlightening way. The astronomer's perception of the Earth as a planet is intriguing to people who have never considered it before, and along with light pollution it is a subject that links directly to the current hot topic of global warming.

Unlike almost every other pure science, astronomy is largely observational or theoretical, and has few commercial links and, apart from the Solar System, little possibility of direct experimentation with the objects of interest. Again, few non-scientists will have realised this and will be surprised that we can acquire so information much by observing so little light. Astronomy also addresses the biggest questions, of origins and destiny and has many (perhaps too many) unsolved mysteries.

## The aftermath

The most important part of a public talk is active public involvement, especially the dialogue at the end. It is essential to allow time for audience questions, to encourage them, to enjoy them and to be seen to enjoy them. The house lights should be up at this time because this is when the audience connects directly with the speaker and when the speaker's personality comes to the fore. At this time it is good to step down from the platform into the auditorium and if possible move among the audience, actively looking for questions.

This has two advantages. Firstly the speaker has direct eye contact with individual audience members. If there is a question nervously loitering there it will come out. Secondly, the speaker has the microphone, so repeats the question for the benefit of everyone, paraphrasing it while formulating an answer. In my view, microphones for the audience in public talks should be discouraged if possible. They tend to inhibit questions, especially from youngsters, though in some large auditoriums they may be necessary (microphones, not children). Finally, depending on the venue and the occasion (and the budget), coffee, finger food and drinks in the foyer of the hall allow further mingling and discussion with the audience.

With good organisation and planning, a suitable venue, an interesting topic and a strong speaker, a public talk can leave a lasting positive impression about astronomy and astronomers. A successful talk also benefits science and its practitioners in general and underlines the nature of astronomy as a cultural activity with implications for both everyday life and life itself.