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THINKING ABOUT ARENAS

J Riise
Swedish Research Council, SE 10378 Stockholm, Sweden
International Science Festival, Massans gata 8, SE 41251 Göteborg, Sweden

ABSTRACT
Science Communication Events, such as Science Festivals or Science Weeks, are rapidly developing. The main objectives are often described in terms of "raising the awareness for science and technology among the general public". The method is literally to "bring science to the public", that is through using new and unusual places and formats like shopping malls, railway stations and cinemas as well as "physics shows" and science theatres. Most science events are evaluated on a regular basis, on behalf of arrangers or funding organisations. Normally, these are very positive, people enjoy the science communications activities.

At the Göteborg International Science Festival, it turns out that the one of the arenas, "a tent in the park", is surprisingly successful in attracting young people, also from suburban parts of the city. This shows the necessity to think not only in contents, but also places and formats, when "bringing science to the public".

INDEX TERMS
PCST2005, science events, evaluation, target groups, youth

INTRODUCTION
The general objective "raising awareness for science and technology" holds a number of "sub-objectives". On a principal level, the increased awareness gives citizens a better position for making informed choices; this is one of the EU:s main goals for the extensive Science and Society programme. It is also necessary to attract more young persons to scientific careers, for future growth and competitiveness. The Göteborg International Science Festival in Sweden has adopted an "arenas approach" in order to find and try formats that specifically raises the interest among different segments of the overall target group, the general public.

THE SCIENCE COMMUNICATION PROCESS
Science Communication Events try to bring science to the public by using new and creative means and places for communicating science to target audiences. Typical events are Science Cafés, Street shows and, of course, lectures and demonstrations as well as "open doors" and visits to laboratories, observatories and other places of interest.

Science communication events may have a number of purposes and objectives, all covered within the "raising awareness for science and technology. This paper is about how to attract the interest of young people in order to eventually make them consider and choose an academic career.

Other objectives also are mentioned. Most research is governmentally funded and thus financed by the taxpayers. It is reasonable that they are provided an opportunity to take part of the results of that research. For a city of Göteborg's size and economy, it is important to be considered as a "centre of academic excellence" in order to attract further investments, not

least in the service sector. And from an industry point of view, the Science Events are attractive for future recruitment opportunities.

Most Science events include evaluation studies in one form or another. Most often these are surveys conducted among the visitors. The results are normally very positive; a large proportion of the visitors like the activities they have decided to attend.

So we know that "people were happy". But we don't know very well what happens next. One study, by Laura Grant at Liverpool university, indicates that there is an actual long-term effect which manifests itself for example in buying and reading books about science.

Obviously, the division of the main target group into several sub-target groups has some implications for the evaluation process; it is necessary to go beyond the "people were happy" statement to find out how the different approaches have succeeded. Of special interest in this case are the evaluation results regarding the views and behaviour of the "youth" sub-target group, that is persons between 15 and 24 years of age.

From the evaluation studies carried out for the International Science Festival in Göteborg we know that the total audience relatively well corresponds to the population in general, which is about 600,000 people. There is, however, a larger proportion than the average of visitors with an academic education, and a smaller proportion of young adults, especially between 25 and 34. Most likely, this reflects the life situation, with families and careers as important and "first-hand" choices. However, the youngest target group is well cared for through a special school's programme, that attracts some 40,000 school children.

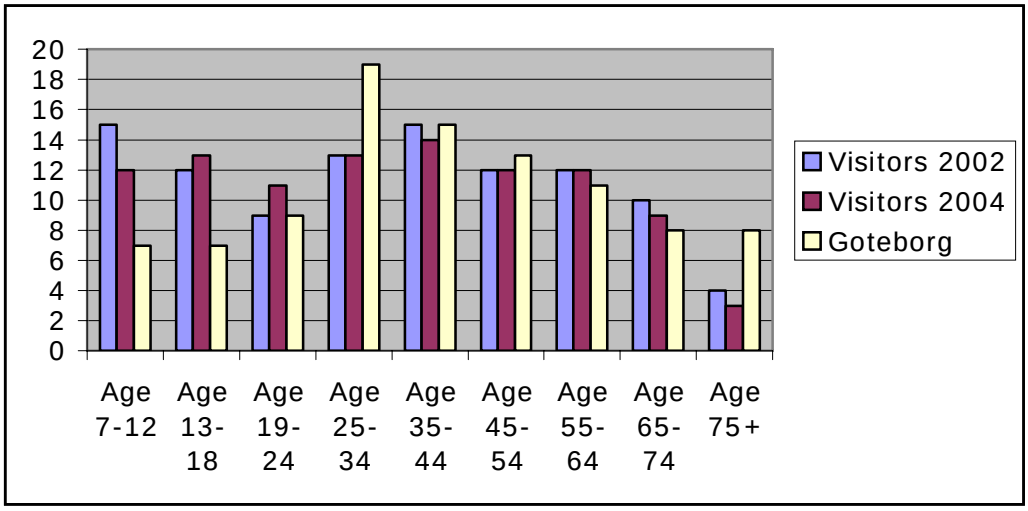

Figure 1. Visitors age profile 2002 and 2004, compared to the City as a whole,

So far, so good

From the statistics above, it seems like the Science Festival has a fairly good relationship with the young people, those whose interests and careers science events are supposed to have an influence on.

However, in order to further investigate how different activities and locations appeal to different sub-target groups, the activities of the Festival have been divided into four types of "arenas".

The first of these is the common “lecture activity”. It includes different sorts of “lectures” such as debates, films, workshops etc. They are located to some sort of lecture hall, but not necessarily within the home institution or department of the “lecturer” . Museums, libraries, cinemas can be mentioned as examples. These activities attract many visitors, as “popular science” always has done. However, it turns out that the audience most often is older and generally with a higher education that the average.

The second is the Festival’s own temporary Science Center, a large warehouse that is converted into an Experimental Workshop during the Festival. Here, participating organisations build their own hands-on exhibition stand. Exhibitors include Chalmers university of Technology and Onsala Space Observatory as well as AstraZeneca, Volvo and ball bearing manufacturer SKF.

Third, there is an exhibition space in the Nordstan Shopping Centre. This is northern Europe’s largest shopping malls, visited by some 100,000 people every day. Here the Festival shows small exhibitions and offers short lectures, known as “Academic Quarters”, that lasts for no more than 15 minutes. Often, these talks are used as “teasers” for more conventional lectures on the same subject later the same day or the day after – but then in the “lecture” arena.

Last, but not least important, is the “Tent in the Park” arena. This is a large tent, open from noon until 7 or 8 pm, that gives room for activities like workshops, experiments, short talks and discussions. Some activities are scheduled, like a talk at 12.30, while others are more loosely organised: meet the researchers from this department between 12 and 6 pm.

The laws of physics illustrated outside the tent. Prof Staffan Yngve of Uppsala University acts as living proof for the existence of inert matter.

EVALUATION

Obviously, the patterns for participating or visiting the arenas differ a lot. While the lectures mostly attract "planned visits", the outdoor arena leaves room for unplanned visits with an unspecific length in time.

The evaluation carried out during the 8th International Science Festival in Göteborg, May 2004, was based on 1684 interviews with festival visitors. In addition to that, 185 randomly chosen citizens were asked about their knowledge of the Festival in general.

The evaluation gives an overall picture that is very positive for the Festival. 84 percent of the visitors wished to come back next year and 79 percent indicated that they would recommend their friends to visit the activities. The visitors' demographic background reflects the city's in a general sense.

The most significant discrepancy is the larger than average proportion of adults with an academic education. People older than 55 are also over-represented, compared to the city's population. This is not surprising, similar findings have been made at several other science communication events.

The interesting thing is the large differences between the arenas. While the adult academic group is much larger than its proportion of the population at the lectures arena, it is significantly smaller at the workshop and park arenas. The arena where the visitors reflect the population as a whole is the shopping centre, with an almost identical demographic profile.

The Experiment Workshop attracted a large number of school children, but this is to a large extent dependent on the workshop's role in the School's Programme, with an important number of pre-booked visits by entire classes with their teachers.

The Tent in the Park shows the most encouraging outcome: the proportion of young people, under the age of 24, is significant. And not only that, some of the suburban parts of the city, generally regarded as not so "academic", actually seem to be over-represented.

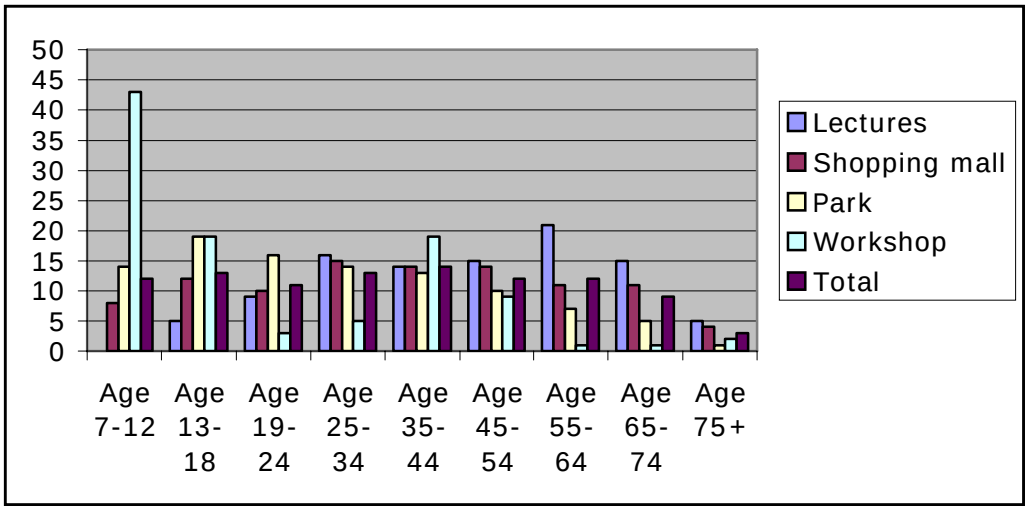

Figure 2. Visitors to different arenas by age groups, Science Festival 2002

Of course, the figures are uncertain and not all statistically significant, but they have indicated the same and actually increasing interest from these groups over two consecutive evaluations (2002 and 2004). And they are definitely above the participation proportions from the same age groups at the lecture arena.

DISCUSSION

The lesson learnt from this would be that the idea of different arenas could be very fruitful when thinking about how to reach differentt target from all different social and geographic conditions. In the Göteborg case, the concentration of certain activities to a large tent in a city centre park has proven to be unexpectedly attractive to young visitors from suburban parts of the city.

The findings provide input for a further discussion regarding science communication events' possibility to actually reach the desired target groups and audiences. It also reflects the necessity for a continued development of the evaluation of different forms of science communication.

The extensive EUSCE/X study, funded by the EU and carried out by EUSCEA, the European Science Events Association, covering more than 20 science communication events all over Europe, will be presented in November 2005 at the "Communicating European Science" conference in Brussels. The study will include further references to the issue of evaluating science events.

CONCLUSION

The division of several hundreds of science communication activities into different arenas has introduced an important dimension to the development of the Science Festival in the Swedish city of Göteborg. The evaluation shows that place and format do have an impact on the profile of the visitors to the event. It is not only about marketing and headlines; opportunities for unplanned and informal encounters may prove just as important for the evaluated results.

It also indicates that the Science Communication Events true "raison d'être", "Bringing science to the public", really do have a meaning. This must certainly please creative communication professionals as well as geographers: the location in space does have a true importance, just as the format of the service delivered!

ACKNOWLEDGEMENTS

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