

The community service of the Ghent University Zoology Museum

DOMINICK VERSCHELDE

Abstract

The Ghent University Zoology Museum is not only providing guided exhibitions, but is more and more organizing fun workshops and practical exercises for all members of the community: families, toddlers (kindergarten), students of the primary, secondary, and high schools as well as adults. Our approach is an informal teaching of formal learning; we offer 'tantalizing teasers to taste Science'. We teach the public to use their senses to observe, and their mental sensibilities to create critical ideas; all this in a fun and passionate way instead of the commonly believed 'boring scientific way'. We allow high school trainees and apprentices of unemployment offices and the Department of Social Service to work and train in our museum, thus getting a taste of the immense workload surrounding a university collection. But this is not a fairy tale, as it is not without some bitter side effects.

Universities and university museums not only have a duty towards a small part of the community, in carrying out research and training students, but need to focus on the entire population in order to get the critical scientific way of thinking into the society as well as improving transparency of an academic environment for laymen.

Taking this into consideration, UMAC does not only stand for 'University Museums and Collections', but even more so for 'University Museums and Communities'.

Introduction

More than ever the Ghent University Zoology Museum is focusing its mission on community service. I consider two different communities in our quest for science communication: the window – and backstage community.

The window community

This is a most diverse group. We organize fun workshops and practical exercises for all members of the community. All exercises are focused on the use of all senses, in order to make objective observations, which have to lead to the appreciation of the scientific critical thinking process and forming of a scientific hypothesis. These workshops are easily adaptable to all ages so they can be enjoyed by schoolchildren, students, and even the entire family. We don't confront the public with the cold scientific facts, but we present this knowledge using tricks and comparisons so people can grasp the subject in an interactive and exciting way. We teach the public to use their senses to observe, and their mental capabilities to create critical ideas; all this in a fun and passionate way instead of the commonly believed 'boring scientific way': a lot depends on the packaging. The public's response is one of excitement and gratitude.

To observe objectively you need all your senses. Certainly, as our eyes are easily deceived, it is much better to rely on all our senses when observing nature. The next step is to focus on the relation between observation and critical thinking.

Some examples:

- *The Call of Nature*: children recognize different calls or sounds of animals; different levels of difficulty ensure that this 'game' can be played with small children, adolescents or adults.
- *Feeling Fur*: every small child wants to touch and feel an object in order to fully appreciate its features. In this they instinctively know more about observing than adults. This is an important reason why young children don't like visiting 'boring' museums where they have to keep their

hands in their pockets. In this exercise, however, we present the children with a whole range of animal furs and trinkets which they can touch and smell. In an informal way but with their full attention, we sensitize the children's awareness towards nature preservation.

- *Every mouse, its own house*: children have to place animals in their correct nesting sites, and in the appropriate level of the food-chain.
- *The Duck and the Platypus: a tale of convergent evolution*. Children look for different animals with similar shapes (external morphologies) and then try to formulate a possible explanation for that character or shape and subsequent lifestyle of these animals. It doesn't matter whether the answer is correct or not, it only matters if it is a reflection of critical reasoning and deduction. As devil's advocate, I try to break down any answer they can come up with, illustrating the value of the scientific method and critical thinking.
- *Pond critters*: children collect a pond water sample, and identify the encountered microscopic wildlife.
- *Family quiz on animal families*: a quiz about taxonomic families and animal family / community life.
- *Tasting is more than taste*: participants get to experience how hard it is to taste known foods when their eyes and nose are closed, thus proving that the observation of 'tasting' is done with more than the taste sense, but also with our sight and smell.
- *Tasting science*: we let people taste and eat all animals that are discussed in this exhibition. The message: What do we eat and what are the environmental consequences?

Is there a need?

Last year our government made a call towards all regional museums to organize family activities during school holidays. Astonishingly enough, although being an university museum, we were the only museum to organize an educational kindergarten children's activity from a total of 78 attending museums. University museums can clearly set an example here! By organizing children's activities during exhibitions, museums can score two blows with one strike: the children as well as their parents are satisfied. In our experience, children's workshops during temporary exhibitions are fully booked within one or two days of announcement. Parents even book these activities as a birthday gift for their children and friends.

The down side to our story is the continued lack of staffing and funding, which obliges us sometimes to work under almost prehistoric conditions and infrastructure.

The backstage community

This community forms a great challenge for our teaching/communications abilities. We teach high school trainees to work out exhibition topics, - texts and - posters. We learn them to downsize the enormous amount of information one can find on any given topic, and to filter that information which will contribute to a coherent and yet diverse exhibition text. Every exhibition demands that we consider and convey information on a topic coming from any possible angle or view, in order to stress our objectivity and to be of interest to any member of the community. So in an exhibition on a person, say Darwin, we do not only show his or her scientific accomplishments, but we also elaborate on the personal life and character of the person in question. From the exhibition text, trainees need to shape a text for the guided tour as well as produce a series of scientifically based, yet tantalizing posters to illustrate the exhibition. All of this is done in consideration to the choice of collection specimens to be used in the exhibition. Trainees especially appreciate the large amount of new information they encounter and learn when considering different approaches to or views of any subject, and also the difficulty of downsizing the acquired information to a manageable package and coherent story.

Others work on taxonomy and the digital inventory. Apprentices of unemployment offices and Department of Social Service train in our museum, thus getting a taste of the immense workload surrounding a collection and the responsibility that comes with communicating scientific knowledge.

Another backstage group comprises foreigners who want to work and settle in a local, in our case Belgian, community. If applicants hold a degree obtained in their home country, our government evaluates the person's diploma/degree, and declares the degree to be of the same level of expertise (or not) compared to local standards of education. In few cases the government can ask universities and university museums to evaluate or further train applicants in order to properly prepare them for competition on the Belgian labor market.

Problems

It is not a fairy tale, as there can be bitter side effects. Problems in attitude and lack of motivation can occur in adolescent students and also in apprentices of the unemployment office. Persons sent by the Department of Social Services often carry along the psychological burden and background of their predicament.

You not only have to teach these people new tricks in a new profession, but in a few cases you inevitably find yourself listening to social problems and anxieties or even solving aggressive conflicts. These situations can lean heavily into our own productivity.

Problems with the latter group of the backstage community, can arise even when their degree is, on principle, declared equal to the locally issued degrees. It is difficult when you notice that a person with a foreign degree does not meet the standards of our local labor market, and hence will have difficulty competing with other applicants for a certain job. It is hard to convey such information to a person diplomatically without them taking it personal, and to decide on an appropriate course of action in order to further train such a person to improve his or her chances on the labor market. In this diplomacy is our only currency, but unluckily enough it does not always pay the bill.

There always has been a need to inform the community, as is illustrated above, but it has perhaps never been as pressing as now. Communicating scientific knowledge to the general public does more than its specific job. Aside the knowledge transfer on itself, we educate people in our way of conducting science, in the use of the scientific method. The necessity to convey the strength of critical reasoning to the general public rises with the recent revival of ideologically based beliefs. Children are taught religion and are confronted with creationism from an early age. It even goes as far as religious groups handing out free bibles at the front door of the university building of our Faculty of Sciences. It is therefore necessary to provide the public with the scientific alternative, being the scientific method and critical reasoning, at that very same young age.

The growing revival of creationism

For some time, scientists have been blind to the very efficient marketing techniques, lobbying strength, and remarkable communications abilities of the proclaimers of 'Intelligent Design' and Islamic creationism (*cfr.* 'Atlas of Creation', YAHYA 2006; self-claimed 'scientific' yet not scientifically based). While these ideologically guided convictions are rapidly conquering the world, many scientists thought that they didn't need to counteract to this, and have not appropriately and sufficiently provided the public with the objective facts and critical evaluations supporting the theory of evolution.

In itself there is absolutely no problem with teaching faith and religion in schools – even Belgian schools are starting to lecture Islam next to Christianity and morality. But it becomes alarming when in some schools biology classes are discarded to make room in the students' schedule. In these schools, children no longer have any notion of Charles Darwin's evolution theory, and therefore are not

encouraged to question or critically reflect on ethical or ideological teachings. This emphasizes the urgency of our work: it is, more than ever, important to teach the general public the value of the scientific method and critical reasoning as a sensible and powerful tool to properly evaluate the validity or non-validity of ideologically guided preaching's. If people, after critical analysis, still choose to believe in religion, it is their full right, but religion shouldn't be forced on them. We need to provide people with the means to choose. The name 'scientist' doesn't make us one, we need to act accordingly. Even if you stop doing research, you (must) never stop being a scientist!

In conclusion

Universities and university museums not only have a duty towards a small part of the community, in carrying out research and training students, but need to focus on the entire population in order to get the critical scientific way of reasoning into society, as well as improving transparency of the academic environment towards the laymen.

Scientists need to recognize public hunger for answers and thus need to focus not only on their research and contacts within the scientific community, but also on the education of the community at large.

Herein lays a great responsibility of university museums and collections, not only to teach and inform the general public, but even more to draw the scientists' attention towards this community: we need to reach out and reach in.

UMAC does not only stand for *University Museums and Collections*, but also for *University Museums and Communities*; or ideally: *UMACC, University Museums and Critical Communities*.

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Contact

Drs Dominick Verschelde
Curator/Conservator
Ghent University, Zoology Museum
Address: K. L. Ledeganckstraat 35, 9000 Gent, Belgium
E-mail: [Dominick.verschelde\(at\)ugent.be](mailto:Dominick.verschelde(at)ugent.be)
www.zoologymuseum.ugent.be