Science inquiry at natural history dioramas?
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Introduction
Natural history dioramas typically combine preserved organisms and painted or modelled landscapes. They were historically designed to evoke feelings and to promote an ethic for the preservation of species and their habitats. These settings have a tremendous educational potential. Our particular interest is in dioramas not only the story they tell but the story and inquiry they can stimulate.

Worldwide science education curricula advocate science inquiry - an approach to learning that involves a process of exploring the natural world, that leads to asking questions and making discoveries in the search for new understandings. It involves careful observations, hypothesizing, interpreting and theorizing.

Scientific method: observation => question hypothesis with reasons inquiry question and predictions experiments or further observations analysis, interpretation and conclusions report/presentation

Goal of our research
=> develop inquiry-based activities and inquiry units at natural history dioramas to encourage the learners to consider important science issues that are meaningful to them and about which they are willing to tussle to find the answer.

Theoretical background
Dioramas as learning settings
- out of school learning: informal education
- high intrinsic value; emotional response
- depiction of reality
- respond to the highly variable scientific knowledge of the visitor
- use of the exhibit is apparent; accessible for direct interpretation
- focus on observation rather than physical manipulation of objects
- invite questions


Our research questions
- What do learners looking at natural history dioramas notice and discuss?
- How can they be encouraged to take more than a quick look but to observe carefully, create a hypothesis including possible explanations, ask inquiry questions and search for answers?

Hypotheses
1) Dioramas are learning environments that foster inquiry:
- scenes close to the personal experiences of the visitor or exotic and unfamiliar => stimulate the visitor's questions and conclusions
- sensual, authentic and aesthetic experiences => lead to a long and involved interaction between visitor and exhibit
- authenticity / authentic object => visitor respond with great interest
   (Semper 1990)
2) Science inquiry can be initiated at dioramas for a wide range of learners by asking questions at different levels.
3) Focused questions encourage to observe carefully and to distinguish actual observations from ideas and speculations.

Methods
We use observational research (participant observation) to assess learner's behaviour and conversations and to find out how well they are able to carry out investigative processes at dioramas. Additionally, structured interviews will be conducted to assess the level of students' thinking and reasoning and their ideas of the presented science issues.