

# What works in planetary science outreach and what doesn't: an attempt to create a functional framing

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## Abstract

A thorough synthesis of experience from several decades (including 14 years on a full-time basis) of writing in the media and lecturing about the exploration of the Solar System and search for planets of other stars for the general public in Slovakia and in the Czech Republic is presented.

The emphasis is given on detailed evaluation of specific feedbacks from readership and audience of various backgrounds and age groups communicated to the author. A list of 10 + 1 main pro arguments is compiled, consisting of reasonings (in addition to scientific or general knowledge/cultural value) like embodiment of our exploratory spirit, colonization, "emergency backup" world or worlds for mankind, comparative planetology as a tool for the explanation and full understanding of Earth's properties, transfer of environmentally unfriendly but irreplaceable (in mid term, at least) technologies to lifeless environments of other planetary bodies, etc.

Similarly, a list of 5 main con arguments (like it is wasting of money badly needed to solve a number of urgent social problems, or it is in conflict with valued traditional beliefs) related to planetary exploration or manned and robotic space exploration in general is compiled. A short review of best practices how to counter them is presented alongside.

It is demonstrated that one can construct a coherent, balanced framing of planetary science. It assertively supports the relevant efforts in both the general public and special groups involved (for example, entrepreneurs, politicians, members of the media, various activists) while treats the differing opinions and worldviews of critics with respect they deserve.

The open conflict, if only in discussion, does not represent any way out. It is counterproductive in both the short-term and the long-term context. In fact,

even sharply dissenting opinions often contain some points which can be used, with the help of empathy, psychology and – to be candid – a little, still tolerable dose of "demagogic", to build a base of common interest. As a principle, the goal is that the other sides in the discussion do not feel they are forced by aggressive or reckless opponents to abandon their views, just to think them over again, now taking into account pro-planetary science arguments they fully neglected or underestimated before.

Almost as a rule, the proper detailed analysis of counter-arguments in relation to their position within the value system of critics and "doubters" helps to improve one's own starting points and both strategy and tactics of objectively relevant presentation.

Taken as a whole, the planetary science outreach framing along these lines was already adopted by several scientists and/or science mediators. Including classics as the late Carl Sagan. It has weak points, too, of course, but as long as one keeps in mind the need to fulfil basic scientific rigour, it is valid and useful.