LUND UNIVERSITY

Planetary Protection, commercial space flight and the value of extraterrestrial life

Persson, Erik

2017

Link to publication

Citation for published version (APA):
Persson, E. (2017). Planetary Protection, commercial space flight and the value of extraterrestrial life.

Total number of authors:
1

Creative Commons License:
Unspecified

General rights
Unless other specific re-use rights are stated the following general rights apply:
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.
• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
• You may not further distribute the material or use it for any profit-making activity or commercial gain
• You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: https://creativecommons.org/licenses/

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

LUND UNIVERSITY

PO Box 117
221 00 Lund
+46 46-222 00 00

Download date: 12. Oct. 2024

Briefing paper:

Planetary Protection, commercial space flight and the value of extraterrestrial life

Erik Persson
The Center of Theological Inquiry
erik.persson@fil.lu.se

Why should we spend resources on planetary protection, and how much resources should we spend on it?

These questions are not in a strict sense scientific questions, but value questions. That is, they are axiological questions.

They are, however, central to all decisions regarding planetary protection and need to be considered thoroughly, carefully and transparently.

The answers to these questions also need to be thoroughly motivated in a way that makes sense also to the world outside of astrobiology. This is important because

a. questions of extraterrestrial life are important to all people on Earth, and
b. the relations between the scientific community and the general public, political decision makers, funders and commercial space initiatives depend on how we handle them.

MSL spacecraft in JPL cleanroom
Image credit: NASA/JPL

The Official Purpose of Planetary Protection

The purpose of planetary protection as formulated by COSPAR, NASA and others, is to protect possible extraterrestrial life for as long as it takes to study it thoroughly.

The Value of Extraterrestrial Life

The formulation above tells us that no other value is recognized for extraterrestrial life than its value as a study object.

Whether this really is the only plausible value of extraterrestrial life has been questioned, however. It has also been questioned whether the value of extraterrestrial life is just a question for astrobiologists, or if the value of extraterrestrial life is in fact a question for humanity as a whole.

Commercial Space and Planetary Protection

A more pragmatic reason why it might be wise for the astrobiology community to accept other values for extraterrestrial life is the emergence of private initiatives in space, some of which aim at landing and performing operations on other worlds.

These plans could affect the need to keep extraterrestrial environments unspoiled in two ways:

I. The competitive pressure will incentivize the private enterprises to look at all possible ways of saving. The necessity of strict non-contamination rules might be questioned as a result.

II. Considering that the main aim of the private enterprises is not to do science, the need to keep possible extraterrestrial life unspoiled only because, and until, it has been thoroughly studied, might not be a strong motivational factor for them to maintain high standards of planetary protection.

Mars tourism poster. What will make private enterprises prioritise planetary protection?
Image credit: SpaceX

If the only reason for planetary protection is strictly internal to astrobiology, it will be very difficult for the scientific community to convince commercial actors of its importance. In this situation, the great interest in questions about extraterrestrial life among the general public can be a great ally in the quest to keep extraterrestrial environments unspoiled. In order to mobilise that support, however, it will be necessary for the astrobiology community to accept other values for extraterrestrial life, especially values that are more relevant to the general public.

Suggestions

1. The axiological (i.e. value) basis for planetary protection has to be widened to properly account for other values than just the value of extraterrestrial life as study objects.
2. This needs to be done before new players, and especially before commercial interests, start landing on potentially habitable worlds.
3. It also needs to be done on a high political level that can,
   (a) accommodate for a wider variety of values, and
   (b) enforce the rules in ways that cannot be done with the present system of internal guidelines.
4. It needs to be thoroughly prepared by experts in astrobiology as well as other academic disciplines including the humanities and social sciences.

Further reading

Persson, E. (2012) The Moral Status of Extraterrestrial Life *Astrobiology* 12:976-984
Persson, E. (2014) What does it take to establish that a world is uninhabited prior to exploitation? – A question of ethics as well as science *Challenges* 5:224-238