Astr 450 Assignment 3: Mars Sample Return (an exercise in constructing an argument) due Thu Feb 5, 2009

Should a soil sample from Mars, or any other planet, be brought back to Earth? Your task is to answer this question in the form of an argument, i.e., answer the question, and try to convince me that you are right. You can argue in favor of a so-called “sample return mission”, or against, or possibly some hybrid between the two.

Points will be awarded for your thought process, and for how much evidence you can squeeze in to the extremely limited space of 250 words.

In class we learned that an alien biochemistry would probably be quite different from ours, maybe so much so that it would be unrecognizable as life. On the other hand, we can make compelling arguments that carbon-water based life is common among life forms.

The International Committee Against Mars Sample Return argues heavily against a sample return (ref http://www.icamsr.org), citing the devastating effect that an alien virus would have against life on the Earth. The idea is that terran immune systems would not be attuned to an alien virus.

Both NASA and ESA are planning sample return missions to launch within a decade.

The wikipedia article “Mars sample return mission”, http://en.wikipedia.org/wiki/Mars_Sample_Return_Mission, has some basic information on the subject, as well as links to technical and science pages.

Requirements for a good assignment

• The assignment will be graded strictly, as expected for a 400-level course. The assignment is graded out of 30 points.
• Have your name, SID, and a word count at the top of the paper. Use question-and-answer format when writing your assignment, do NOT hand in a run-on paragraph (50% penalty).
• Be typed, double-spaced, of maximum length 250 words. Assignments longer than 250 words will receive zero credit.
• Reference all sources of information you use.
• Use quotations only to illustrate your point, not to make it. If you are unclear about this requirement, then speak with the instructor.
• Show completeness of information, conciseness of expression, have a logical development of ideas, and evidence of thought regarding the content.
• Be professional of presentation, e.g., no ragged ends, creases, or ink blobs on the paper.
• In all ways, the author should show pride in his/her work.