

Visions of Exploration

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The Future of Human Spaceflight Forum

MIT SPS, GW SPI, CSIS

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Challenge you with an important word:

EXPLORATION

Our whole space flight
enterprise is predicated on it.

What does it mean?

An explorer who
braved great danger
flying rockets, going
off into the unknown



Epitaph

*"Robert 'Evel' Knievel.
Explorer, Motorcyclist
and Daredevil"*



American Astronomical Society

July 11, 2005

Statement on “The Role of Science in the Vision for Space Exploration”

Bob Kirshner, President
American Astronomical Society

*“Exploration without
science is tourism.”*

“I am certainly exploring when I look out of the window and look down at the Earth and see the Himalayas go by, and I see Tierra del Fuego go by, and I see Spain, and Britain, and the United States.”



Astronaut Michael Foale
STS-45, STS-56, STS-63,
STS-84, Mir NASA-4,
STS-86, STS-103, Soyuz
TMA-3



More obvious personal exploration ...

“Exploration” really means very different things to different people! But no one thinks they don’t know what it is!

In the obscenity case of *Jacobellis v. Ohio* (1964). Justice Potter Stewart wrote in his short concurrence that "hard-core pornography is hard to define", but that ...

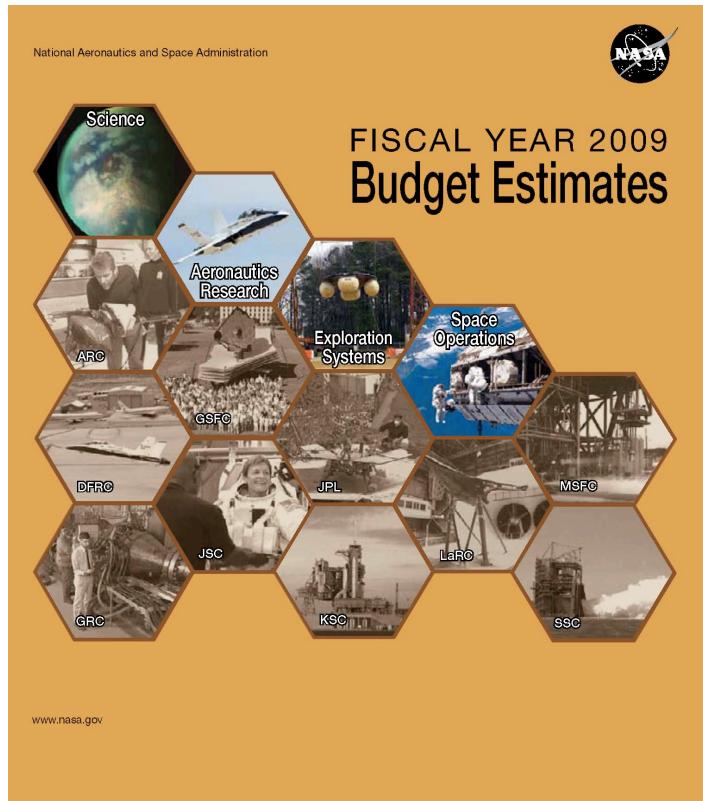


“I know it when I see it.”

Eh, it's just semantics, Dan!

But ...

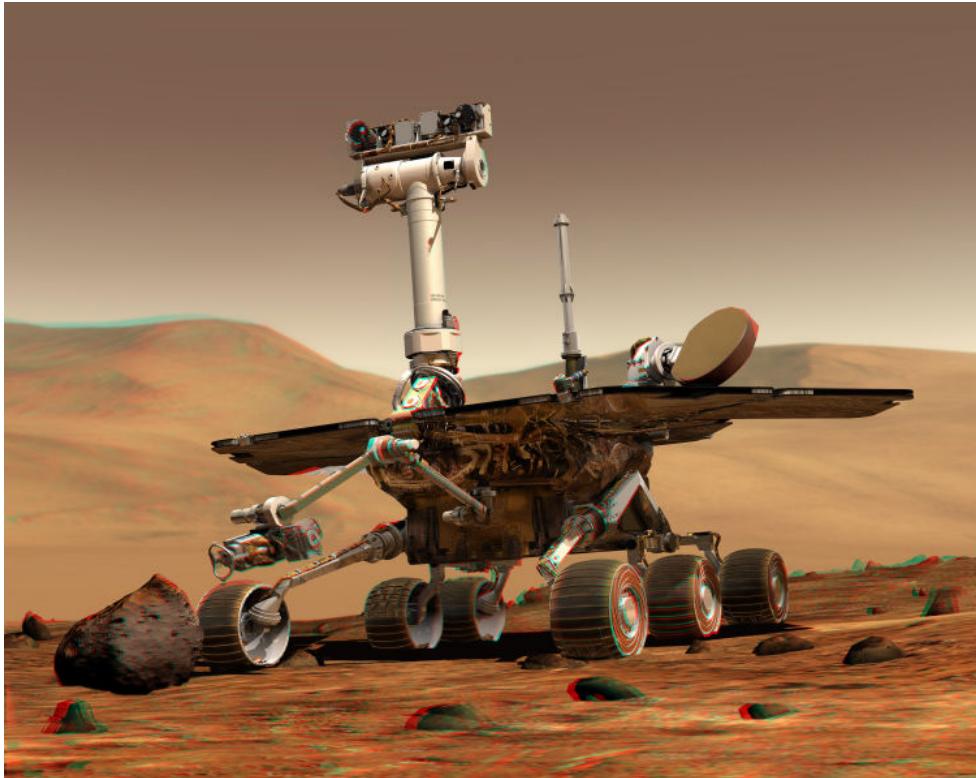
We have a Vision for it.
NASA has a Directorate for it.
They have an enterprise devoted to it.
... in fact, it's a word that is used a lot



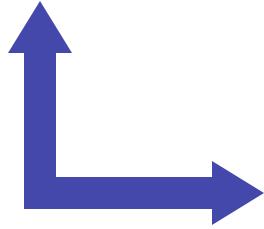
About a thousand times
in this document!



2006 NASA Strategic Plan (and a lot in this one too)



Who's the
explorer here?



Is this exploration?



Mechanical engineer



Electrical engineer



Geologist

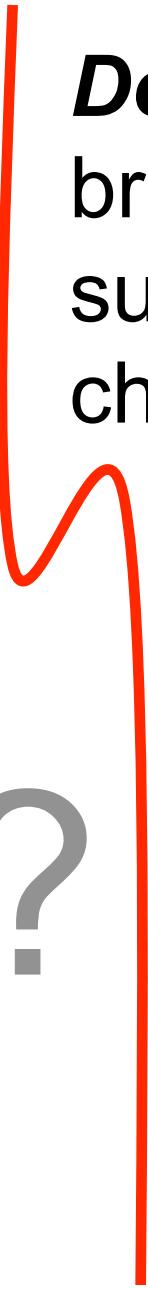


Project scientist



Rover drivers





Does “exploration” involve being first?
bravery? discovery? science? risk?
suspense? frontiers? new places? fear?
challenges? breakthroughs? searches?

“The purpose of sustained human exploration is to go to Mars and beyond.”

“Exploration is the establishment and pushing back of a frontier.”

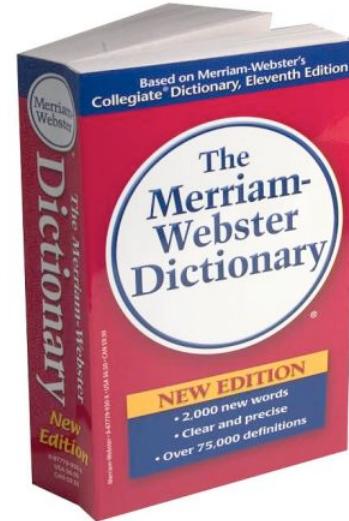
“Exploration is the expansion of human experience”

Exploration as “travel for the purpose of discovery.”

etc. etc.

Definition of “exploration” is not the issue here.

< L explōrātiōn- (s. of explōrātiō) an examination,
equiv. to explōrāt(us) searched out, examined
(ptp. of explōrāre to explore) + -iōn- -ion



We have strategic plans to do it, but don't
quite agree on what it is, or when we've
succeeded in doing it!

As a national enterprise we need some
consensus on it or at least respect for that.

Need for some national dialog
about value of “exploration”.

Words are important. Is flexibility good?

What does human spaceflight bring to it?

Historical precedents?

Is “exploration” what it used to be?

“Frontier myth” → “Exploration myth”?

I challenge you to
explain exploration to the nation.