

The Exploration of Mars



The Mars Surveyor Program
in the Golden era of
Faster,
Better,
Cheaper

History, Hopes and Hallucinations

A Tad of Context:

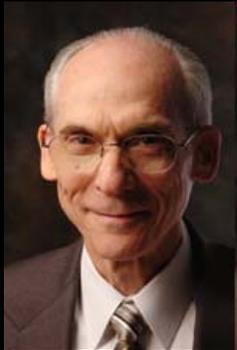


**ALH 84001
Martian Meteorite
1996
Signs of Life?**



HQ

- **Dan Goldin, NASA Administrator. 1992 - 2001**
- **No More Battlestar Galacticas: e.g. Cassini**
- **Fill the Skies with Small Satellites**
- **Faster, Better, Cheaper is the way forward**
- **Focus on Mars and life (MSP)**



JPL

- **Ed Stone, JPL Director, 1991 – 2001**
- **Minimal oversight of Mars Surveyor Program**
- **Committed to HQ to do for the budget**
- **Competing with APL**



LM

- **Noel Hinners, LM VP Flight Systems, 1994 - 2001**
- **LM had lost MESUR proposal**
- **MSP: a 5 Mission, 10 s/c opportunity**
- **Proposed aggressively; reduced costs**
- **Won (?) the competition**

MSP '98

The first duo of the MSP series

Budgeted at “Two for the Price of One”

Two major failures; MCO and MPL

Proximate causes were technical

Software and test related

Hear next talk by Jolly

Root cause was management

Two “minor” failures: DS-2s (cause unknown)

Faster and Cheaper, Clearly Not Better



MCO

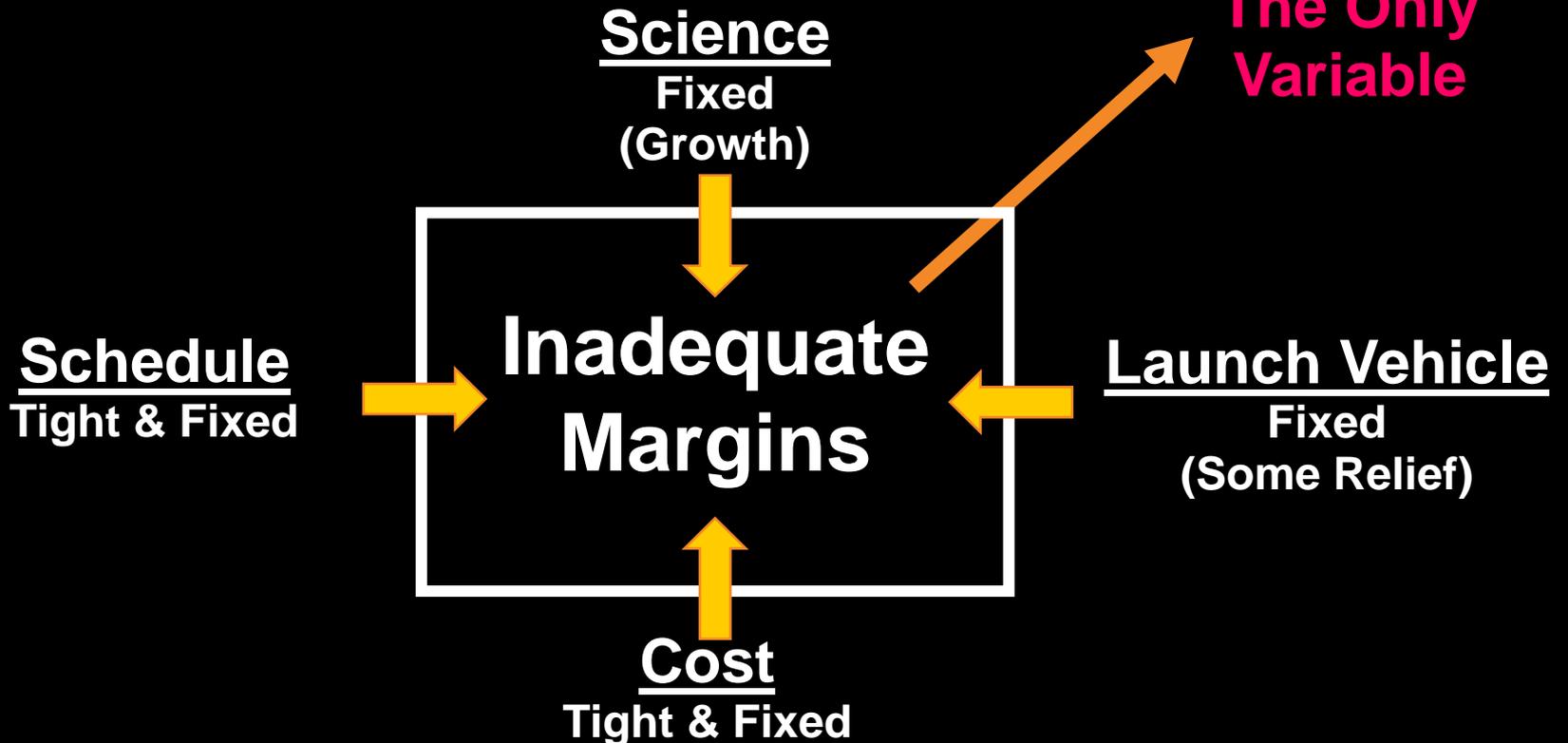


MPL



DS-2

MSP '98 Failure Review



Conclusion: A Management Failure

Lessons (Painfully) Re-Learned: Propose Reality, Don't Overly Constrain , Fly Like You Test, Test Like You Fly

Mars Odyssey 2001



When You Do It Right, ...



Phoenix 2007