

THE WIDE WORLD OUT MY WINDOW



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Soaring Hawk
Productions, Inc

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Secrets of Successful Short Spaceflight Sightseeing

To see the world from VERY high above has until recently been reserved for the gods alone



But now, no more.....

Unearthly views
are soon to
become available
(first briefly, then
higher and longer)

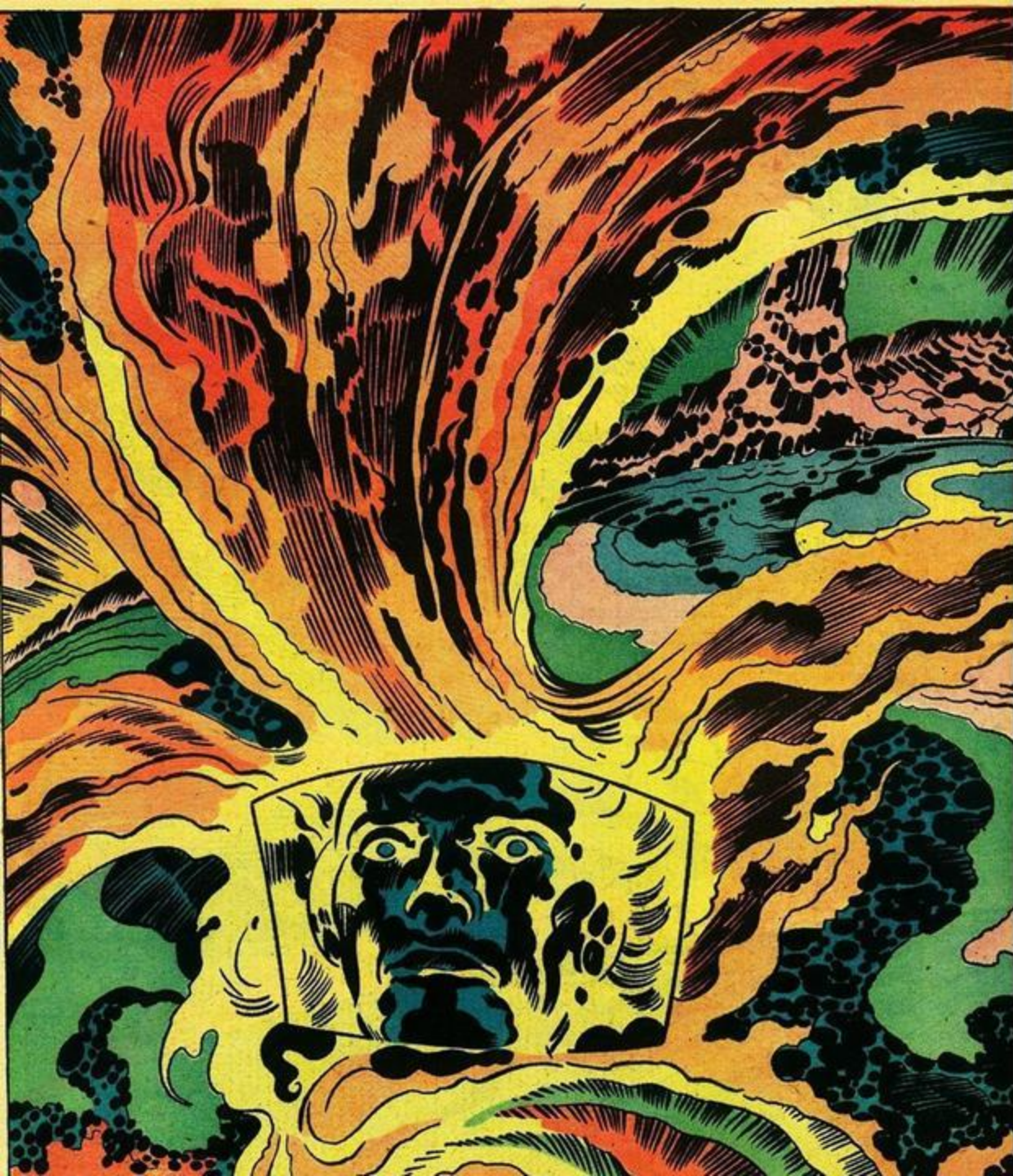


...but are our
earth-trained
eyes and earth-
evolved brains
capable of truly
SEEING them?

Some space trips are mind-blowing...



... and brain/eyeball overloading.



HOW TO PREPARE

How can we best get prepared to 'take in the sights' of space in a sharp-eyed frontier manner (below), not a psychedelic sensory overload (left)



...With proper and careful preparation,
you can use your eye-brain system to SEE

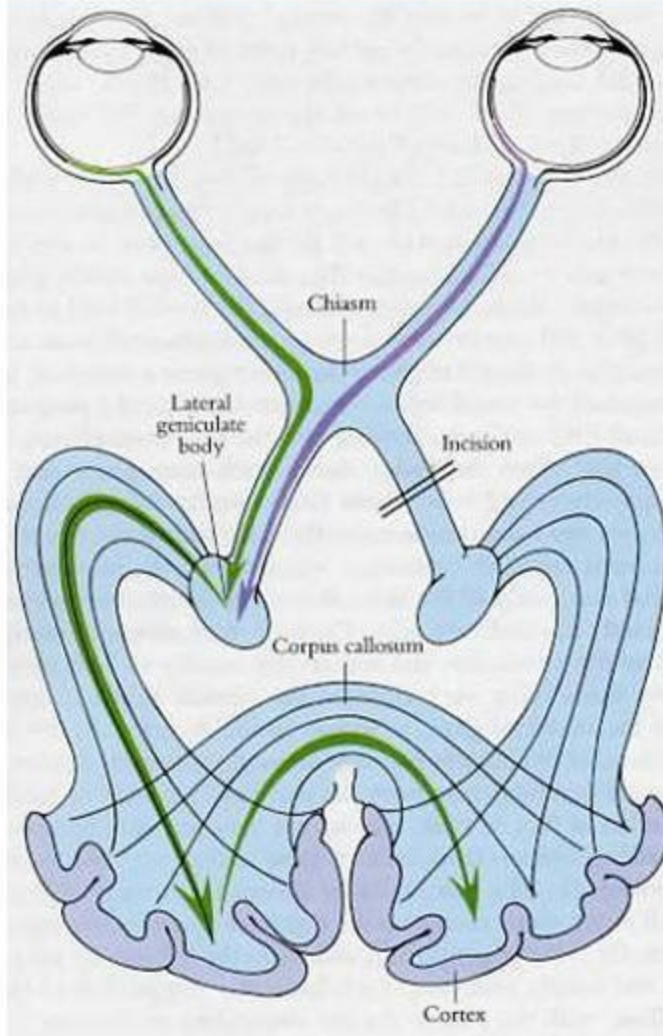
- WHAT is around you
- WHENCE came the most striking sights
- WHERE you are in the universe
- HOW you are moving through space
- WHY the light plays as it does
- WHICH features are truly unusual
- WHITHER you are headed and
- WHEN you will get there



The challenge and the solution

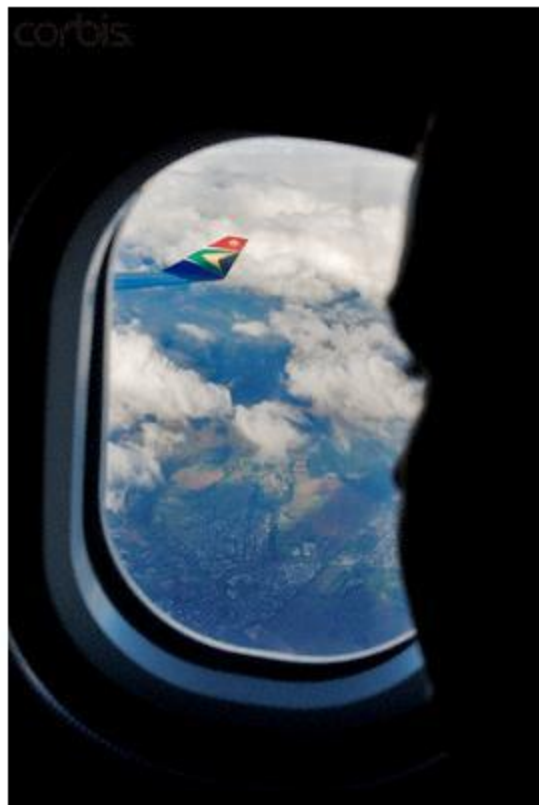
Commercial travelers will soon have the opportunity to look out a spaceship window – but what will they see? The first visual impact of Earth from space is usually a sensory overload that leaves only the impression of colors and vastness, but little else is noticeable & memorable.

HOWEVER – there are steps that a traveler can take before setting off, that can significantly enhance the quality of visual experiences during the flight.





Pilot's learn by looking



A Strategy for “Space Sight”

- Astronauts and cosmonauts reports it takes tens of hours of window gazing to REALLY perceive the features of Earth as they pass below
- This is a normal duration to train the human eye-brain connection to be able to fully perceive, recognize, and remember in this totally new visual environment.
- First impressions are overwhelming, but lack detail
- After long practice and experience, observers LEARN the new process and on later flights quickly adapt.
- Veteran space travelers realized there are techniques to train their mental perceptual process PRIOR to actual space flight, to skip the learning time on new missions
- You CAN do this at home, to fully exploit brief exposure

Just moments to take in the scene....





You can look but do you SEE?

A question of RESOLUTION



Simulated gain in detail recognition of a desert scene between 'first view' [above] and trained eye [right], not even counting ability to find, look away, & relocate specific small targets of interest.



Cosmonaut Vladimir Lyakhov (Salyut-6 space station, 1979)

I should point out that there has to be a period of adaptation, before you can start making serious visual observations of one phenomenon or another, because when you first find yourself' in orbit, **your eyes are simply not yet accustomed and you are not psychologically ready to perceive what you see.** This period, for me, lasted something like one month.

We were astonished to discover that during a flight, it's as if a cosmonaut learns how to see all over again. At first the finest nuances of color elude you, but gradually you feel that your vision is sharpening and your eyes are becoming better, and all of a sudden the planet spreads itself before you with all its unique beauty.



Bill Pogue (Skylab) on eyeball sensitivity

Photographs from Skylab (1973-4), while stunning to ground personnel, were disappointing to the astronauts who took them:

“The reaction of all crewmen was the same,” Pogue recalled. “The pictures looked ‘washed out’ and did not record feature details of texture and hue that were so clearly evident to the unaided eye. In some cases, items that were clearly visible to the eye didn’t even show up in the picture, although proper exposure parameters were used.”

LESSON: The eye-brain sensor is superior to ANY mechanical system

Astronaut Joe Allen

When you look out, you see things in three dimensions. You would think that from orbit the globe would look rather flat, as though you were in a high-flying airplane. But, in fact, that is not the case. You see a third dimension very clearly. You can see the mountains coming up from the surface of the Earth. You can see the clouds well above the surface of the Earth. You can see the shadow of the clouds on the Earth. That shadow, that relief of clouds and mountains and Earth below is very striking, and gives you a sharp feeling of three dimensions. That third dimension is really an overwhelming aspect of the view...

FURTHERMORE – from suborbital altitudes this third dimension will be even more striking due to parallax





Paul Scully-Power

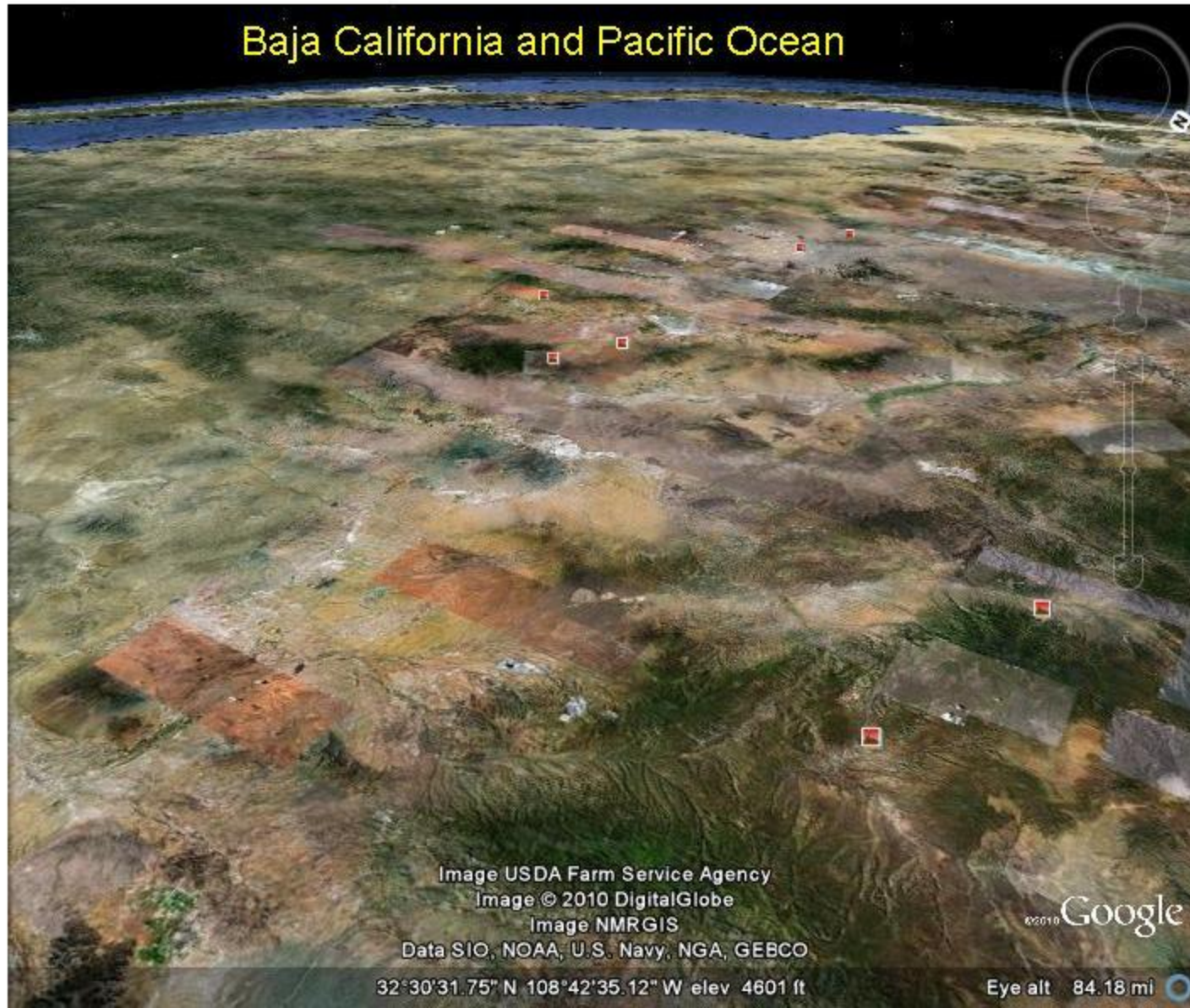
Shuttle passenger Paul Scully-Power, a trained oceanographer, was sent into orbit explicitly to SEE what his eye/brain system could perceive. He now believes a vision learning curve can be traveled on Earth as easily, if not more easily, than in orbit. He spent years poring over space photographs of Earth's surface, and when he went into orbit himself in 1984 he reported seeing sharply and clearly -- as sharply as the Soviets or the Skylab astronauts ever described their seeing -- **from the very first day.**

Preflight familiarization

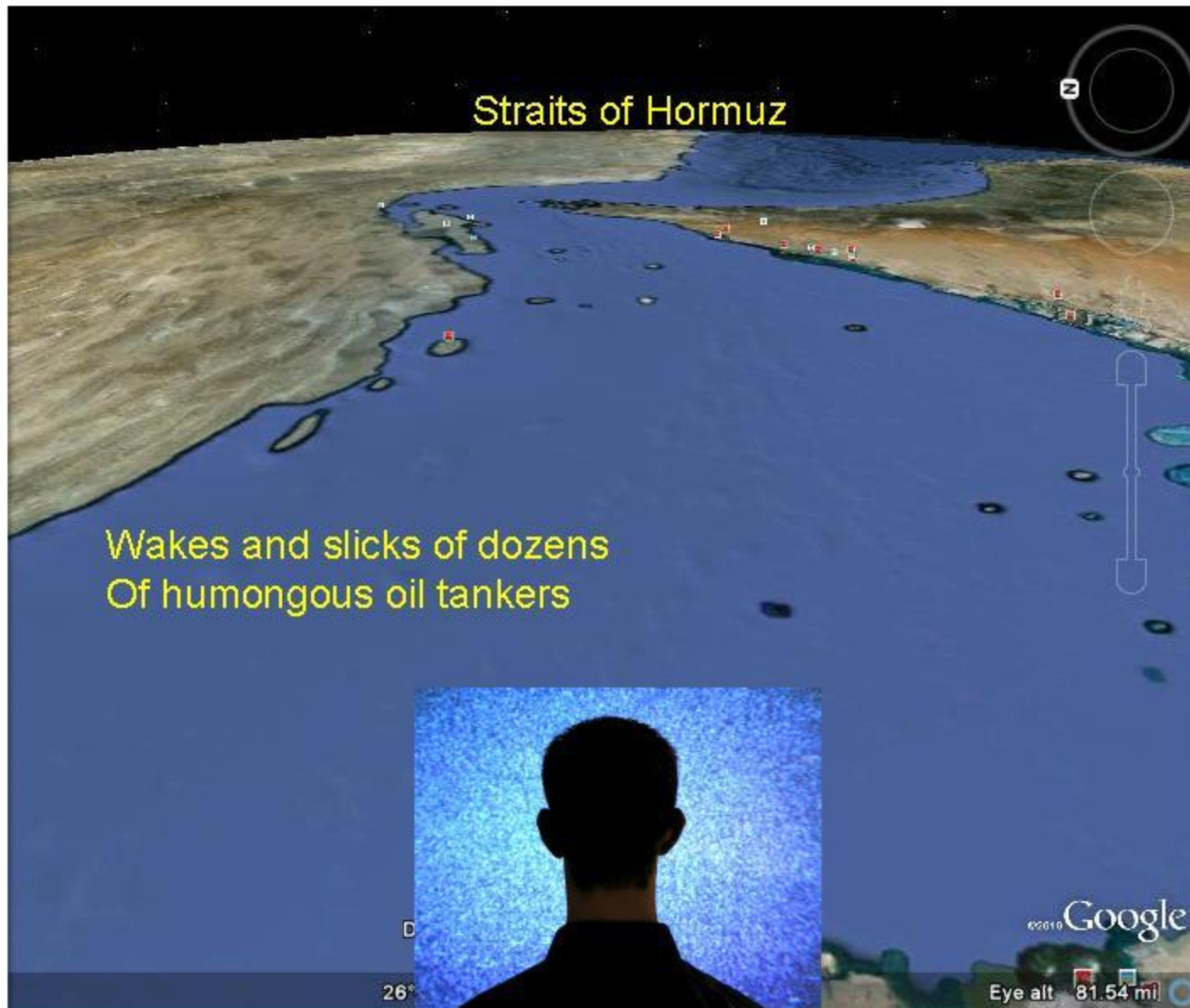
1. Get the lay of the land and practice orientation
2. Increase detail perception and eye-tracking skills
3. Repeat, repeat, repeat until it's instinctive, not conscious



Space sight over Mojave, California



Space sight over Bahrein





Immerse yourself in such scenes, view them at different angles and angular rates, pick out landmarks (start large, then go for smaller and smaller ones), look, look again, **TRAIN** your **BRAIN**, train some more... and be prepared to more fully perceive.



Then go and look, and SEE

**Skylab view of
northeastern
Mexico and the
Rio Grande
Valley of Texas**