

Have We Been Visited?

# Bracewell Probes

Unmanned

Orbit around another star

Wait for civilization to appear

Establish contact

Radio results to Earth

## Is there a Bracewell Probe in Solar System?

Long-delayed echoes(1- 30 sec)

Duncan Lunan 1973

→Epsilon Boötes (Binary star)

→Contact attempted

now discounted

If use Daedalus technology (fusion)

$R_M = 150$  (need to decelerate)

## Visits in the Past?

- In historical times?
- Erich von Daniken is most famous promoter
  - Pyramids, precision stone work
  - Drawings on Nazca plain
  - Easter island statues
  - Note western bias
    - No need for aliens to help with Stonehenge

## Ongoing visits?

- Flying saucers (after WWII)
- Neutral term: Unidentified Flying Objects (UFOS)
- Evidence is primarily anecdotal

# Reliability

e.g. Night advertising aircraft

< 10% correctly described these

⇒ Unreliable witnesses      ⇒ some ordinary  
objects will fall into UFO category

## Statistics of UFO cases

90% of UFOs eventually identified (IFO)

No difference between UFOs and IFOs  
in time of day, duration, age or gender of  
witness, occupation, or UFO interest

Both UFO and IFO incidents involve people  
who, on average, are much more interested  
in UFOs.

# Statistics of UFO belief

“UFOs are extraterrestrial visitors”

40 - 50% of people nationally

Previous 309L classes_____	Yes (before class)	Yes (after class)
UFOs exist?	68% (61%)	40 - 50%
If Yes, controlled by E.T.?	76% (52%)	45 - 55%

This class

Expect this class to attract more believers, BUT

Austin also seems more credulous

Student polls 1983, 1995

~ 80% Believe in UFOs

Education: High School or Less	Doctorate or Working on it
62%	88%

50% believe Government covers up UFO evidence

## What we Believe

	1983	1995
1. ETs are friendly	84%	53%

	1995	
2. ETs are friendly	males	females
	47%	58%

### 3. By ethnicity

	Asian-Am	African-Am	Hispanic	White
Believe in UFOs	35%	61%	77%	81%



# Attitudes of Scientific Community

Generally much more skeptical

Repeated studies found no evidence of alien connection

2 studies suggested UFOs worthy of further research

1. Allen Hynek

→ Categories

2. Stanford Panel 1997

Peter Sturrock, von Eshleman, Thomas Holzer

“Deserves Scientific Study” but no evidence of

“involvement of an extraterrestrial intelligence”

# Categories of UFOs

## 1. Nocturnal lights

Clear weather, usually 8-11 PM

## 2. Daylight Disks

Usually disks, some cigar shaped

## 3. Radar-visuals

Detected by radar as well

## 4. Close encounters

First Kind - UFO seen closer than 500 feet

Second Kind - Physical effects - burnt vegetation, electrical problems

Third Kind - Observation or encounter with Aliens

A. Hynek

# Detection of Alien Spacecraft

Matter-antimatter annihilation  $\rightarrow$   $\gamma$ -rays

We have  $\gamma$ -ray detectors on satellites

1. Military - to watch for nuclear tests  
reported  $\gamma$ -ray bursts from space



2. NASA satellite: Gamma-ray observatory (GRO) was in orbit  
from 1991 to 2000

could detect annihilation  $0.02 \frac{\text{grams}}{\text{sec}} \frac{\text{R}}{1\text{AU}}$  <sup>2</sup>

$\Rightarrow$  No spacecraft decelerating within 1 AU with mass  
of ship exceeding 90 grams since 1991.

Assumes electron-positron annihilation for specific numbers

# Case Study: The Roswell Incident

- 1947 Rancher finds strange debris  
Rumors of “flying saucer”  
Attributed to weather balloon
- 1978 Marcel (Intelligence officer at AFB in 1947)  
Talks to Inquirer → big UFO interest  
Claims of Exotic Matter (originally  
balsa wood, tin foil, rubber, tape, paper)  
Claims (& movies) of Alien Autopsy  
Claims of a Government cover-up

# Case Study: The Roswell Incident

~ 1994 -1995      Congressional inquiry      → GAO



USAF finally tells the story

## Project Mogul

High altitude balloons to “listen” for nuclear bomb  
detonations      (it did detect 1st Soviet bomb - 1949)

But winds → pushed balloons out of range →  
discontinued in 1950

One tracked to near where debris found - then contact lost

Photos of debris match description of Mogul balloons

Secrecy → Conspiracy theories

# UFO Pictures...









Photo by M. Dunham



















WEEKLY WORLD

# NEWS

August 11, 1992

85¢/95¢ CANADA

**Space visitor tells Democrats  
how to rebuild U.S. economy!**



# ALIEN BACKS CLINTON!



**'I'm happy he  
saw through  
Bush and  
Ross Perot'**

— GOV. BILL CLINTON



**KILLER PLANT EATS FARMER AND 2 COWS!**

**WEEKLY WORLD**

**55¢**

**NEWS**

February 9, 1968

30587

VOL. 9, Issue 18

**FREEWAY MIRACLE**

**Boy tumbles across 3-lane highway & comes up smiling!**



**Ultrasound confirms the incredible!**

**A SPACE ALIEN  
MADE ME PREGNANT**

**Tests show healthy fetus has 2 hearts — and gills like a fish!**



WEEKLY WORLD

**NEWS**

40c

U.S.M.  
C \$ .38

TV star Robert Conrad  
helps rescue two women  
from savage attacker



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December 16, 1960

20587

VOL. 2, Issue 19

**Experts reveal after four-year study...**

# UFOs ARE PILOTED BY ANGELS FROM GOD

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Fall from bed bumps  
dying boy back to life

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