

In the Beginning

The Gauntlet is Thrown Down - Introduction

Breaking Down the Equation

$$\underline{N} = \underline{R}_* \cdot \underline{f}_p \cdot \underline{n}_e \cdot \underline{f}_l \cdot \underline{f}_i \cdot \underline{f}_c \cdot \underline{L}$$

Summary of Criticisms

Conclusion

Hand Outs

Master Script

How does the Drake Equation show that there is life on other planets in our Galaxy, or does it?

$$N = R_* f_p n_e f_l f_i f_c L$$

N = the **Number** of civilizations in our galaxy with which radio-communication might be possible

R_* = the average **Rate of star** formation in our galaxy

f_p = the **fraction** of those stars that have **planets**

n_e = the average **number** of planets that can potentially support life per star that has planets (subscript e for **ecoshell or earthlike**)

f_l = the **fraction** of planets that could support **life** that actually develop life at some point

f_i = the **fraction** of planets with life that actually go on to develop **intelligent** life (in the form of civilizations)

f_c = the **fraction** of **civilizations** that develop a technology that releases detectable signs of their existence into space

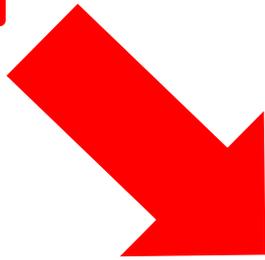
L = the **Length of time** for which such civilizations release detectable signals into space

The Drake Equation

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$



$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$



N is the number of detectable civilizations in our galaxy by a radio signal.



Introduction

Radio astronomer Frank Drake became the first person to start a systematic search for intelligent signals from the cosmos.



Using the 25 meter dish of the National Radio Astronomy Observatory in Green Bank, West Virginia.

Drake hosted a "search for extraterrestrial intelligence" (SETI) meeting on detecting their radio signals.

SETI

THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE

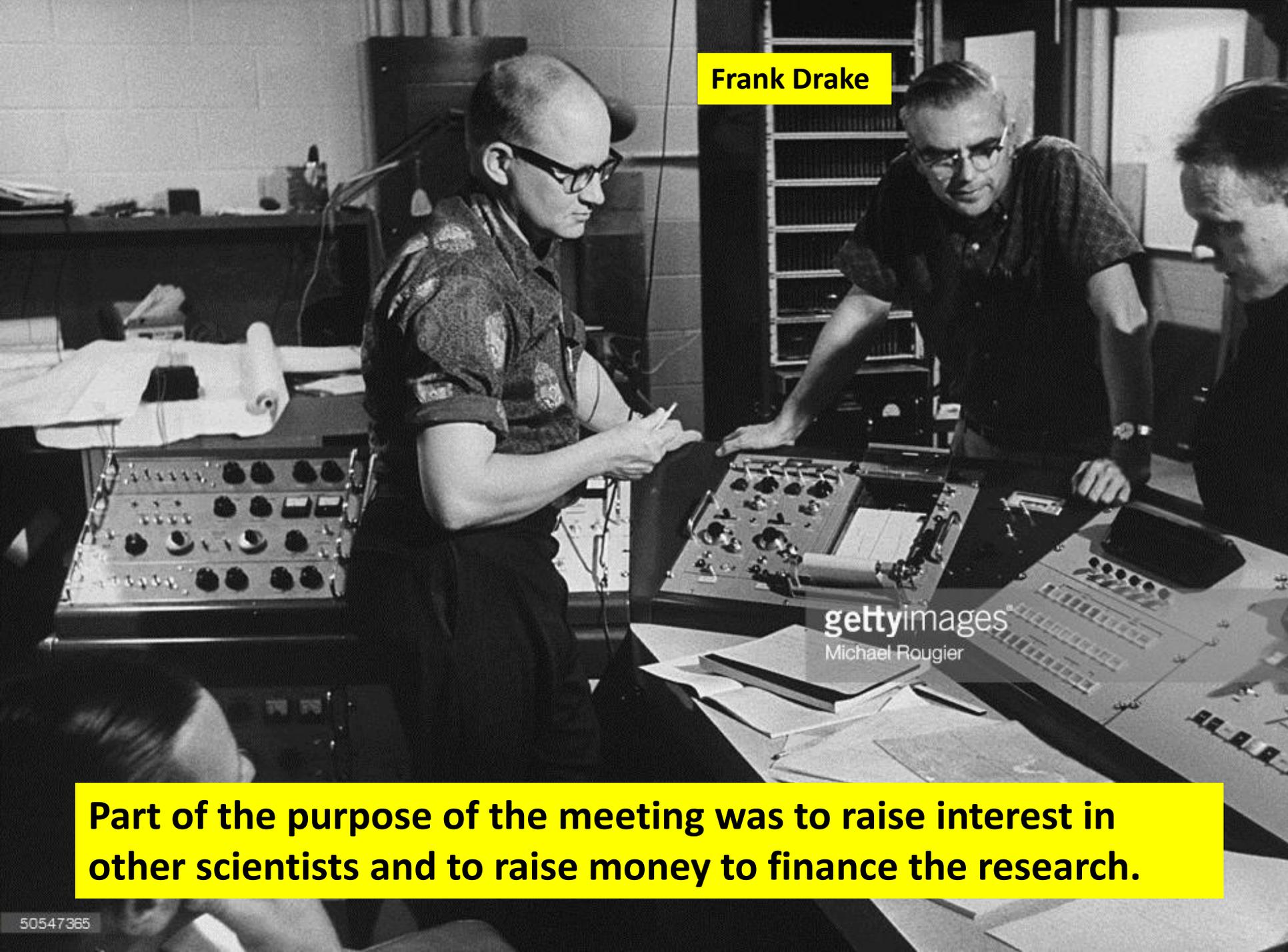
ARE WE ALONE IN THE UNIVERSE?

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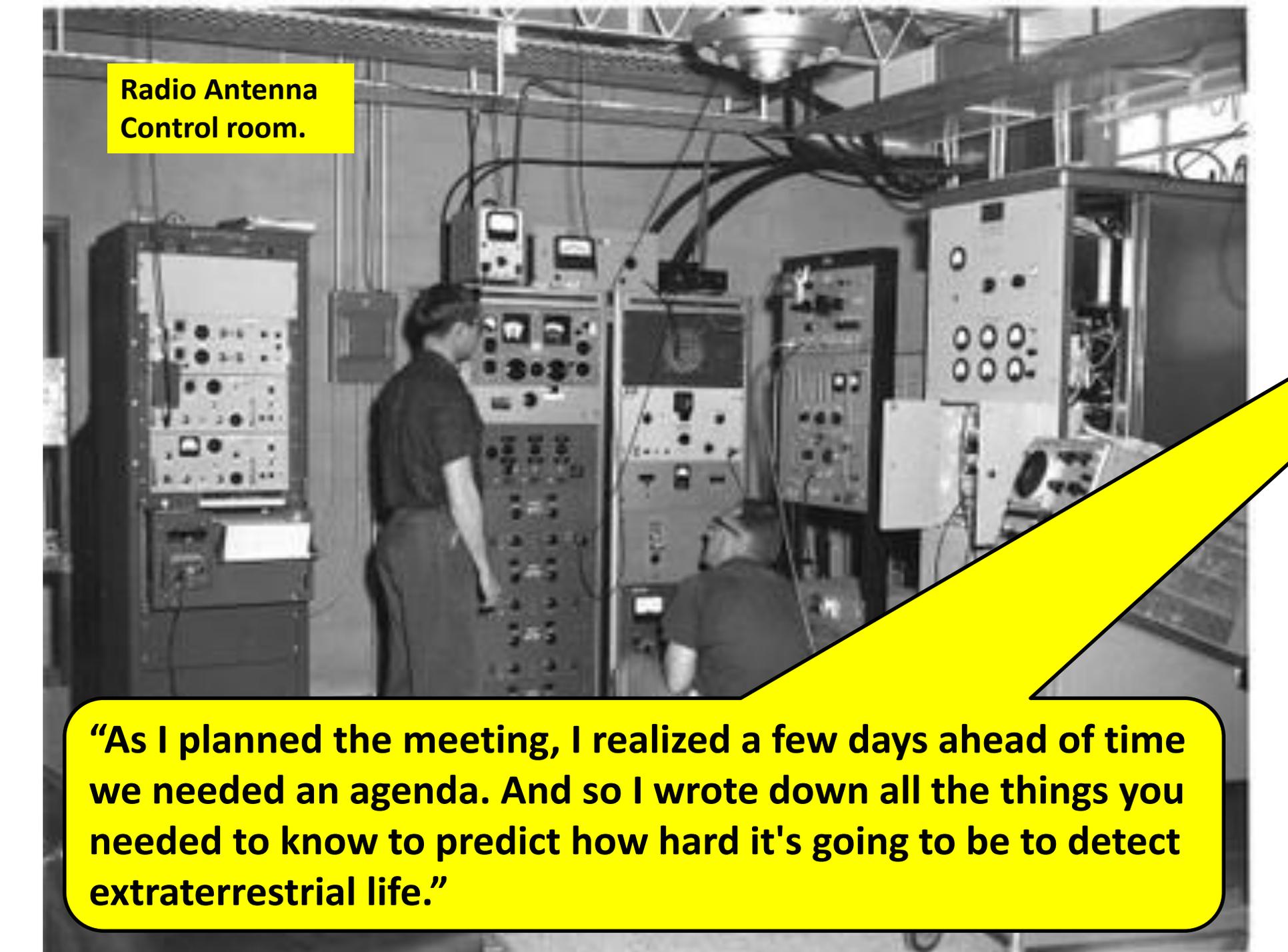
The meeting was held at the Green Bank facility in 1961.



Frank Drake

gettyimages
Michael Rougier

Part of the purpose of the meeting was to raise interest in other scientists and to raise money to finance the research.



**Radio Antenna
Control room.**

“As I planned the meeting, I realized a few days ahead of time we needed an agenda. And so I wrote down all the things you needed to know to predict how hard it's going to be to detect extraterrestrial life.”



Radio Antenna
Control room.

“And looking at them it became pretty evident that if you multiplied all these together, you got a number, N , which is the number of detectable civilizations in our galaxy. This was aimed at the radio [signal] search, and not to search for primordial or primitive life forms.” —Frank Drake.

1961

Figures Drake used that year.

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

50,000	=	10	.5	2	1	.5	1	10,000
Civilizations could exist in our Galaxy		per year	Assume planets around a star	Earth Mars have life	Assume "always" appears	Assume life becomes intelligent	Civ. that can send message	years to grow & send
				Fudged Mars				

Original estimates [\[edit\]](#)

There is considerable disagreement on the values of these parameters, but the 'educated guesses' used by Drake and his colleagues in 1961 were:^{[20][21]}

- $R^* = 1/\text{year}$ (1 star formed per year, on the average over the life of the galaxy; this was regarded as conservative)
- $f_p = 0.2-0.5$ (one fifth to one half of all stars formed will have planets)
- $n_e = 1-5$ (stars with planets will have between 1 and 5 planets capable of developing life)
- $f_l = 1$ (100% of these planets will develop life)
- $f_i = 1$ (100% of which will develop intelligent life)
- $f_c = 0.1-0.2$ (10-20% of which will be able to communicate)
- $L = 1000-100,000,000$ years (which will last somewhere between 1000 and 100,000,000 years)

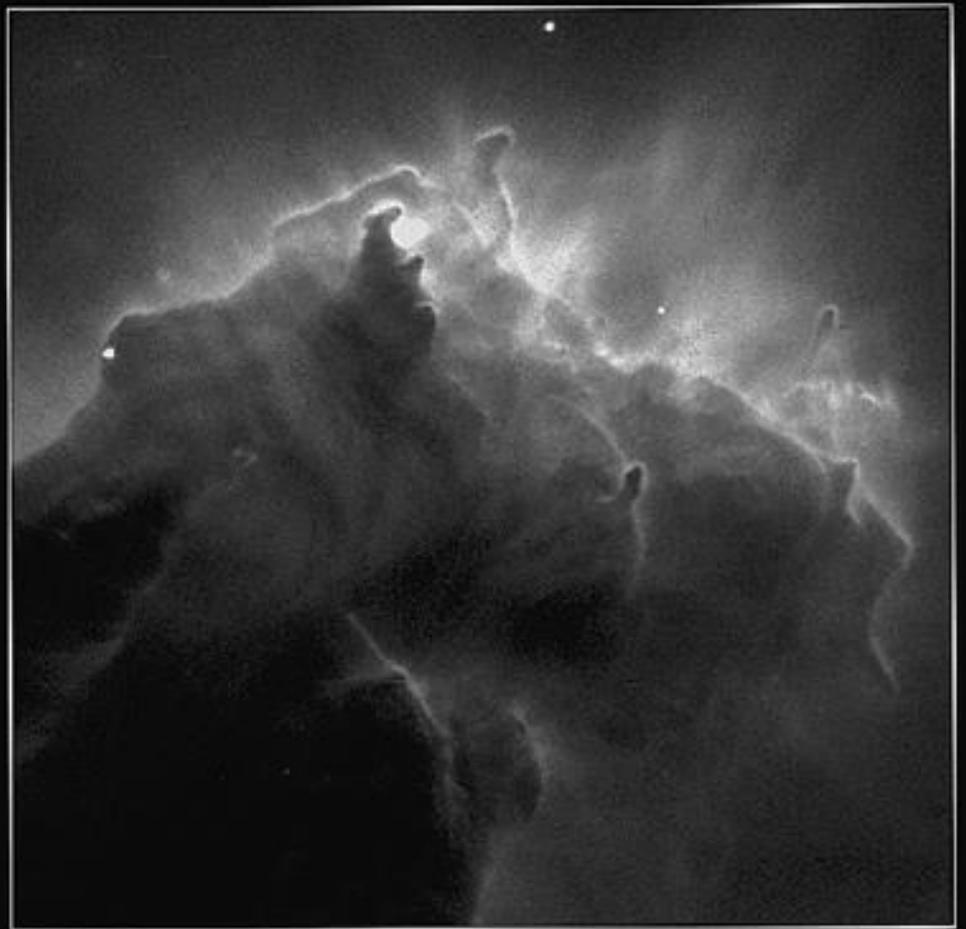
Inserting the above minimum numbers into the equation gives a minimum N of 20. Inserting the maximum numbers gives a maximum of 50,000,000. Drake states that given the uncertainties, the original meeting concluded that $N \approx L$, and there were probably between 1000 and 100,000,000 civilizations in the [Milky Way](#) galaxy.

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

Rate of star formation



This section discusses criticism of the Drake equation. For lack of space, I have shown most of the negative data. For the whole debate see this site: http://en.wikipedia.org/wiki/Drake_equation

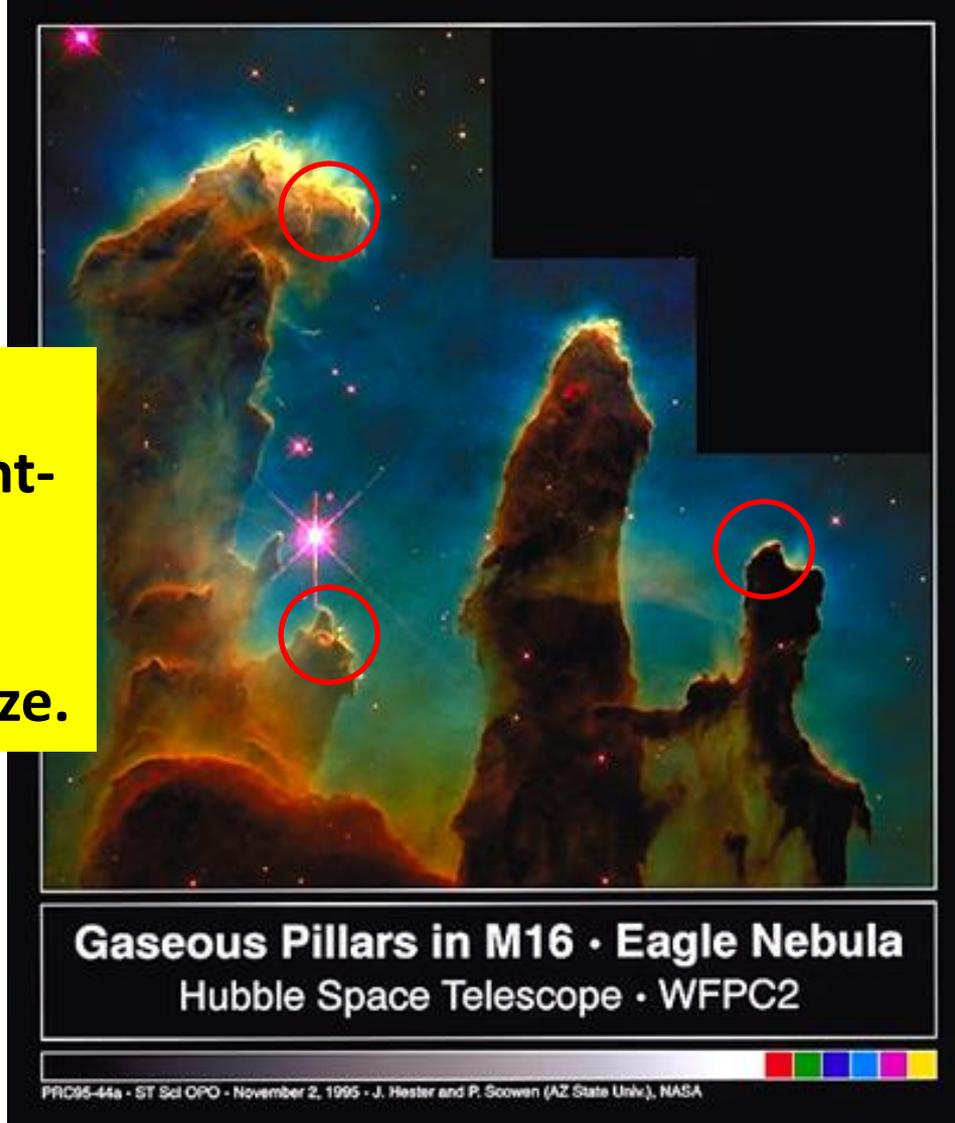


Evaporating Globules • M16
Hubble Space Telescope • WFPC2

PRC95-44c • ST ScI OPO • November 2, 1995 • J. Hester and P. Scovren (AZ State Univ.), NASA

R_* - The average rate of star formation in our galaxy.

This region is about 7000 light-years from earth 70 by 55 light years in size.



In 1995, A dramatic picture from the Hubble Space Telescope of the Eagle Nebula showed Evaporating Gas Globules... (EGGs) where it was claimed stars were forming...

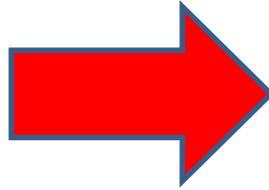
1000s of Stars

Astrophysicist Jeff Hester had estimated (1995) that hundreds to thousands of stars... were currently forming in the 73 EGGs found in the nebula.

11 Stars

The more data we get the less likely star formation is happening at all.

In 2002 with better data from Hubble, this has now been reduced to 11 EGGs that may be making stars... This is based on a theory of star formation that can only be proven or falsified in seven million years, the time it takes for a star to allegedly form...



This law says that all molecular systems and constructs proceed from an organized complex state... to one of a disorganized simple state... The measurement of this process is called entropy increase.

**The theory fails to take into account
The Second law of Thermodynamic...**



$$F_g = \frac{3GM^2}{r}$$

$$F_p = (3nRT)$$

r

g = gravitational constant

M = mass of gas cloud.

r = radius of cloud.

R = gas constant.

T = temperature of cloud.

N = number of moles in cloud

Jean's Length...



Sir James Jeans (1877-1946)

Sir James Jean in the early 1900s, Developed a formula that when applied to Nebulas, it would “prove” that they would form stars or planets when they collapsed.



He claimed collapse occurs and forms a star when the internal gas pressure is not strong enough to prevent gravitational collapse of the region filled with matter.



The problem: Jean could never find a Nebula small enough to test the theory. All were too big and expanding because of Boyal's Law... (See next slides)



Astronomy
Lesson 9-10

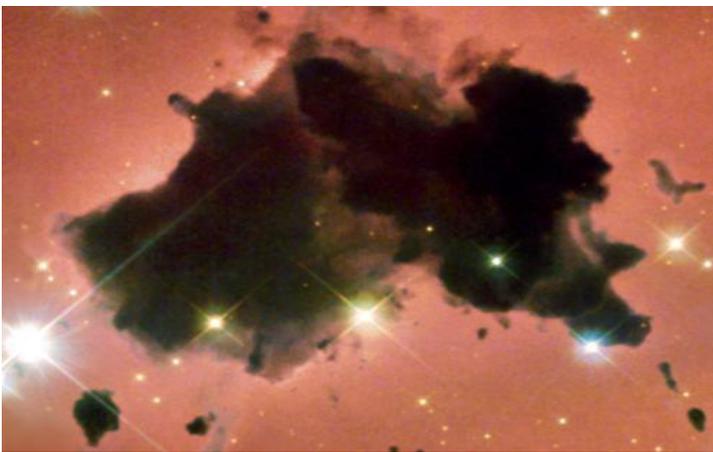
DUST

Laboratory Explanation



**Yea! Who said
you could break
my law?**

**Stop the presses!!
What about Boyle's Law??????**



$$pV = k$$

p = Pressure

V = Volume

k = Gas at a fixed temperature



This is Newton's Law of Gravity applied to Gases (Candle smoke example)...

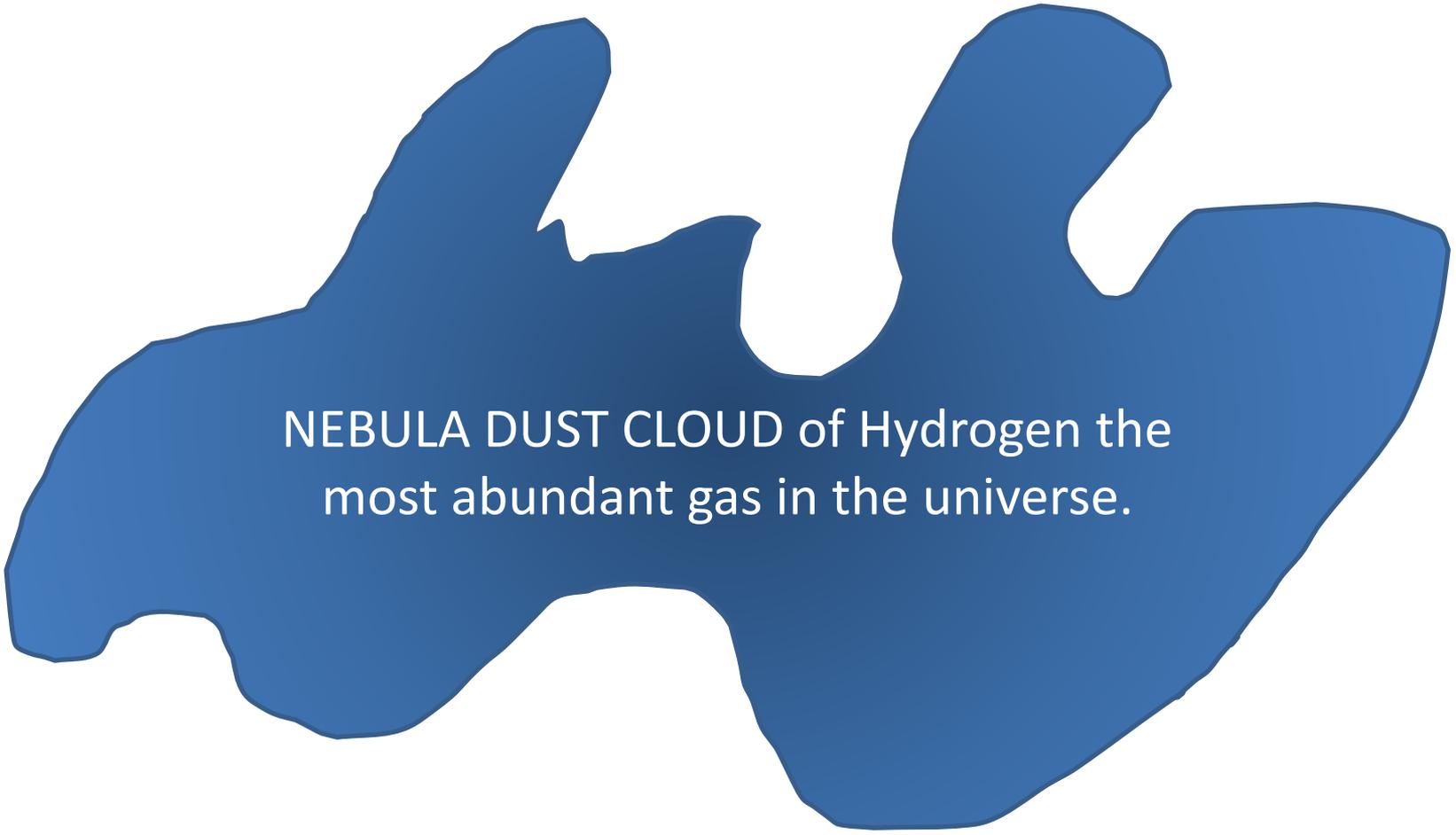
The theory fails to take into account Boyle's Law of Gases...

**Rats! I can't
attract anything.**



**The outward gas expansion... is greater
than the gravitational attraction...**

Boyle's Law of Gases



NEBULA DUST CLOUD of Hydrogen the
most abundant gas in the universe.

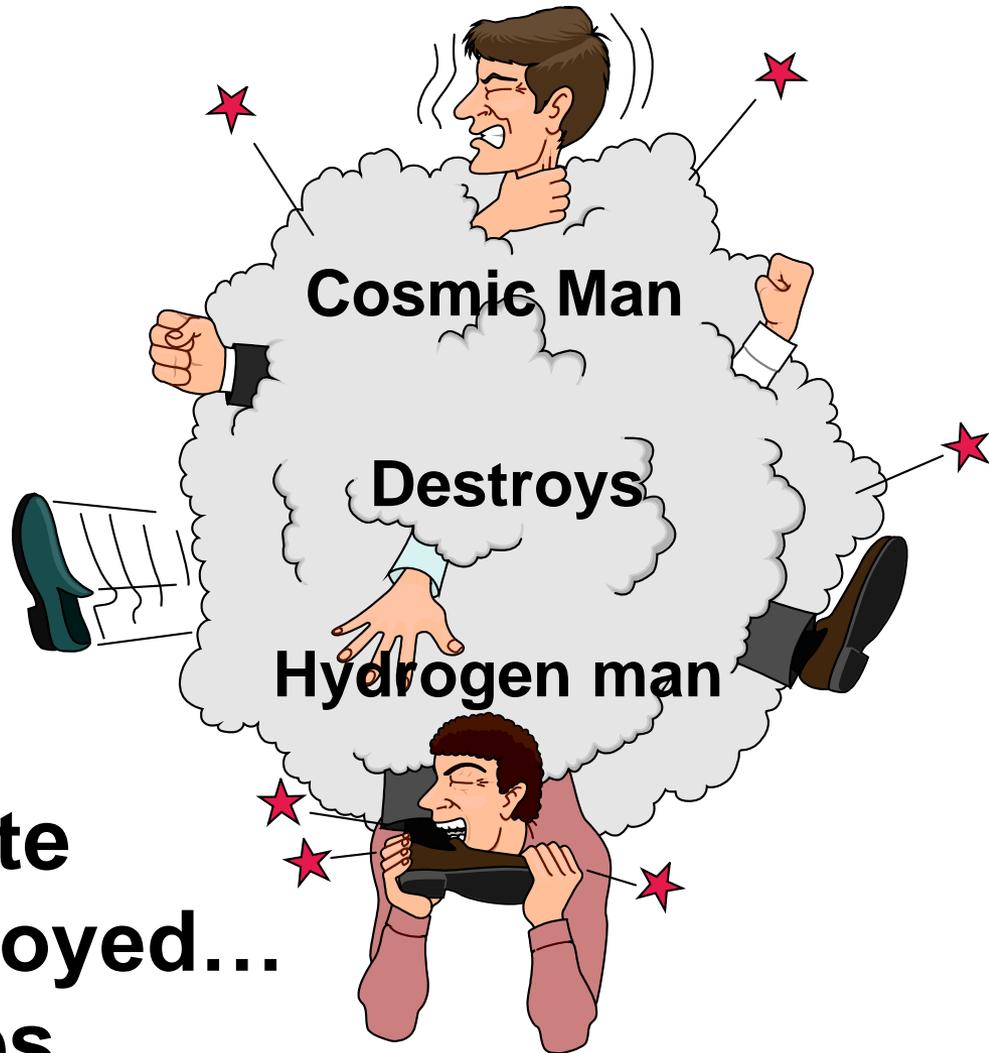
The above laws were applied to star (and later planet) formation in laboratory experiments. It was found that hydrogen molecules would not stay bound together with silicate molecules to form dust. They could not form a gas star or gas exoplanet, like Jupiter.

R_* - Rate of star formation is 0...

It would seem that the whole EGG theory is now defunct based on this data and the scientific equations...



Problems and More Problems...



**Hydrogen/silicate
grains are destroyed...
by cosmic forces.**

Step 8. There are four problems at this step as demonstrated by empirical(seeing, feeling, smelling and touching) laboratory experiments...

Problems

Problems

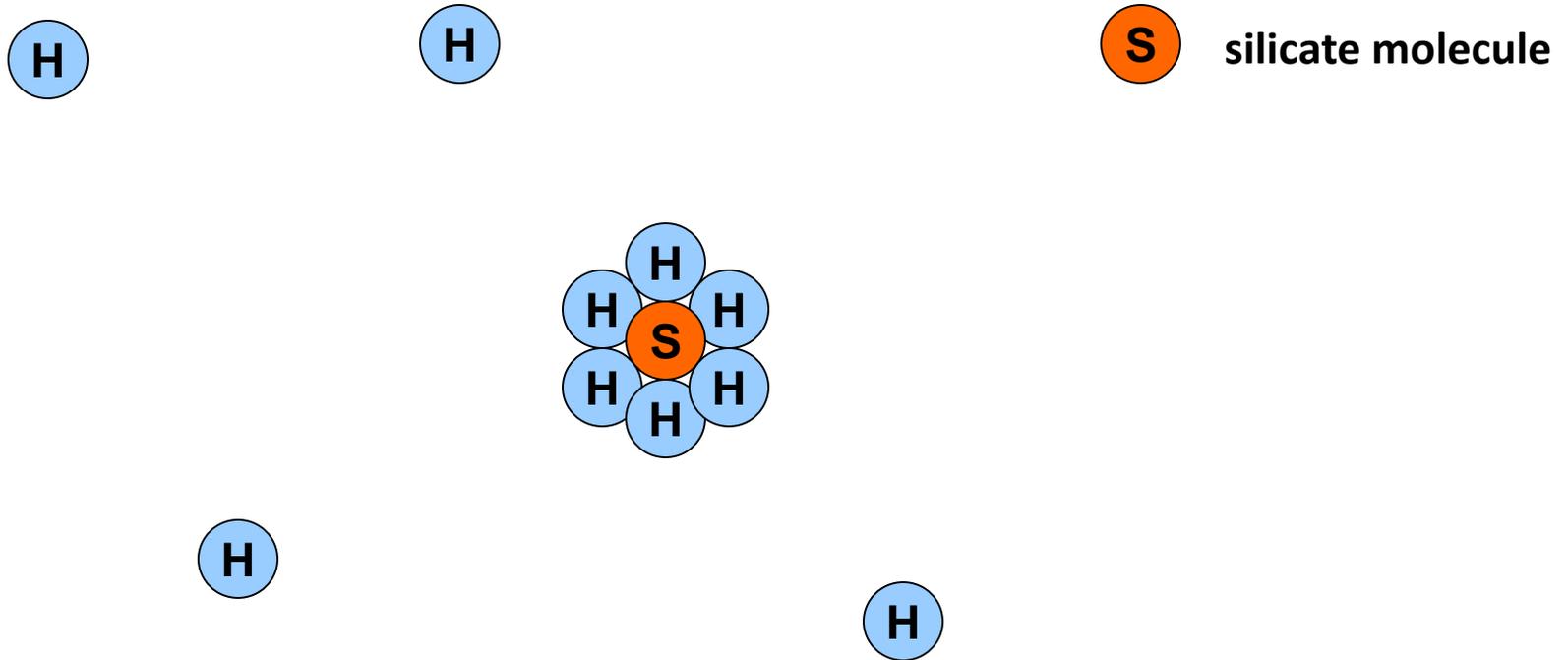
Problems

Problems



**A speck of space dust the size of a dust mote
made of hydrogen/silicate molecules.**

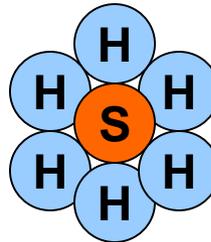
1. Hydrogen Slippery - After one layer of Hydrogen... the dust mote cannot grow as the surface is too slippery.



Here they hit and slipped off.



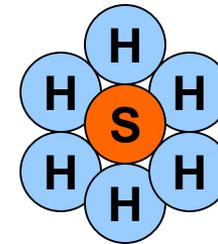
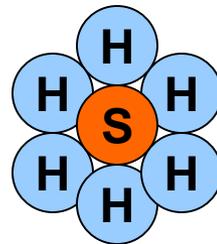
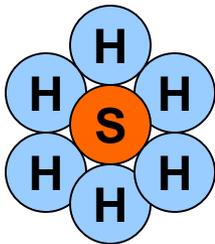
silicate molecule



2. Sublimation. (like rust) Similar to when molecules of metal are washed away by water.



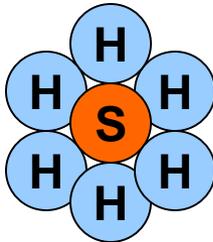
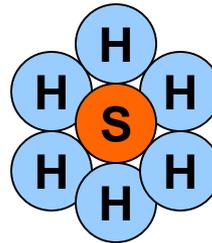
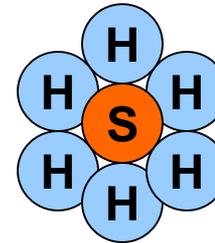
2. Sublimation. (like rust) In this case, the strength of the silicate molecule isn't strong enough to hold the hydrogen on its surface very long and the hydrogen sublimates or washes away and returns to a gas form.



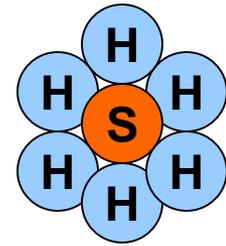
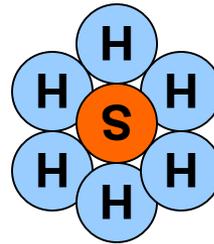
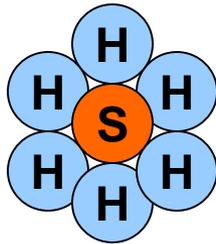
3. Collisions with H (Hydrogen) - Collisions with free hydrogen gas atoms... breaks up the grain... which causes a chain reaction... destroying the others...

150,000 to

21 million mph



4. Collisions with each other (Hydrogen + Silicate particle) ... with other grains break up the grains...



There is no empirical seeing, feeling, smelling or touching test to prove their story that dust can grow into planets.

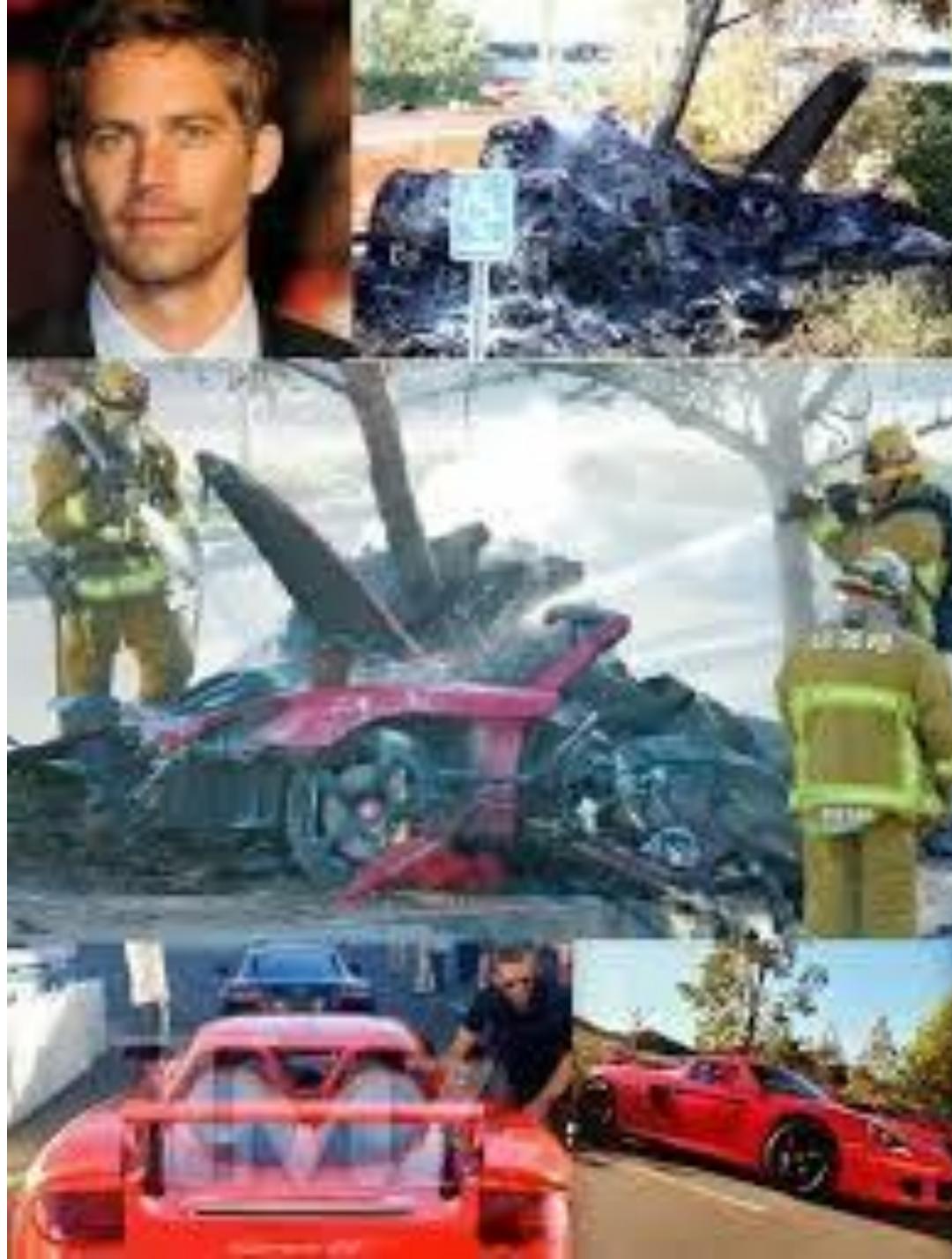
Collisions at 60 MPH



DIAMOND BAR, Calif. (AP) — A wrong-way driver on a Southern California freeway was arrested Sunday after being accused of causing a pre-dawn crash that left six people dead, authorities said Feb 9 2014



**Fast & Furious
Actor Paul Walker
Dies In California
Car Crash**






VAN
ACCESSIBLE



LUSAKA, Zambia (Thu, Feb. 07) – Reported by madn3wz

At least 53 passengers were killed in a terrible road accident involving a passenger bus, a car and a truck in central Zambia's Chibombo district in the wee hours of Thursday, a government official said. The bus belonged to the Zambia Postal Service and was heading from the Copperbelt mining province to Lusaka.



$$F = ma$$

F = force

m = mass

a = acceleration

The average new car or light-duty truck sold in the 2003 model year tipped the scales at 4,021 pounds, breaking the two-ton barrier for the first time since the mid-1970's, according to a report released by the Environmental Protection Agency last week.
what does a school bus weigh? 4000 lbs x 60 mph = 240,000 lbs of force
double this for 2 cars = 480,000 lbs of force

On average, a 38 foot, 84 passenger school bus weighs in about 11 and 14 tons or 22,000 lbs
22,000 lbs x 60mph = 1,320,000 lbs of force

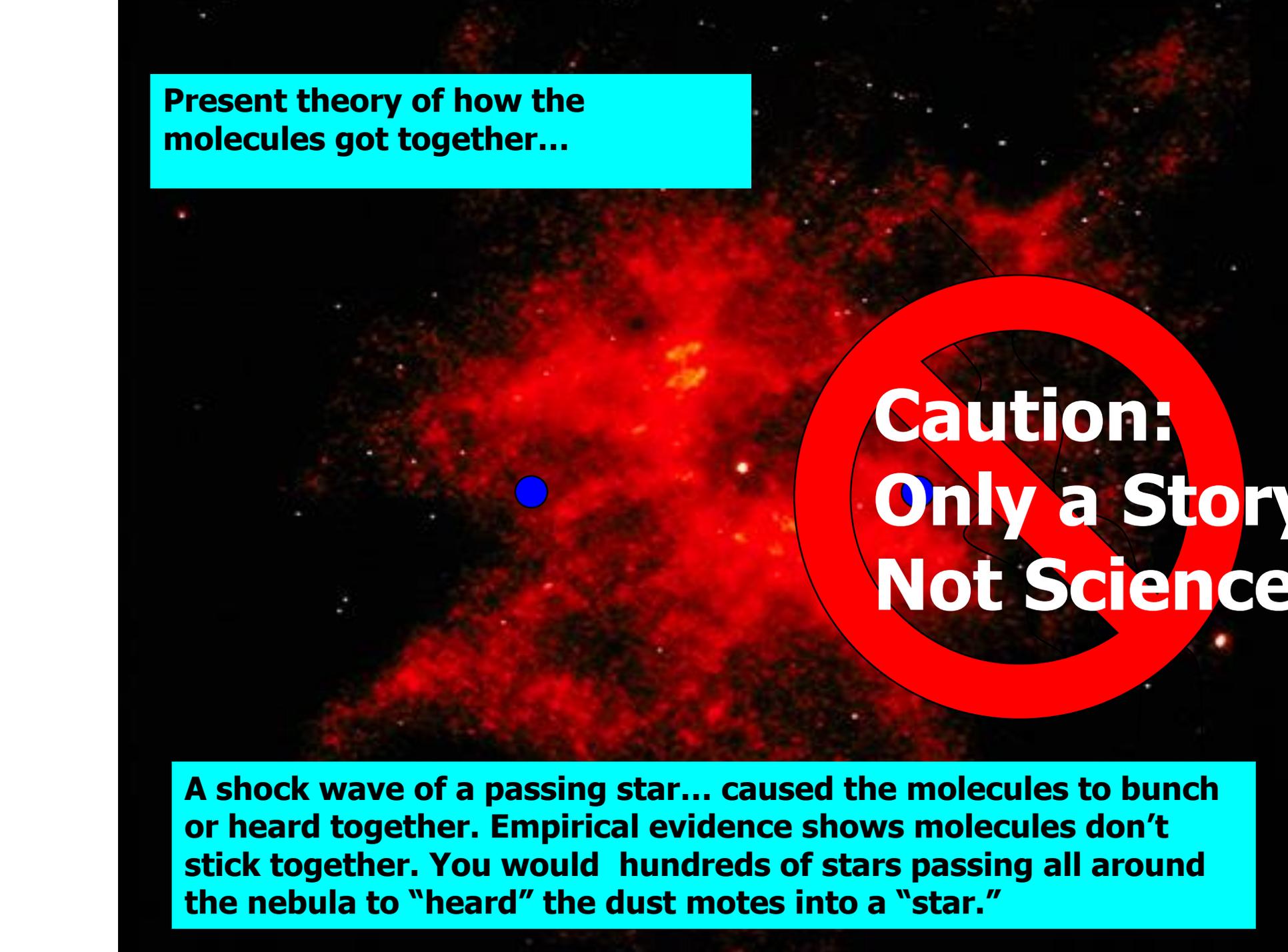
[How much does a train engine weigh? - Yahoo Answers](#)

Jan 22, 2007 - Yard engines and switchers can be anywhere from 100-150 tons. Larger road engines can be anywhere from 140-200+ tons each. 200 Tons x 60 mph = 12,000 tons of force or 24,000,000 lbs

Summary of 4 reasons dust

will not form in space:

- 1 After one layer of Hydrogen the dust mote cannot grow as the surface is too slippery.**
- 2 Sublimation. (like rust) Similar to when molecules of metal are washed away by water. In this case, the strength of the silicate molecule isn't strong enough to hold the hydrogen on its surface very long and the hydrogen sublimates or washes away and returns to a gas form.**
- 3. Collisions with free hydrogen gas atoms break up the grains which causes a chain reaction destroying the others.**
- 4. Collisions with other grains break up the grains.**

The background of the slide is a vibrant red nebula with a bright blue star in the center. A large red prohibition sign (a circle with a diagonal slash) is overlaid on the right side of the image, covering the text 'Caution: Only a Story Not Science'.

Present theory of how the molecules got together...

**Caution:
Only a Story
Not Science**

A shock wave of a passing star... caused the molecules to bunch or heard together. Empirical evidence shows molecules don't stick together. You would hundreds of stars passing all around the nebula to "heard" the dust motes into a "star."

The Big Bang is a story, not science, because it does not follow the laws of science.

The purpose of this story is to support the concept of chance and accident in the formation of the universe.

Stars passing by us supposedly:

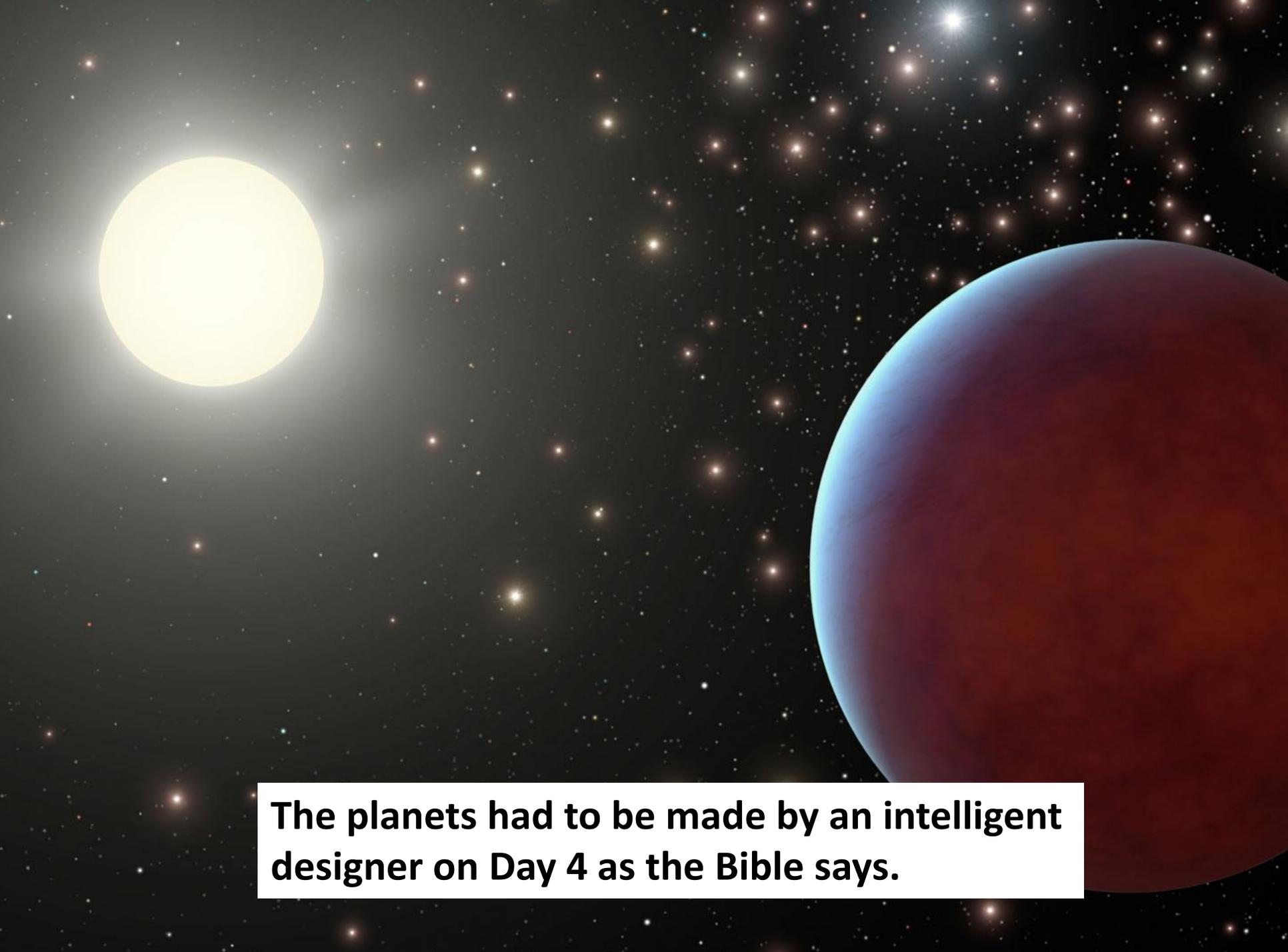
1. Create other stars & planets
2. Bump come out of the prot Cloud (Non-existent)
3. Blow up and make heavy molecules, that make dust, to make planets

**Caution:
Only a Story
Not Science**

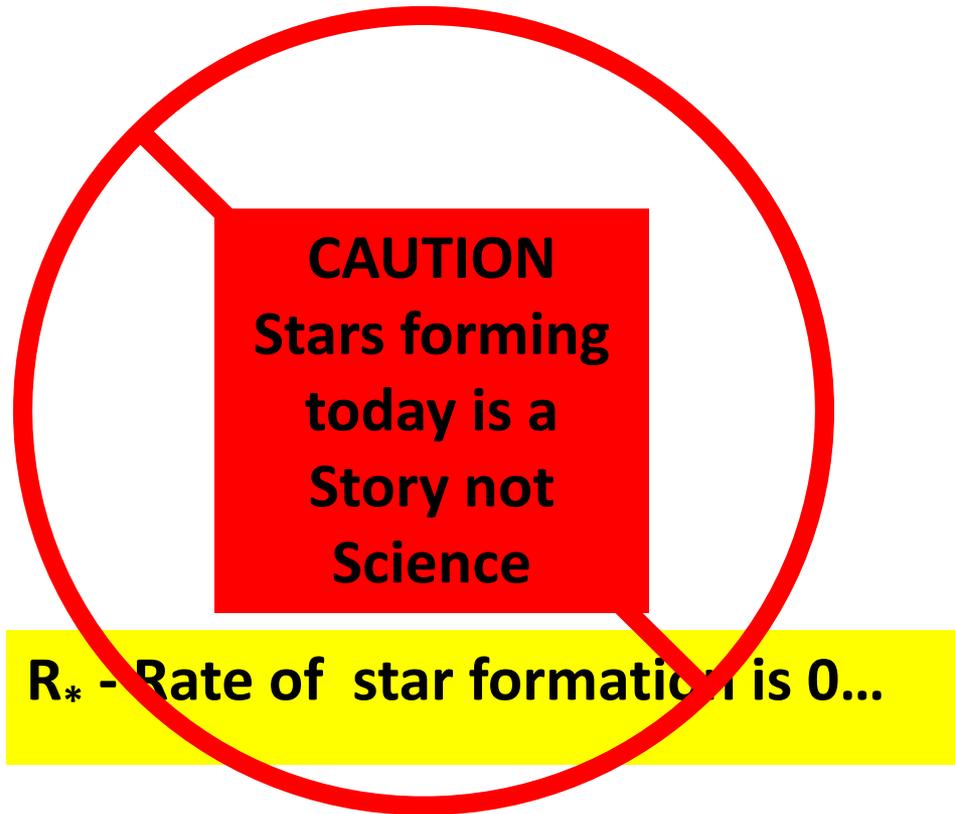
No scientific evidence that this happened.



If hydrogen cannot be formed into stable gas “planets” in a controlled environment by intelligent designers here on Earth, how could it form stars and planets in the harsh environments of space?



The planets had to be made by an intelligent designer on Day 4 as the Bible says.



It would seem that the whole EGG theory is now defunct based on this data...

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

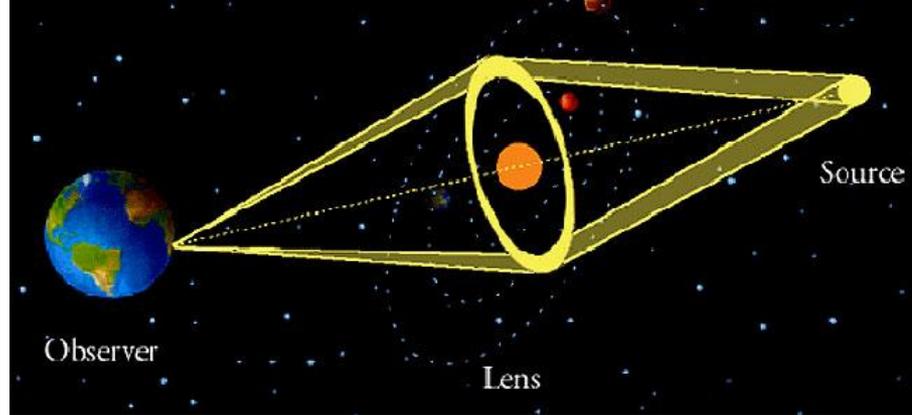
**Fraction of stars
that have Planets**



CAUTION
A Story not
Science

This is a major assumption based on a survey of a very small part of the universe. To make it a rule is impossible at this time...

f_p - the fraction of those stars that have planets. “The recent analysis of Microlensing surveys has found that f_p may approach 1 -- that is, stars are **orbited by planets as a rule, rather than the exception...**

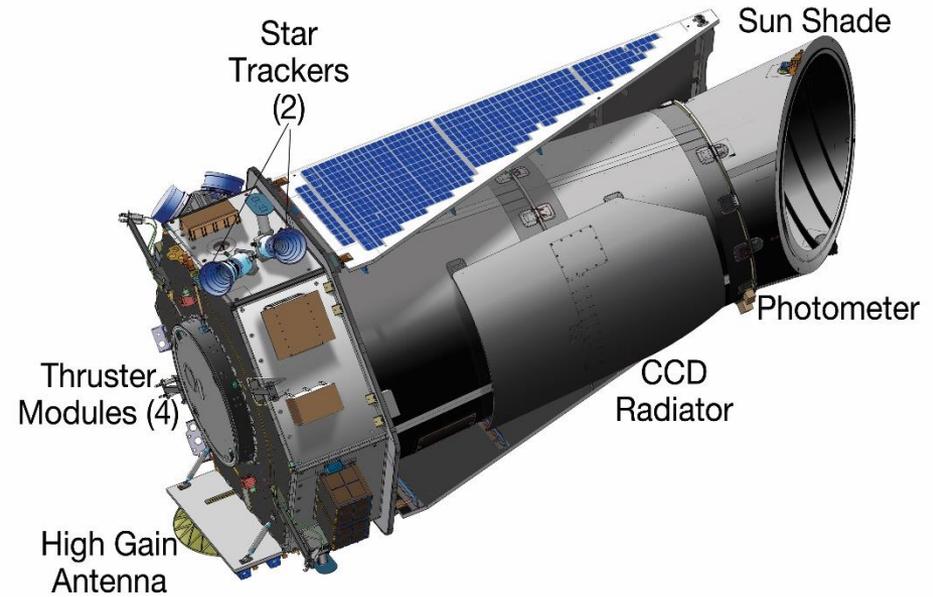


This theory is based on the erroneous assumption Einstein made that light is both a wave and a particle (Photon). Thomas Young proved in 1900 that light is only a wave and has no mass and gravity cannot affect it. There is refraction of light that does bend it slightly (like a straw in a glass of water) but this is not what this article is explaining. There are problems with the lensing theory but I have not had time to expose the errors. Maybe someone else can.

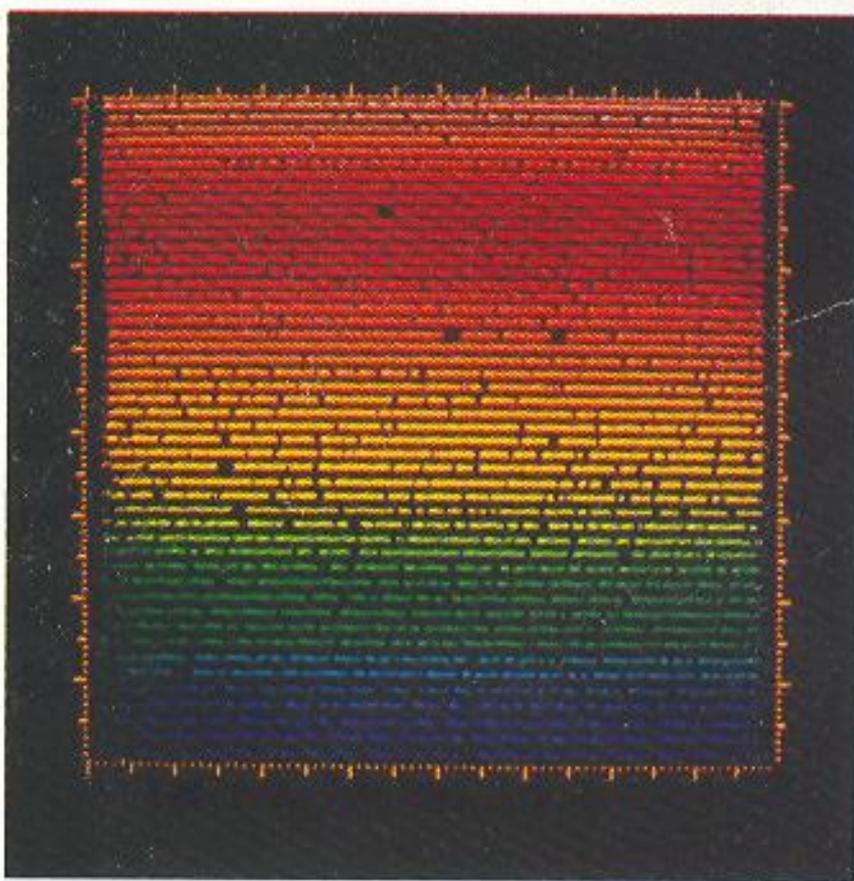
Gravitational microlensing occurs when light from a source star is bent and focused by gravity as a second object (the lens star), which passes between the source star and an observer on Earth. A planet rotating around the lens star will produce an additional deviation in the microlensing.

Gravitationally microlensing is very rare. In fact, fewer stars than one per million undergo microlensing at any time. {Note the contradiction in the quote below RM}

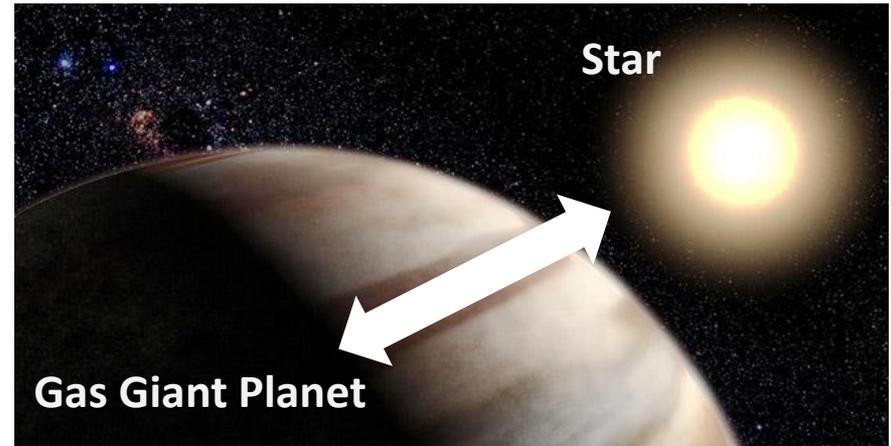
"We used to think that the Earth might be unique in our galaxy. But now it seems that there are literally billions of planets with masses similar to Earth orbiting stars in the Milky Way," concludes Daniel Kuba, of the European Southern Observatory and co-lead author of the paper. <https://www.llnl.gov/news/planets-around-stars-are-rule-rather-exception>

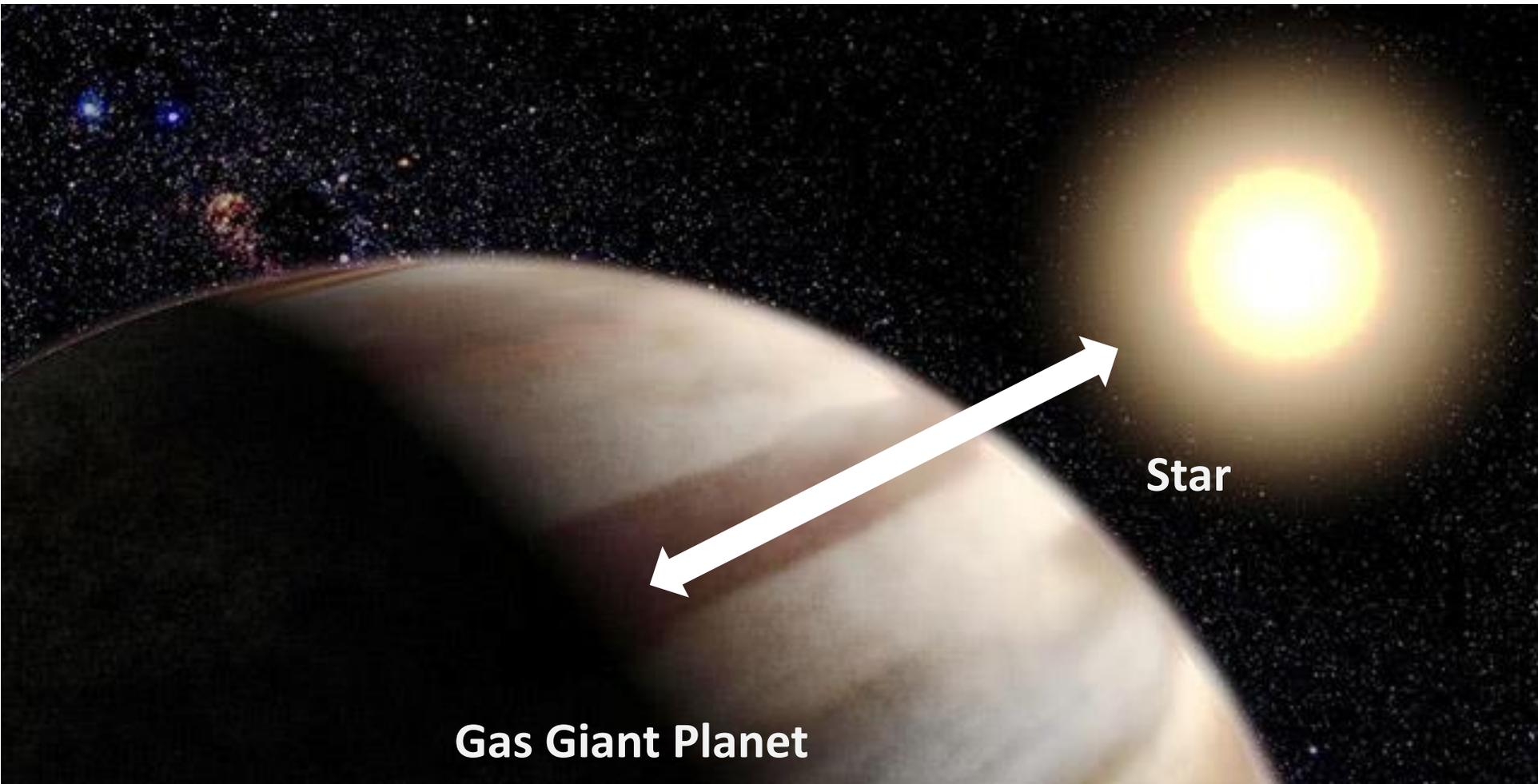


The data collected from Hubble Telescope (L) and the Kepler Space Mission Telescope (R) indicates there are planets allegedly orbiting the stars outside our Solar System.

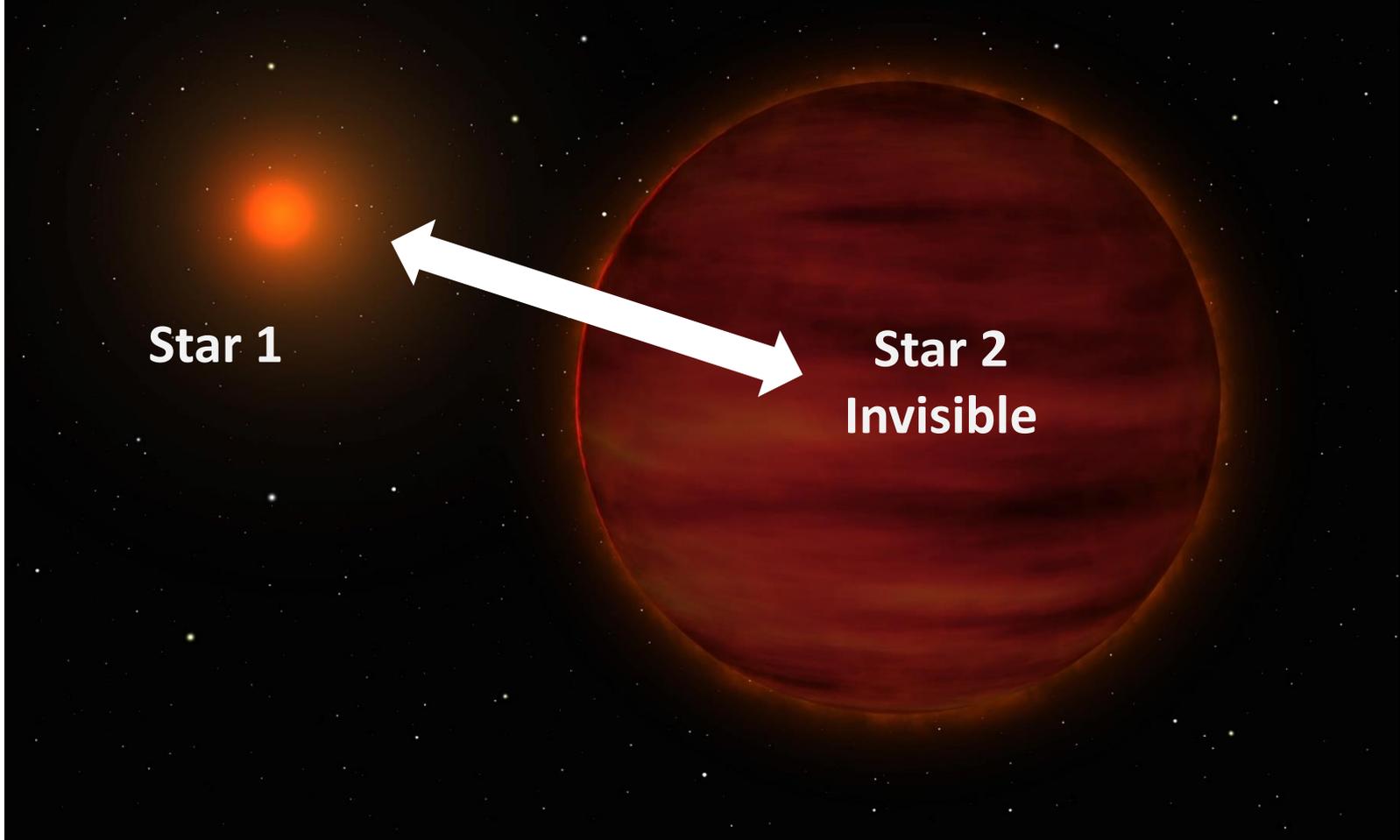


A star's spectrum is cluttered with hundreds of dark lines, each of which results from atoms in the outer atmosphere absorbing light at specific wavelengths. To find planets, Marcy and Butler look for minuscule back-and-forth movements in these lines as the star is being tugged by an orbiting companion. Geoff Marcy and Paul Butler





The problem is that the interpretation of the data is based on assumptions that may be wrong. For example, the light spectrum “wobble” observed in a star is assumed to be caused by a large gas planet the size of Jupiter orbiting the star.

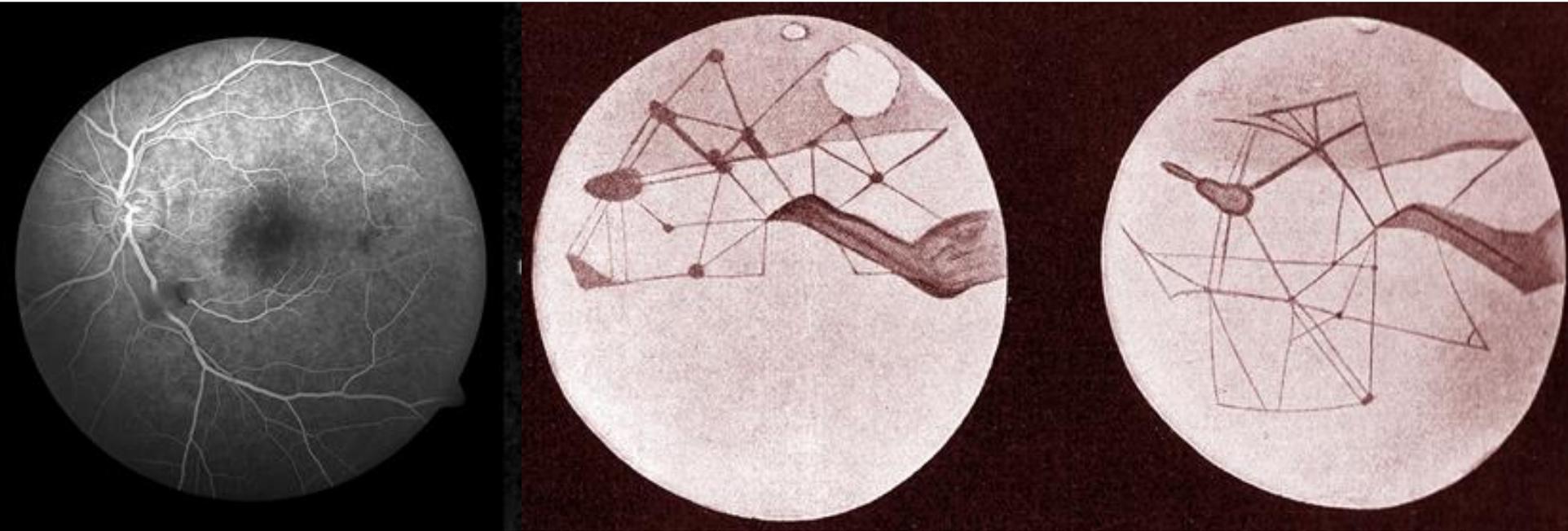


New Brown Dwarf in the Solar Neighbourhood
(Artist's Impression)

ESO PR Photo 11a/06 (22 March 2006)



Those that are skeptical of the planet theory say that it could be a binary sister star that has “died” and become a brown dwarf. As such it cannot be seen by our present telescopes. Note...



Percival Lowell supposedly discovered “canals” on Mars. Later, Percival Lowell began to notice similar phenomena on Venus; simultaneously, as telescopes and astronomical technique developed, his theories were objectively discounted. [More recent scholarship](#) suggests that Lowell was merely observing projections of the vein structure of his own eyeball, a known nuisance among planetary observers using very high magnification. This would explain, among other things, the phenomenon’s consistency across two far-flung planets in our Solar System. Given the symbolic parallels between outer space and inner space in many cultures, **the fact that Percival Lowell spent an entire career mapping the structure of his own retinas while believing them to be interplanetary ruins is very nearly mystical.**

Seven Possible Interpretations of Wobble... – Make Your Choice

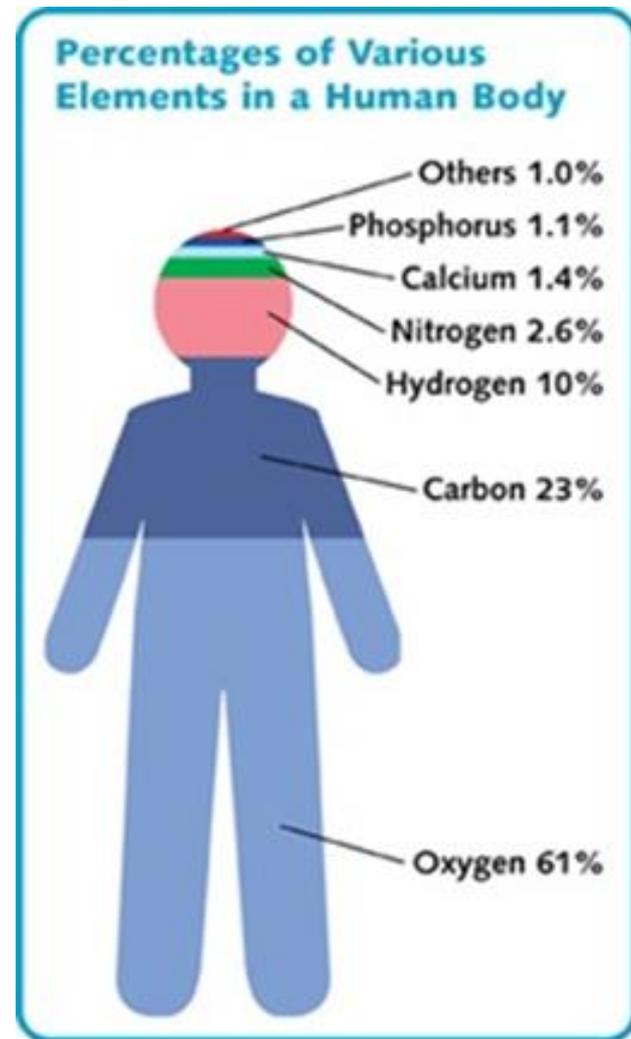


Planets or Vain Imaginations – Interpreting the Data:

- 1. It's a Planet - Gravity wobble assumption based on light spectrum.**
- 2. It's a Brown Dwarf – binary star that has collapsed and cannot be seen next to sister star (a sun)**
- 3. It's Solar Weather – events on the star surface that affect instruments so not sure what it is.**
- 4. It's Instrument Problems – Mars canals “discovered”?**
- 5. It's the Doppler Affect – 7 Assumptions.**
- 6. It's Star Tug – Other stars affect each other's rotation and orbit.**
- 7. It's nothing we have seen before.**

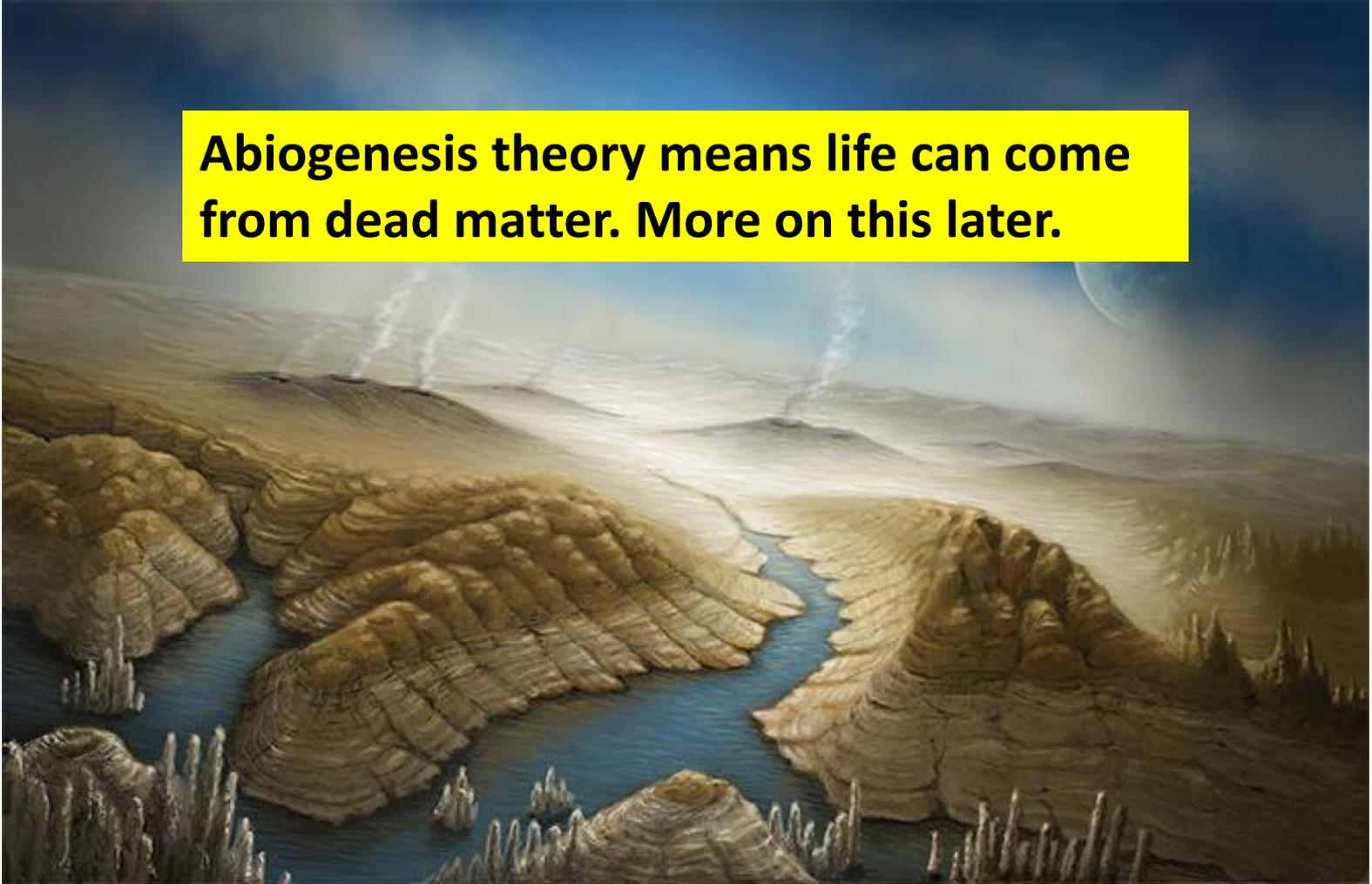
$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

**Number of planets
that have Ecoshells**



The estimate for ecoshells that could support life is based on numerous assumptions and once again is mostly speculation. Planets found so far do not have the unique elements needed for a human as seen here...

Abiogenesis theory means life can come from dead matter. More on this later.



However, if we assume that some of the “planets” are like those in our Solar System, we find in the descriptions of them that their environments are very hostile to the formation of life based on the Abiogenesis theory of life...



Venus

1. Venus is very close to Earth in distance and it's about 95% of Earth's size.
2. Prior to the 20th century, scientists thought it could be home to life.
3. In reality, Venus has conditions "well-matched to Dante's vision of hell."
4. The planet has more volcanoes than any other planet in our solar system
5. Much of its surface is covered in lava.
6. The surface pressure is equivalent to being more than half a mile underwater
7. Its temperature averages 730 Kelvin or 854 F. (hot enough to melt lead)
8. The planet is surrounded by a thick cloud of sulfuric acid. The origin of the term "Green House Affect."
9. Its atmosphere is 96 percent carbon dioxide.
10. The result of all this is there is no chance for life on Venus.

Kepler-20e

Venus

Earth

Kepler-20f

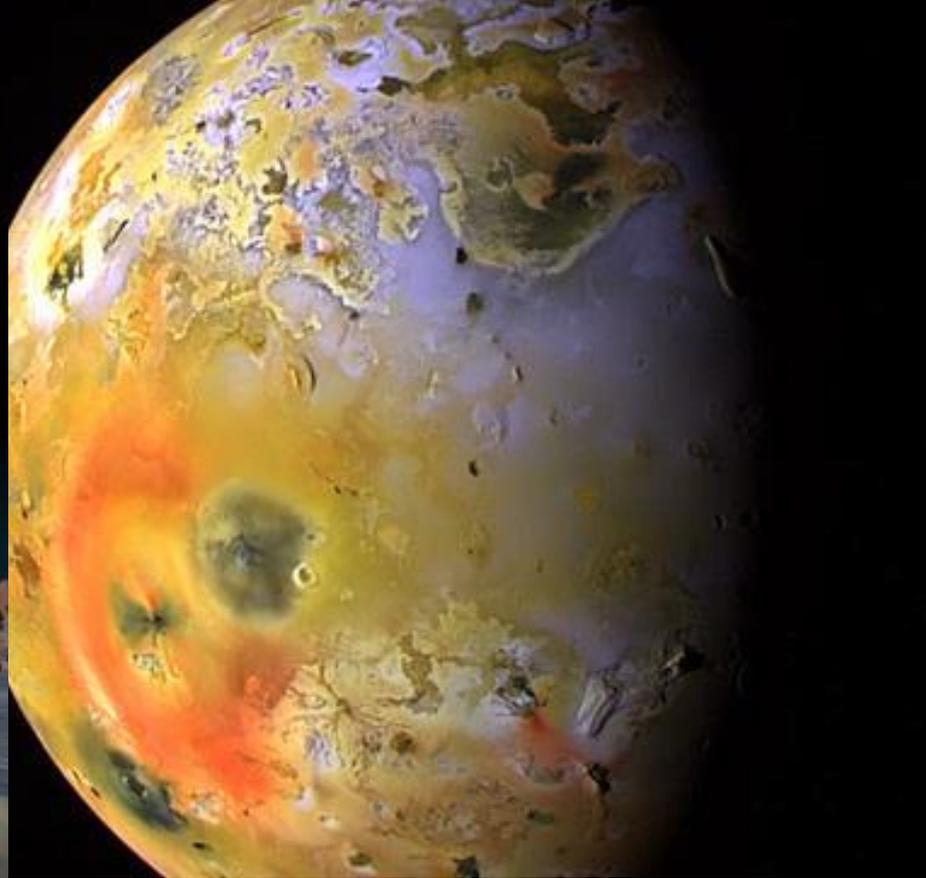
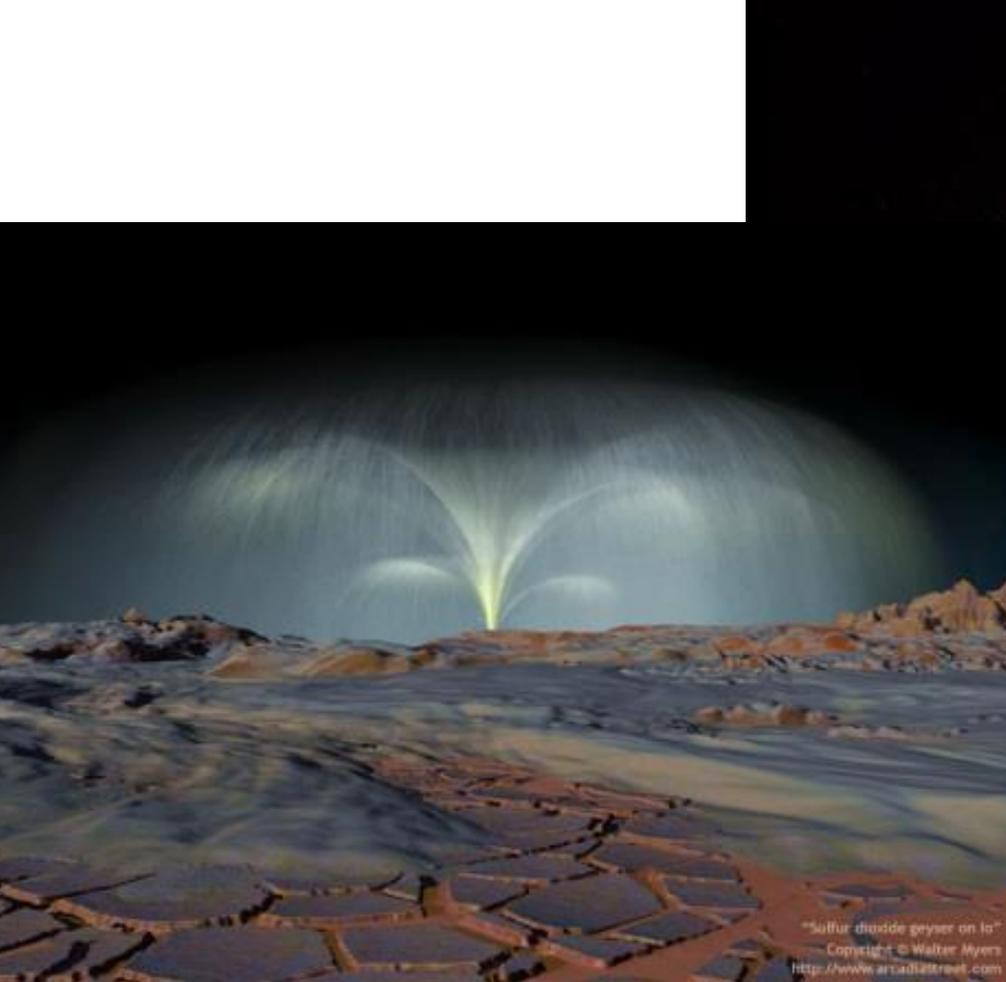


They claim 1000 found so far. Non are like earth.

“We must not confuse an Earth-sized planet as being an Earth-like planet...”



It has been said...



Jupiter's moon Io has 9 active volcanoes, no air and a temperature of about -230° F. Not a very inviting prospect for colonization or life. Artists painting... shows an erupting geyser of sulfuric acid on Io. Nothing like Old Faithful in Yellowstone Park!



The discovery of numerous gas giants in close orbit with their stars has introduced doubt that there are life-supporting planets. In addition, most stars in our galaxy are red dwarfs (Painting above), which flare violently, mostly in X-rays... which kills life as we know it...

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

**Fraction of planets
that develop Life**



Demo:

Can of corn > into dish > cover with dirty cloth > mouse

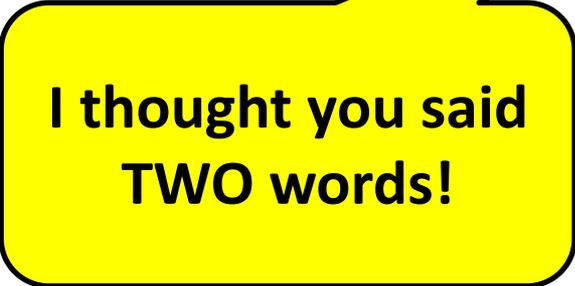
Mix mud > air > water > fire = life

Pasteur experiment

Miller experiment



Can life come from nothing or another planet...?



I thought you said
TWO words!

**Spontaneous
Generation**

Abiogenesis

Biogenesis

The whole debate on the origin of life centers
around two theories summed up in two words...

This I have to see.

**Spontaneous
Generation**

Abiogenesis

Biogenesis

Louis Pasteur

I will demonstrate that these two words are describing the same event... just repackaged to make it sound scientific...

**Spontaneous
Generation =**

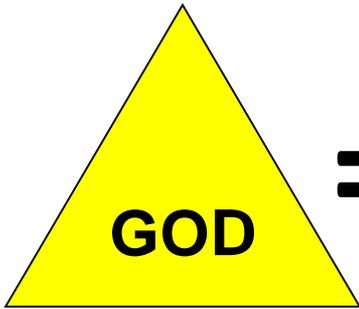
**Life came from fire,
water, air and earth by
chance and accident**

A-bio-genesis = No Life in the Beginning

Bio-genesis = Life in the Beginning

What does Genesis mean...?

Beginnings...



=

So God created man in His *own* image; in the image of God He created him; male and female He created them. Gen.1:27

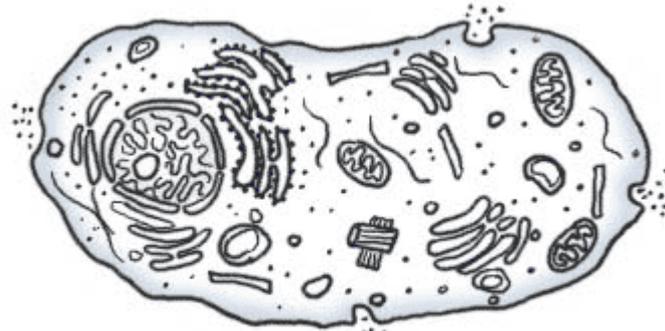
=



Biogenesis = life... only comes from life... God...



=



=

AN ANIMAL CELL

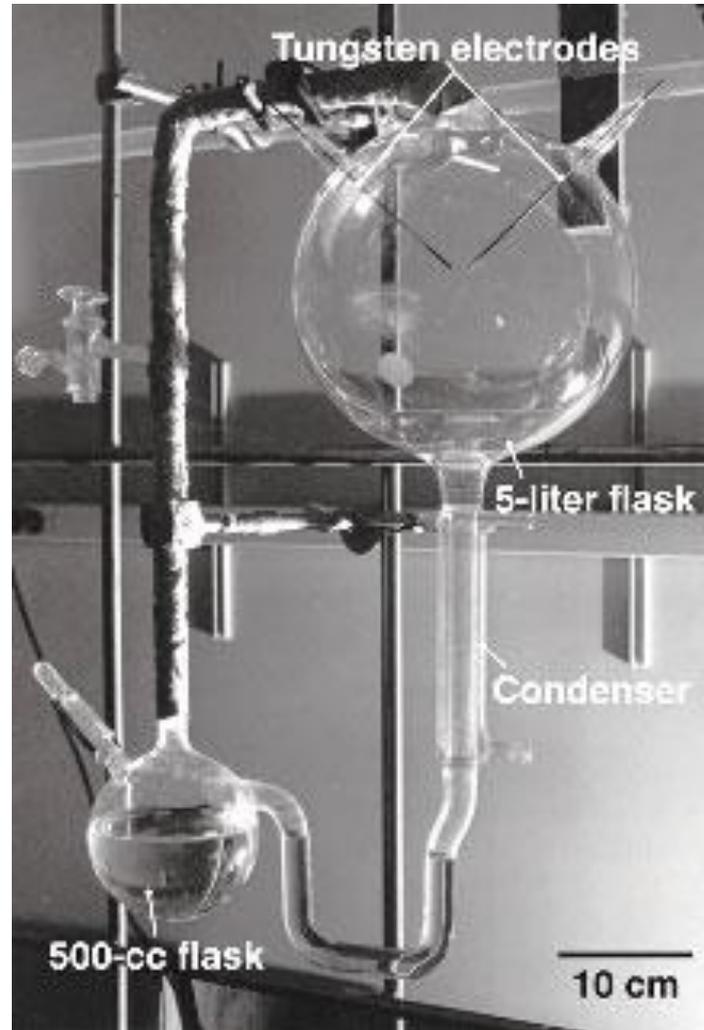


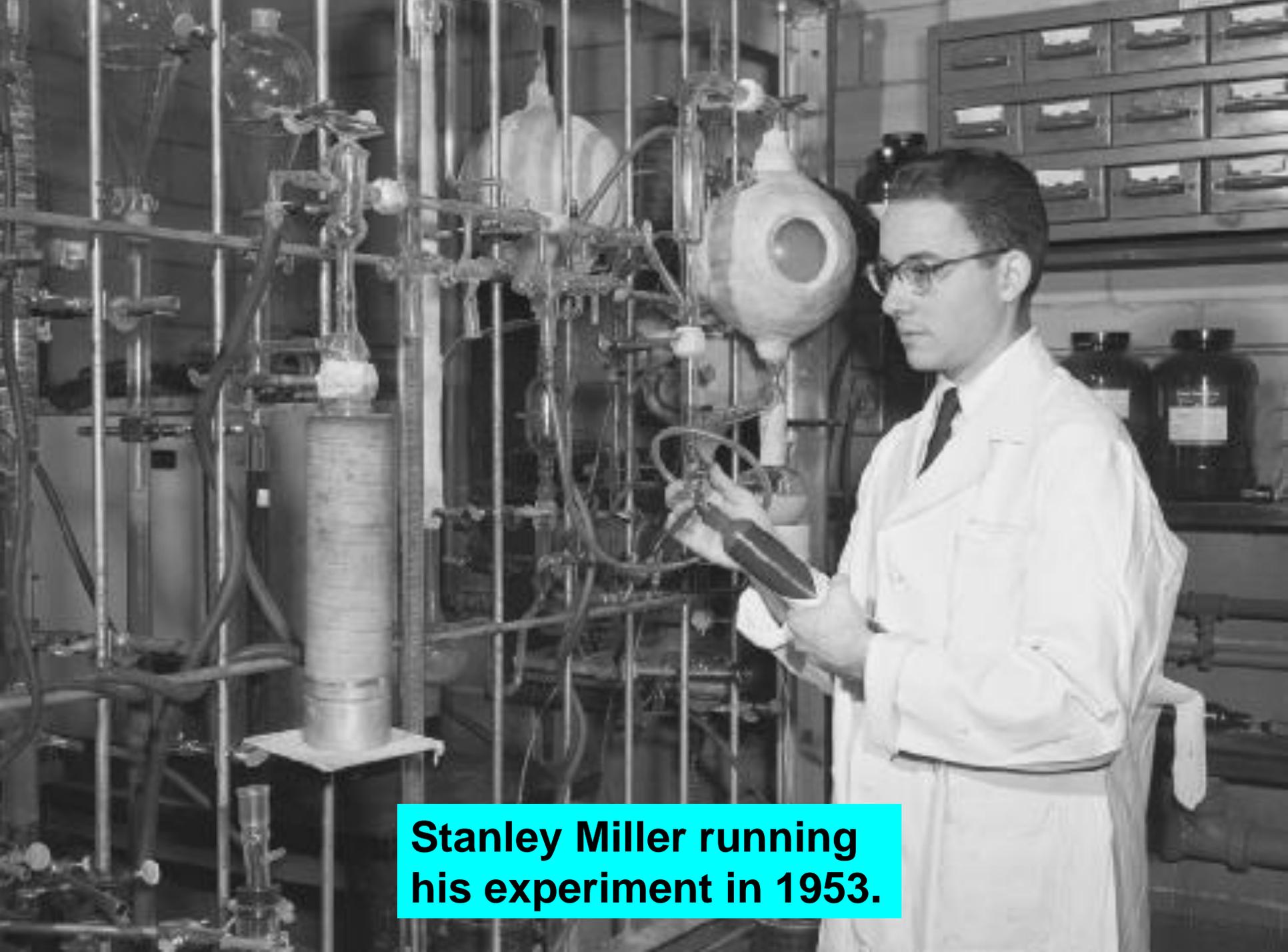
Abiogenesis = dead matter (mud)... changed into living matter... which eventually changed into humans... This is spontaneous generation that has been repackaged to sound more scientific...



2010 BBC Redefines Louis Pasteur's word "Biogenesis" as "Life comes from dead things" – Does not use Abiogenesis

Miller/Urey Science Magazine Announcement 1953 “Life made in a test Tube.”





Stanley Miller running his experiment in 1953.

tics of the compounds manometrically (5). In the other, the material is applied to the paper along 8 cm of the base line rather than as a spot and, after resolution, areas 8 x 5 cm containing the various compounds are cut from the paper and rolled in shell vials. Ten anesthetized houseflies are then introduced into each vial, and the toxicity of the compounds is characterized by rate of knockdown and 24-hr mortality.

The paper chromatographic method is useful in studying the metabolism of phosphorus insecticides in plants, mammals, and insects. With it, for example, we have been able to demonstrate the conversion of parathion and its methyl analog to the corresponding phosphates by an enzyme system found in *Periplaneta americana* (L.) (2). Further studies are in progress. The method has also been of value in studying the action of heat on purified parathion and methyl parathion and in isolating the compounds formed and in studying their biological properties (1).

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1. METCALF, R. L., and MARCH, R. B. To be published.
2. ———. *Ann. Entomol. Soc. Amer.* (in press).
3. KRITCHEVSKY, T. H., and TISELIUS, A. *Science*, 114, 299 (1951).
4. HANES, C. S., and ISHERWOOD, F. A. *Nature*, 164, 1107 (1949).
5. METCALF, R. L., and MARCH, R. B. *J. Econ. Entomol.*, 42, 721 (1949).

Manuscript received September 15, 1952.

A Production of Amino Acids Under Possible Primitive Earth Conditions

Stanley L. Miller^{1, 2}

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University of Chicago, Chicago, Illinois

The idea that the organic compounds that serve as the basis of life were formed when the earth had an atmosphere of methane, ammonia, water, and hydrogen instead of carbon dioxide, nitrogen, oxygen, and water was suggested by Oparin (1) and has been given emphasis recently by Urey (2) and Bernal (3).

In order to test this hypothesis, an apparatus was built to circulate CH_4 , NH_3 , H_2O , and H_2 past an electric discharge. The resulting mixture has been tested for amino acids by paper chromatography. Electrical discharge was used to form free radicals instead of ultraviolet light, because quartz absorbs wavelengths short enough to cause photo-dissociation of the gases. Electrical discharge may have played a significant role in the formation of compounds in the primitive atmosphere.

The apparatus used is shown in Fig. 1. Water is boiled in the flask, mixes with the gases in the 5-l flask, circulates past the electrodes, condenses and empties back into the boiling flask. The U-tube prevents circulation in the opposite direction. The acids

¹ National Science Foundation Fellow, 1952-53.

² Thanks are due Harold C. Urey for many helpful suggestions and guidance in the course of this investigation.

and amino acids formed in the discharge, not being volatile, accumulate in the water phase. The circulation of the gases is quite slow, but this seems to be an asset, because production was less in a different apparatus with an aspirator arrangement to promote circulation. The discharge, a small corona, was provided by an induction coil designed for detection of leaks in vacuum apparatus.

The experimental procedure was to seal off the opening in the boiling flask after adding 200 ml of water, evacuate the air, add 10 cm pressure of H_2 , 20 cm of CH_4 , and 20 cm of NH_3 . The water in the flask was boiled, and the discharge was run continuously for a week.

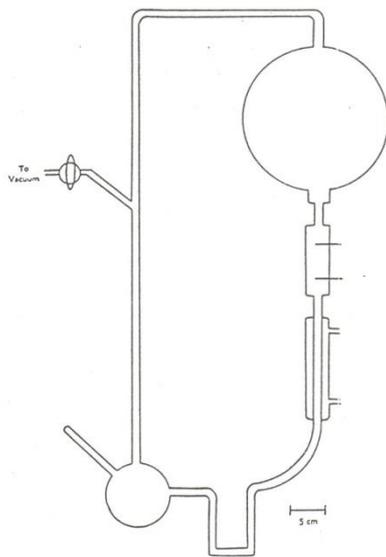


FIG. 1.

During the run the water in the flask became noticeably pink after the first day, and by the end of the week the solution was deep red and turbid. Most of the turbidity was due to colloidal silica from the glass. The red color is due to organic compounds adsorbed on the silica. Also present are yellow organic compounds, of which only a small fraction can be extracted with ether, and which form a continuous streak tapering off at the bottom on a one-dimensional chromatogram run in butanol-acetic acid. These substances are being investigated further.

At the end of the run the solution in the boiling flask was removed and 1 ml of saturated HgCl_2 was added to prevent the growth of living organisms. The ampholytes were separated from the rest of the constituents by adding $\text{Ba}(\text{OH})_2$ and evaporating *in vacuo* to remove amines, adding H_2SO_4 and evaporat-

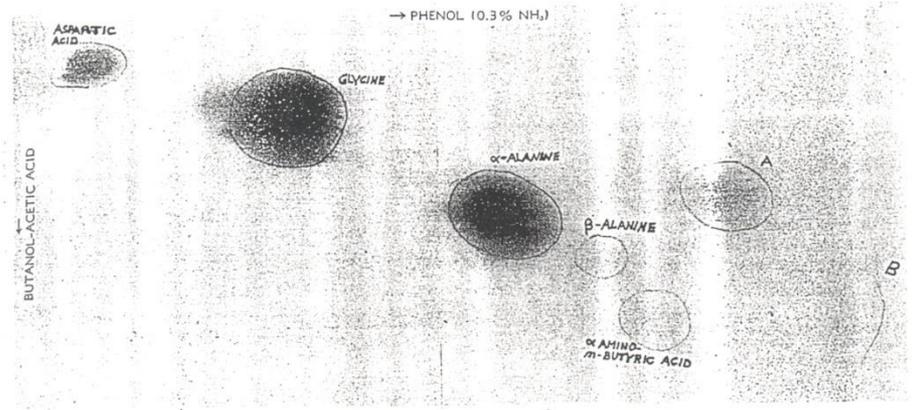


FIG. 2.

References

ing to remove the acids, neutralizing with $\text{Ba}(\text{OH})_2$, filtering and concentrating *in vacuo*.

The amino acids are not due to living organisms because their growth would be prevented by the boiling water during the run, and by the HgCl_2 , $\text{Ba}(\text{OH})_2$, H_2SO_4 during the analysis.

In Fig. 2 is shown a paper chromatogram run in *n*-butanol-acetic acid-water mixture followed by water-saturated phenol, and spraying with ninhydrin. Identification of an amino acid was made when the R_f value (the ratio of the distance traveled by the amino acid to the distance traveled by the solvent front), the shape, and the color of the spot were the same on a known, unknown, and mixture of the known and unknown; and when consistent results were obtained with chromatograms using phenol and 77% ethanol.

On this basis glycine, α -alanine and β -alanine are identified. The identification of the aspartic acid and α -amino-*n*-butyric acid is less certain because the spots are quite weak. The spots marked A and B are unidentified as yet, but may be beta and gamma amino acids. These are the main amino acids present, and others are undoubtedly present but in smaller amounts. It is estimated that the total yield of amino acids was in the milligram range.

In this apparatus an attempt was made to duplicate a primitive atmosphere of the earth, and not to obtain the optimum conditions for the formation of amino acids. Although in this case the total yield was small for the energy expended, it is possible that, with more efficient apparatus (such as mixing of the free radicals in a flow system, use of higher hydrocarbons from natural gas or petroleum, carbon dioxide, etc., and optimum ratios of gases), this type of process would be a way of commercially producing amino acids.

A more complete analysis of the amino acids and other products of the discharge is now being performed and will be reported in detail shortly.

May 15, 1953

Manuscript received February 13, 1953.

A Vacuum Microsublimation Apparatus

John R. Maher¹

Chemistry Branch, Sixth Army Area Medical Laboratory,
Fort Baker, California

The analytical biochemist is frequently confronted with the task of isolating microquantities of substances in a chemically pure state from small quantities of tissues or biological fluids. Kofler (1) edited a book covering the use of microsublimation, melting point, eutectics, etc., in identifying microquantities of organic material. The advantages of sublimation over other methods of purification have been discussed by Hubacher (2). Many types of vacuum sublimation apparatus have been described (1-3). The equipment described here is inexpensive and can be assembled readily by any laboratory worker with a modicum of glassblowing skill.

To a thick-walled, round-bottom, Pyrex test tube, 30 x 200 mm, is attached a glass side arm about one in. from the bottom. Using a suspension of very fine emery in glycerin or fine valve-grinding compound, the open end of the test tube is ground against the aluminum block of a Fisher-Johns melting point apparatus (Fisher Scientific Co., St. Louis, Mo.) until it makes a vacuum-tight seal when dry. This is the vacuum hood. Microbeakers are prepared from flat-

¹ The author is indebted to Robert Puckett, of this laboratory, for technical assistance in preparing this apparatus.



**Dead chemical
compounds (Mud)**

Forty years after Miller, the 1992 Technology Encyclopedia claims that the Miller experiment proved life could come from dead things.

**The Law of Biogenesis
still proves them wrong...**

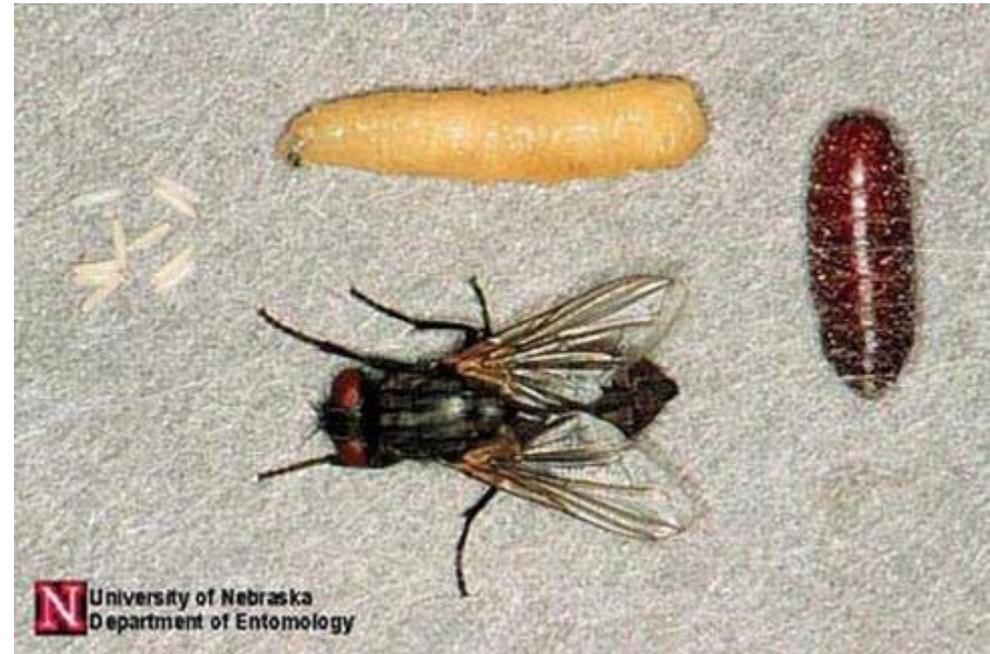
Spontaneous generation

Life

In spite of the scientific evidence from Pasteur in 1864 on to 1992 (128 years) evolutionary scientists have claimed that spontaneous generation... can still take place to create life from dead things...



A 16th century depiction of spontaneous generation of honey bees from a dead ox.



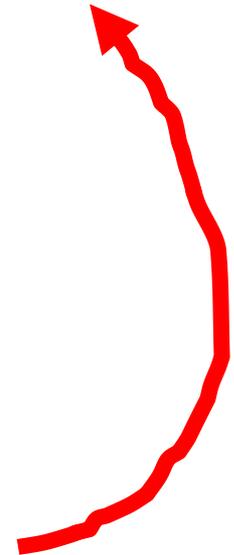
That goes back to the dark ages when scientists believed life arose from dead rotting corpses... when they saw maggots grow out of them. Pasteur proved scientifically that this came from fly eggs....

2300 years of Spontaneous Generation

New Name

Abiogenesis

Same Old Meaning

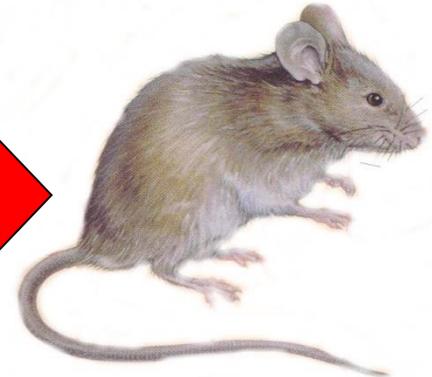


“Spontaneous generation is an obsolete principle regarding the origin of life from inanimate matter, which held that this process was a commonplace and everyday occurrence....” (Wikipedia Dictionary)

Put wheat in a dish... then place a piece of dirty cloth over it... and let sit for 21 days...



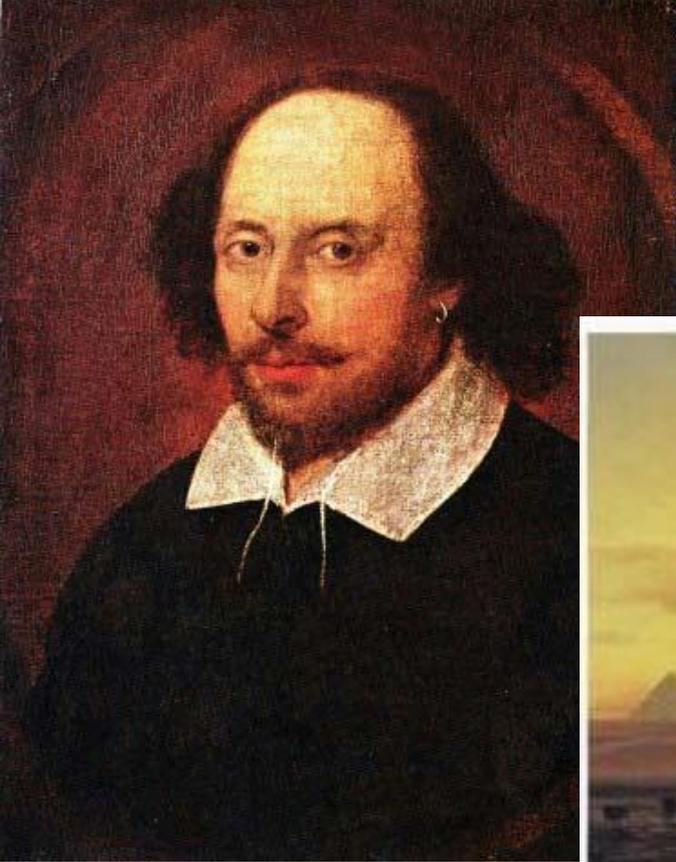
In 21 days life.



Comes from dead things...

Life...

Jan Baptist van Helmont (1580–1644) had a recipe for making mice via spontaneous generation...



Spontaneous generation is discussed as a fact in literature well into the Renaissance... In one play, Shakespeare discusses snakes and crocodiles forming from the mud of the Nile.

Spontaneous generation

Britannica - The hypothetical process by which living organisms develop from nonliving matter; also, the archaic [outdated] theory that utilized this process to explain the origin of life.

What Encyclopedia Britannica says about the beginning of life...

Spontaneous generation	Abiogenesis
Britannica - The hypothetical process by which living organisms develop from nonliving matter; also, the archaic [outdated] theory that utilized this process to explain the origin of life.	Britannica - The idea that life arose from nonlife more than 3.5 billion years ago on Earth. Abiogenesis proposes that the first life-forms generated were very simple and through a gradual process became increasingly complex.

What Encyclopedia Britannica says about the beginning of life...

Spontaneous generation	Abiogenesis	Biogenesis
<p>Britannica - The hypothetical process by which living organisms develop from nonliving matter; also, the archaic [outdated] theory that utilized this process to explain the origin of life.</p>	<p>Britannica - The idea that life arose from nonlife more than 3.5 billion years ago on Earth. Abiogenesis proposes that the first life-forms generated were very simple and through a gradual process became increasingly complex.</p>	<p>Their words – “Britannica does not currently have an article on this topic. Below are links to selected articles in which the topic is discussed...” They claim - First Abiogenesis then Biogenesis...</p>

The one link they gave does not discuss the contradiction between the two words.

What Encyclopedia Britannica says about the beginning of life...

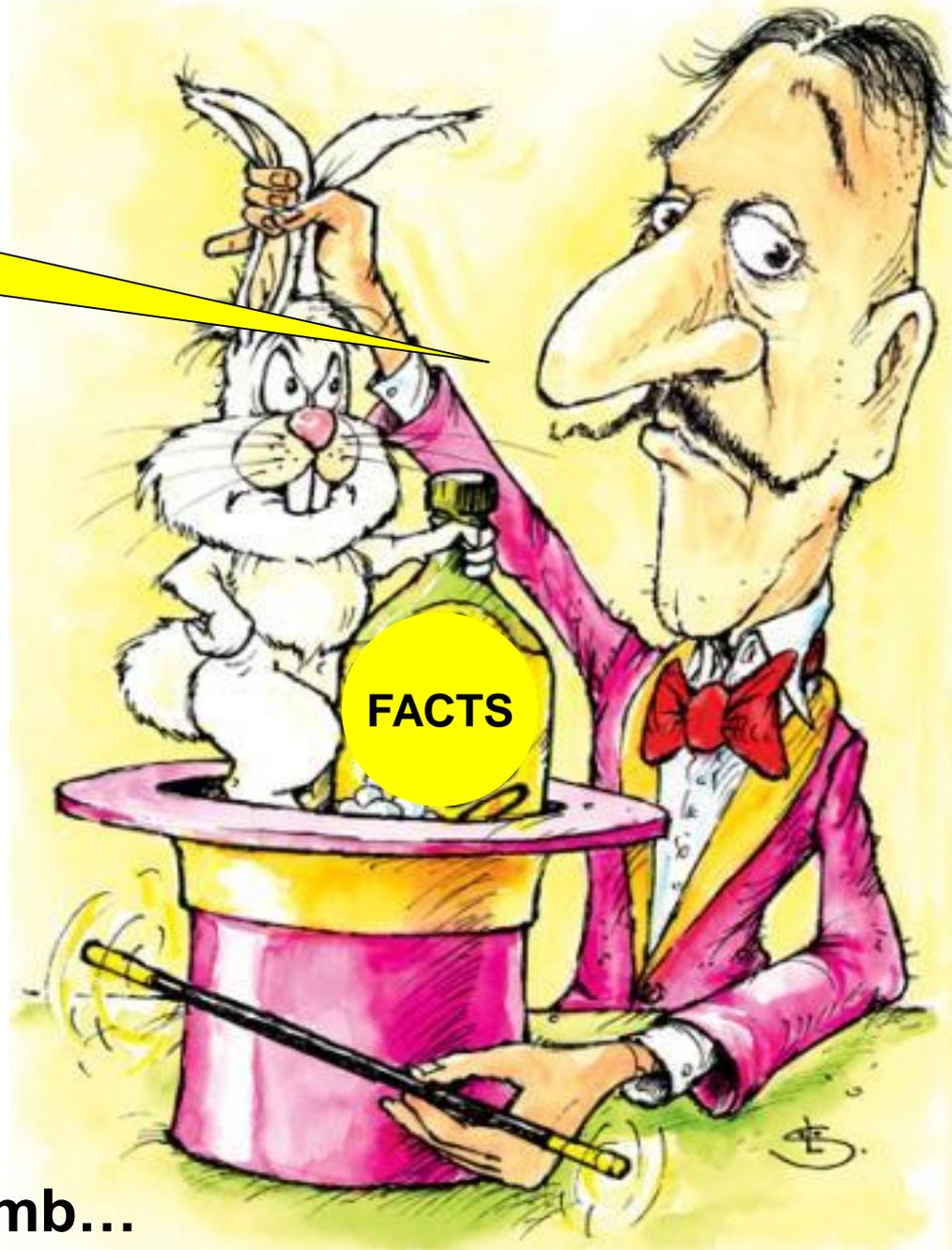
Spontaneous generation	Abiogenesis	Biogenesis	Biogenesis
<p>Britannica - The hypothetical process by which living organisms develop from nonliving matter; also, the archaic [outdated] theory that utilized this process to explain the origin of life.</p>	<p>Britannica - The idea that life arose from nonlife more than 3.5 billion years ago on Earth. Abiogenesis proposes that the first life-forms generated were very simple and through a gradual process became increasingly complex.</p>	<p>Their words – “Britannica does not currently have an article on this topic. Below are links to selected articles in which the topic is discussed...” They claim - First Abiogenesis then Biogenesis.</p>	<p>Wikipedia - Pasteur's experiment is generally known to have refuted the theory of spontaneous generation in 1859. [The same year Darwin published Origin of Species] From this came the Law of Biogenesis “Life only comes from Life.”</p>

What Encyclopedia Britannica says about the beginning of life...

How does this happen?

Rename the theory and ignore the new data.

When the scientific facts do not support the theory...



Evolutionary Rule of Thumb...



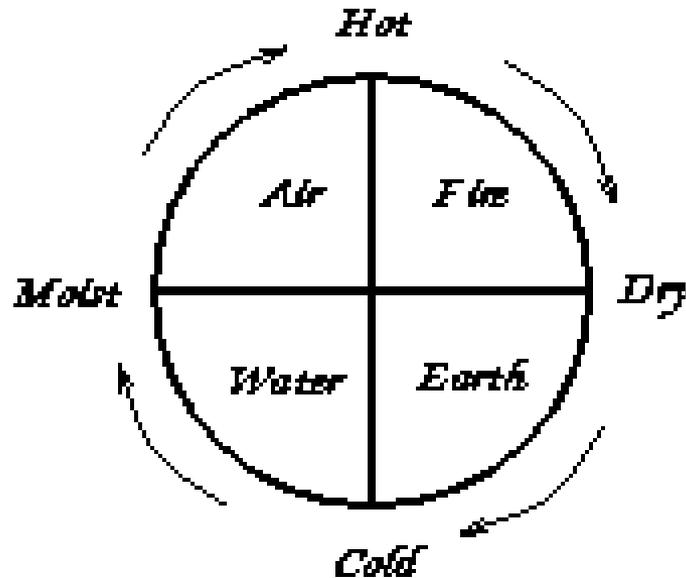
“For every house is built by someone, but the builder of all things is God....” Heb. 3:4



**The Evolution Theory [Story] is
a “Sacred Cow...”**

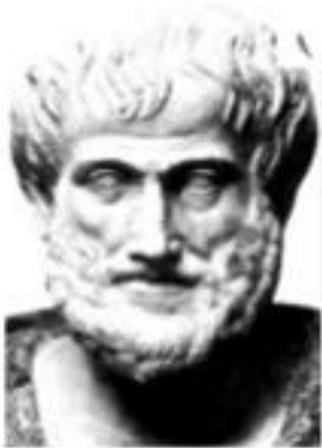
**You never change the theory
but rework, rename or ignore
the contradictory data. [Tell
stories],...**

**Science today is
congested with
“Sacred Cows.”
because of
godlessness.**



The Greeks believed that fire, water, air and earth could spontaneously produce. Today renaming it Abiogenesis does not change the scientific truth that Pasteur discovered and proved “Life comes only from Life,” the Law of Biogenesis.

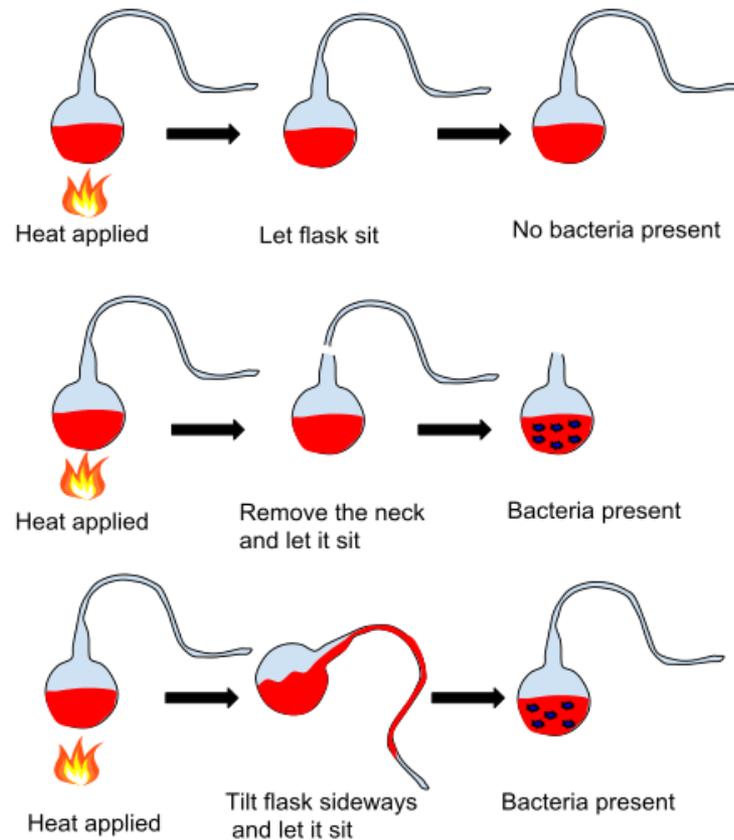
From an encyclopedia...



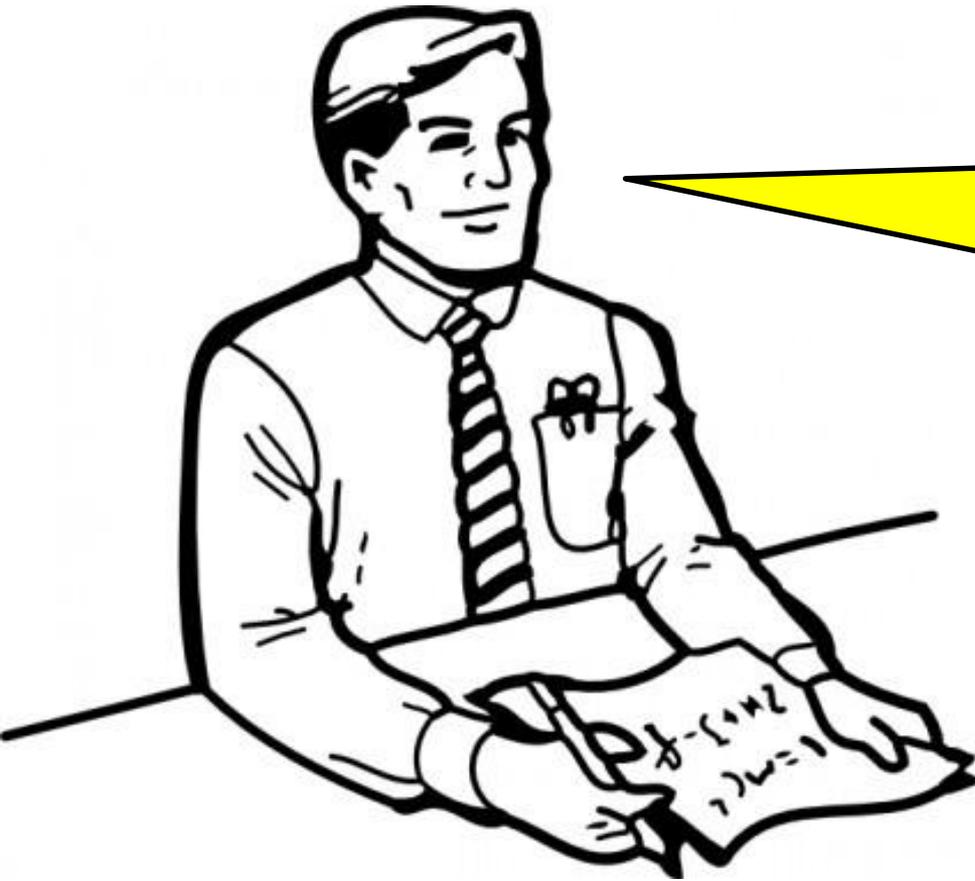
Aristotle

- 350 B.C - Aristotle modified an earlier theory that matter was made of four “elements”: earth, fire, water, air.
- Aristotle was wrong. However, his theory persisted for 2000 years.

Aristotle’s belief is still the accepted evolutionary theory today... It still has not changed...!



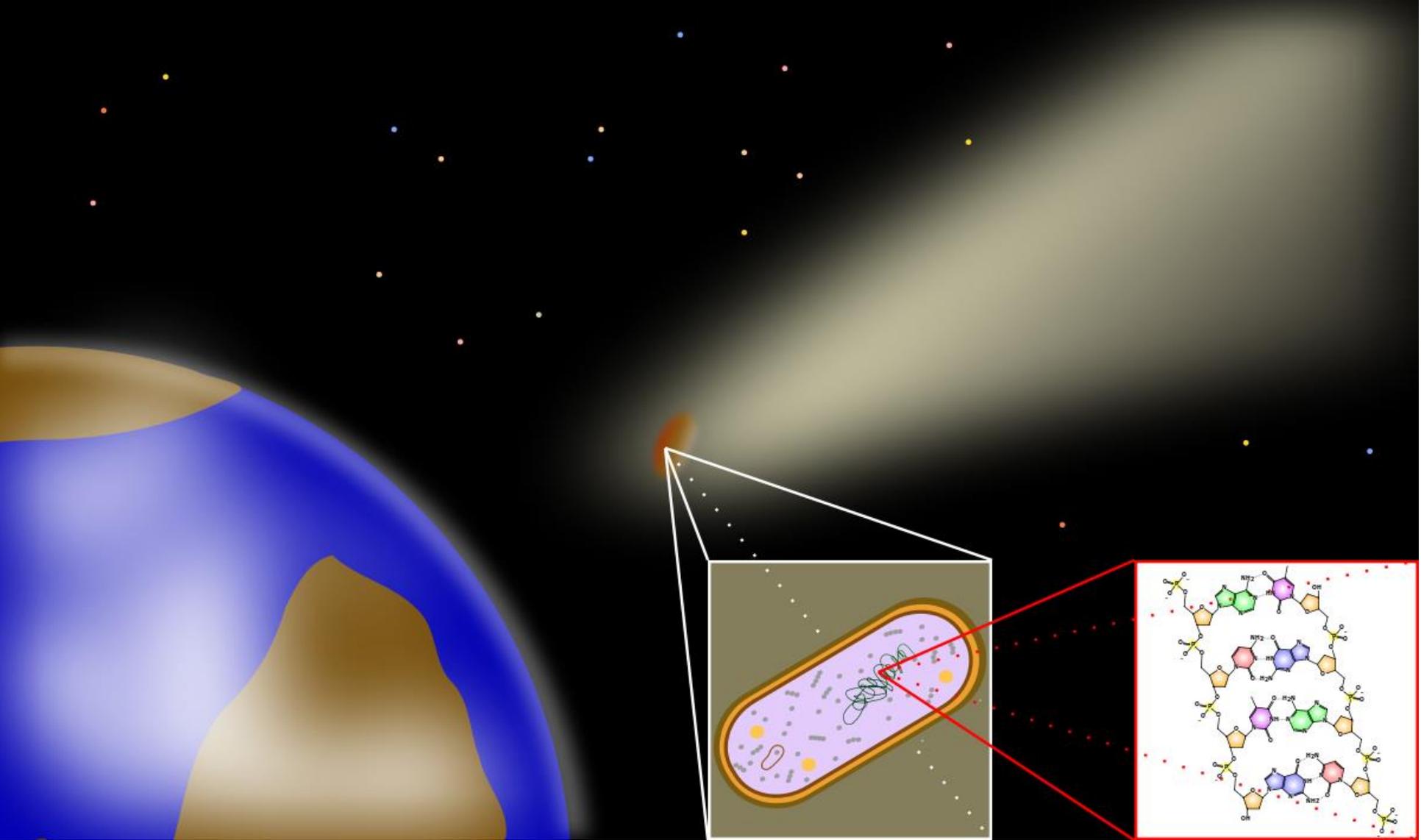
“Never will the doctrine of spontaneous generation [Abiogenesis] recover from the mortal blow of this simple experiment. There is no known circumstance in which it can be confirmed that microscopic beings came into the world without germs, without parents similar to themselves.”



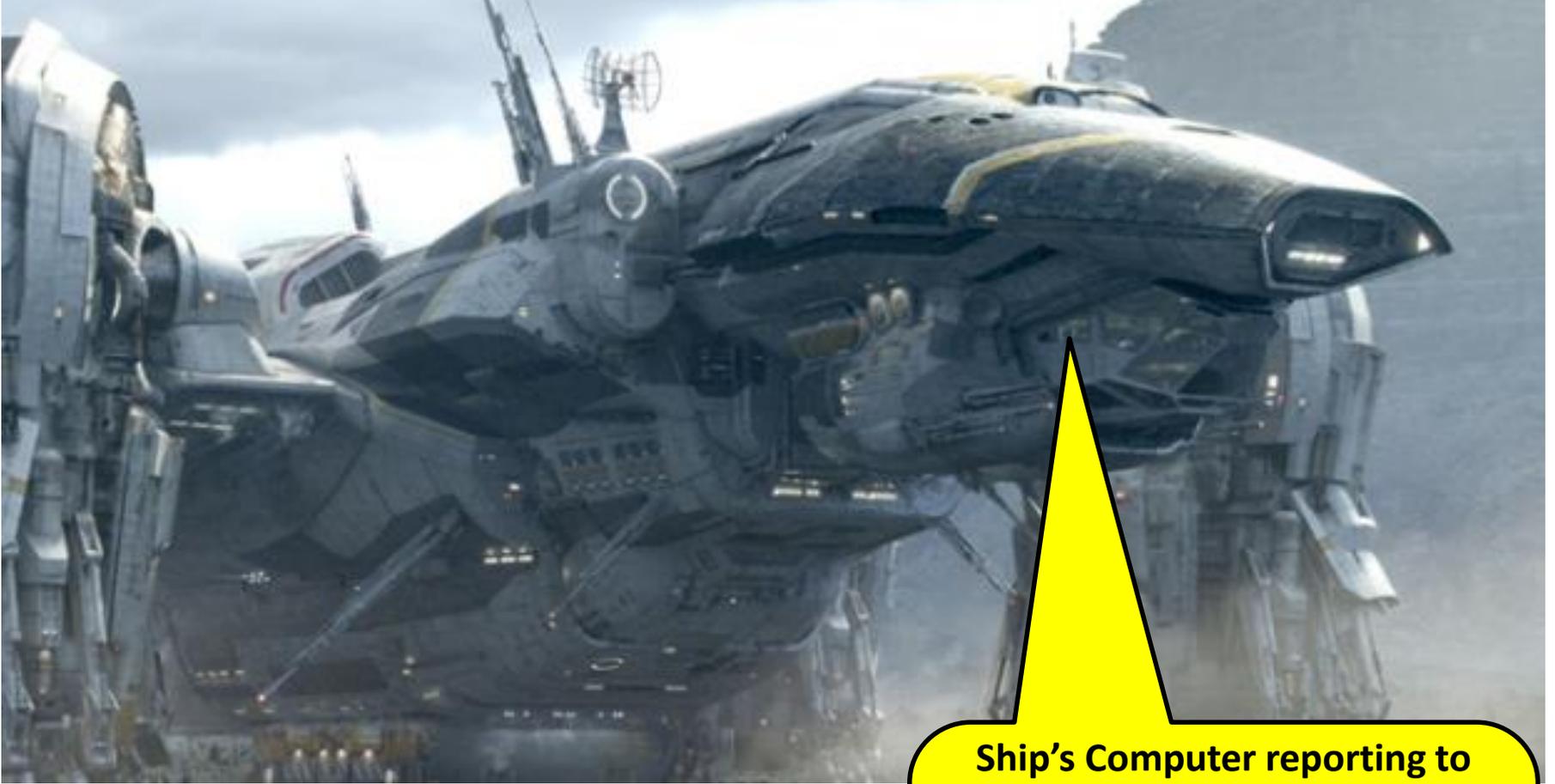
“The Law of Biogenesis must have been broken once because we are here...”

This is not using scientific fact to support his argument but hopeful story telling.

In a debate on Abiogenesis versus special creation by an Intelligent Designer, when asked about the Law of Biogenesis one man said...

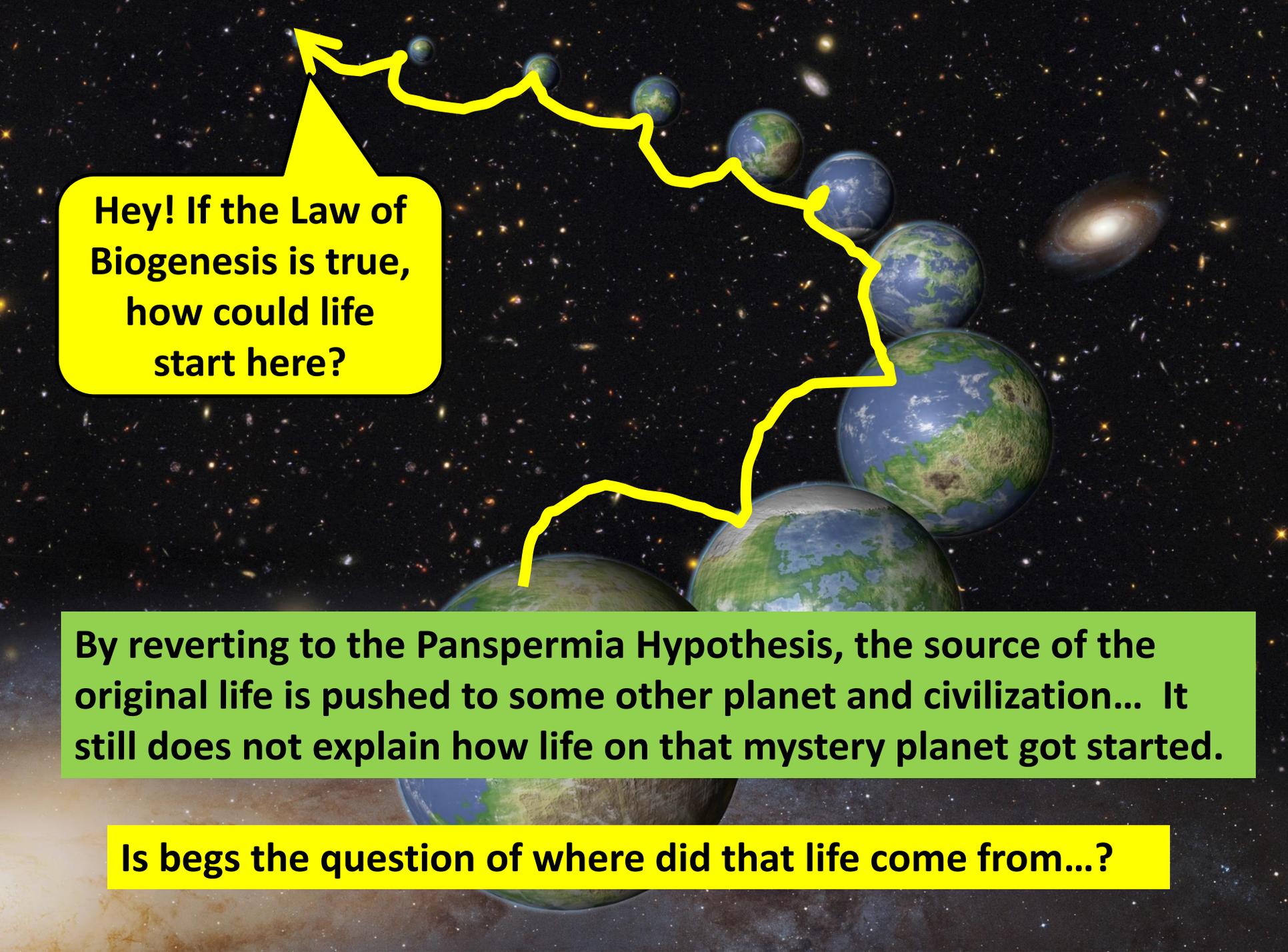


As an alternative to abiogenesis on Earth, some scientists proposed the hypothesis of directed panspermia.



This theory states that Earth life began with "microorganisms sent here from another planet, by means of a long-range unmanned spaceship..." (Crick, Orgel and Carl Sagan)

**Ship's Computer reporting to Alien planet.
"Roger Roger. Released all the little "bugs' into this planets atmosphere. Return in 4 billion years to see life.
Mission accomplished!"**



Hey! If the Law of Biogenesis is true, how could life start here?

By reverting to the Panspermia Hypothesis, the source of the original life is pushed to some other planet and civilization... It still does not explain how life on that mystery planet got started.

Is begs the question of where did that life come from...?



**You mean I
couldn't happen
without a Creator?**

© PUBLICITY PICTURE

150 Years of Squeezing Blood out of a
Turnip
or Rather

Squeezing Life out of Mars
And tax money out of your pocket book.

150 Years of No Life on Mars

[List of all missions to Mars starting in 1960 to present](https://en.wikipedia.org/wiki/List_of_missions_to_Mars)

https://en.wikipedia.org/wiki/List_of_missions_to_Mars

2017 After 150 Years Mars Explorations and Suppositions.

What Are the Results?

55 probes to Mars

50%

Never launched & exploded,

Never made it to Mars,

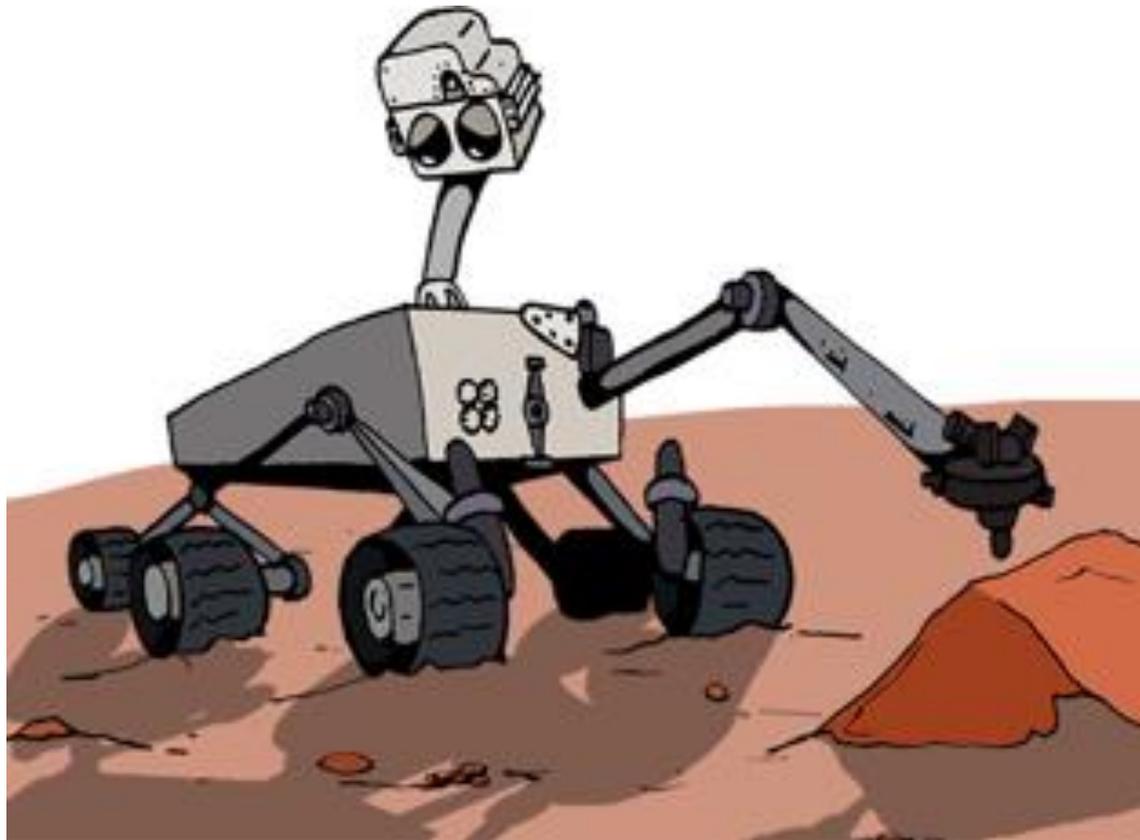
Crashed on Mars.

Those left have sought to find life but
only find a desert world totally hostile
to life.



Rule of Thumb:

1. When we cannot reach the planet, great effort is made to show that it might have life.



2. When we can reach the planet, great effort is made to show that it had life in the past that spread to Earth.



3. Finally, as with Venus, they admit it is too hostile and life must have come from another planet that we can not reach and therefore cannot prove or falsify the theory.

NASA can keep this [Go to 1.] up indefinitely as long as they get tax money for their next planet adventure.



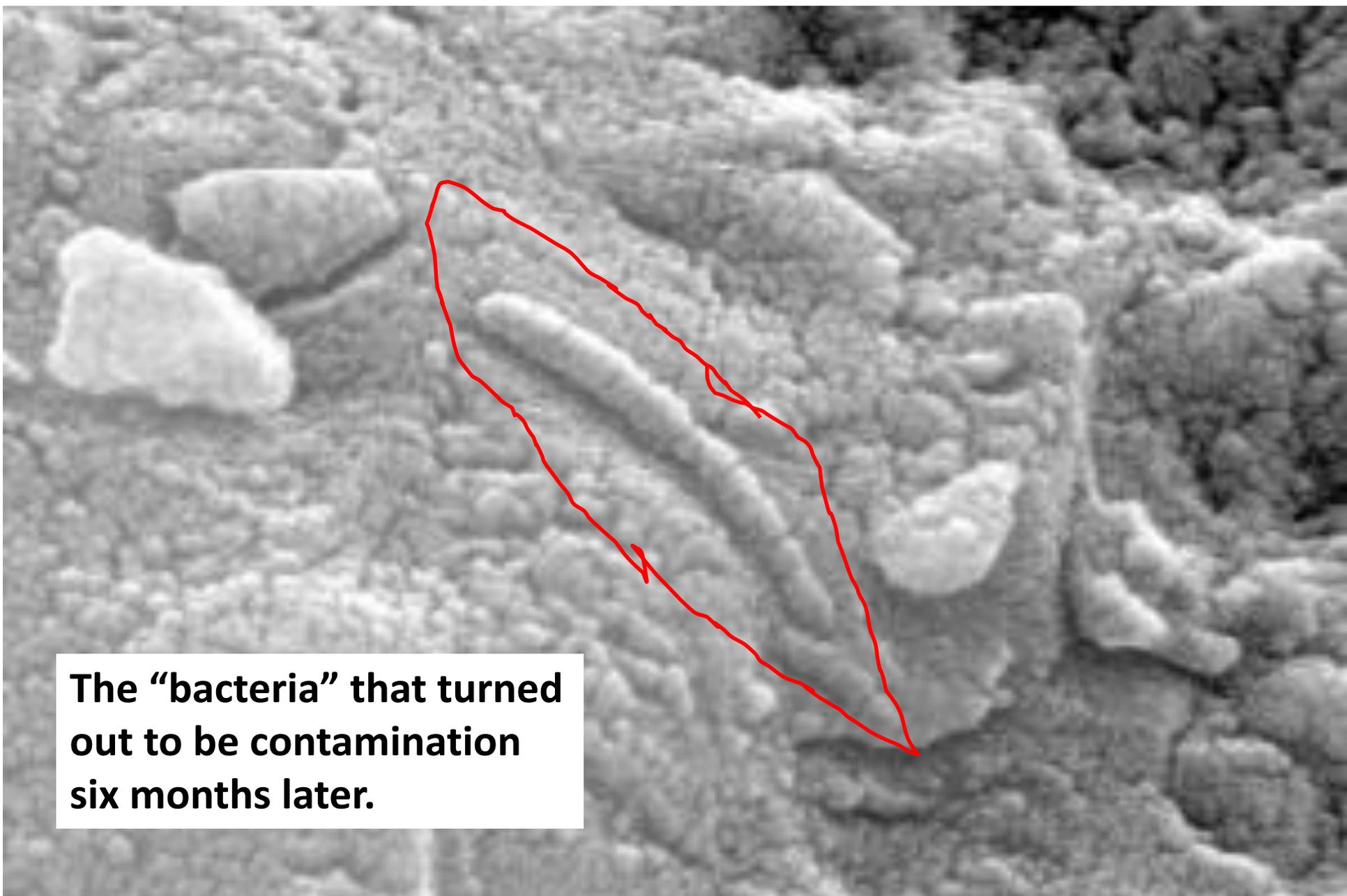
News Release



Since the first Mar's Rover in 1996 scientists have been desperately grasping at straws in their quest to justify billions of dollars spent to reach Mars looking for life that proves evolution is a common accordance in the universe. In 1996 a meteoroid was found at the south ? Pole that was supposedly from Mars. Fossilized bacteria were found in it. It made the evening news Normally the evening news devotes 30-60 seconds on small events. **This one they kept returning to for about a week every night (I was there)**

Six Months later it was discovered that it had been contaminated in the laboratory. Nothing was heard on the evening news. It was reported in pages of the Discovery Magazine but that was about all. A year later I would ask people in groups I spoke to if they had heard about the Mars rock that proved life started on Mars. Half the room of peoples hands went up. Then I asked how many had heard that it was contaminated and no hands went up. **It is now burned into the mind of the average person that the Mars rock had fossilized bacteria in it.**

Now with the Mars rovers (3 in number) discoveries they have still not found any possibility of life. Maybe water but you need more than water for life.



The “bacteria” that turned out to be contamination six months later.

NASA News dispatch. September 19, 2017

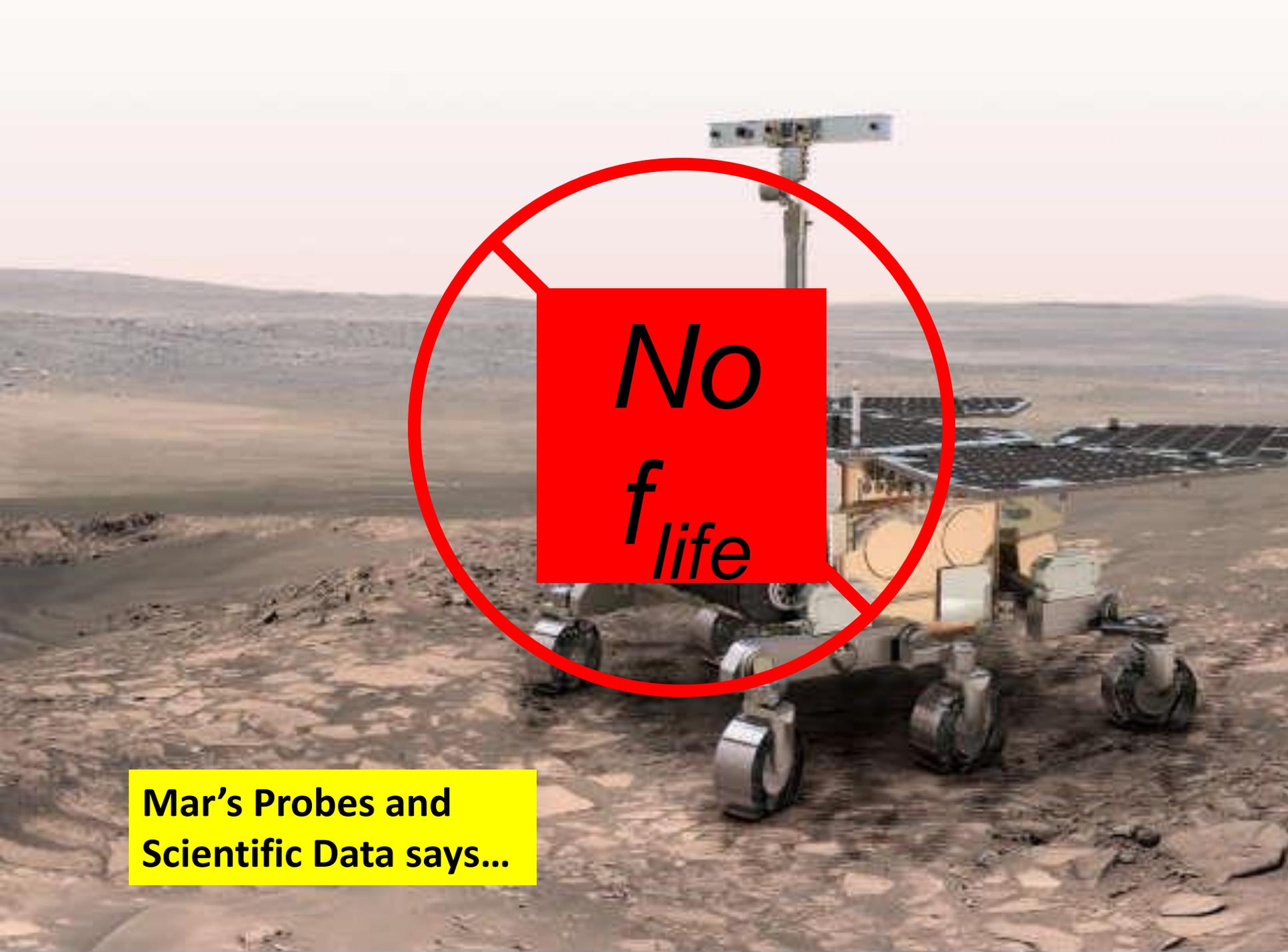
NASA announced today that after nearly 40 years and over 50 probes sent to Mars they have been unable to prove that life evolved there and was later transported to earth on a piece of meteorite.



Having spent nearly \$4 billion to prove the hypothesis that life came from Mars, NASA has decided to scrap the whole program and build a space platform in earths orbit with the rest of their budget. They claim making products in zero gravity might actually be profitable and they can give something of value back to the American people rather than pictures of red dust from Mars.

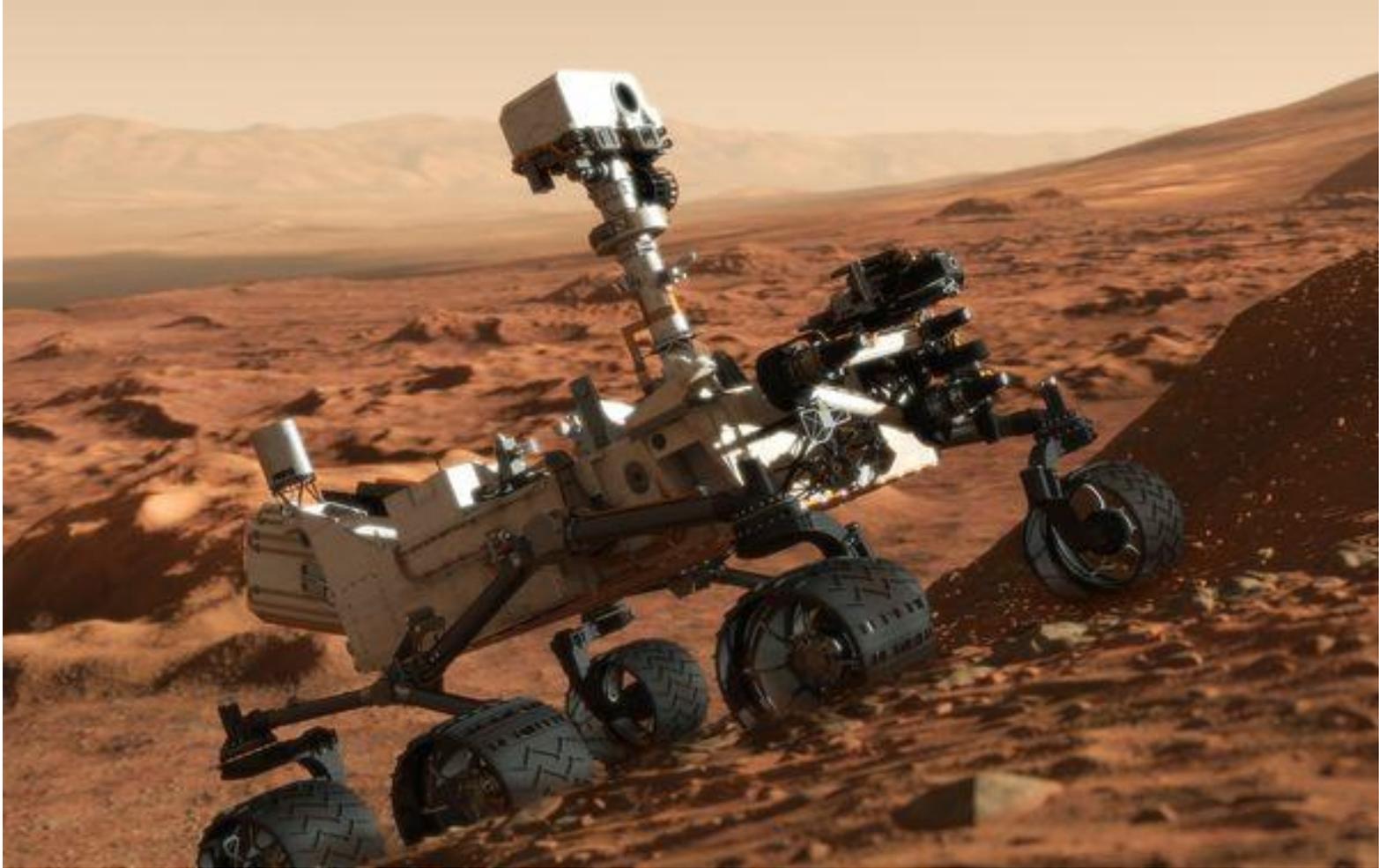
They have also scraped the idea of building a colony on Mars. Deciding that the financial outlay, the dangerous risk for loss of life, and a logistical problem of supplying it with food and oxygen is too costly.

Therefore, the hypothesis that life began in the hostile environment of Mars has been laid to rest. We thank the American people for their tax money that was used for this endeavor, we're sorry we could not prove our hypothesis, in fact, we wish we would've spent the money on something else. Anyone interested in buying some used Mars Rovers? We still have the prototypes at our headquarters.

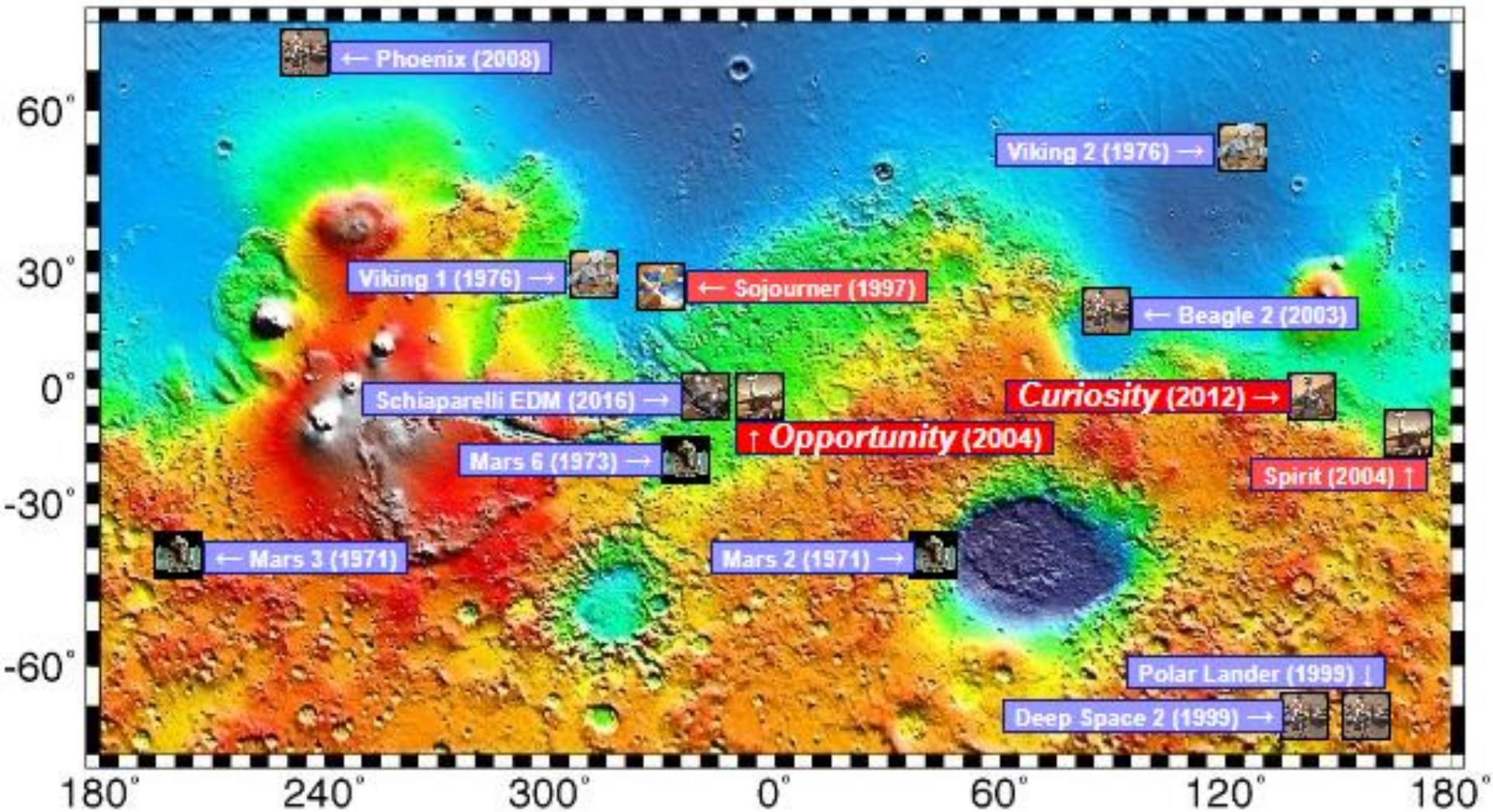


No
f
life

**Mar's Probes and
Scientific Data says...**



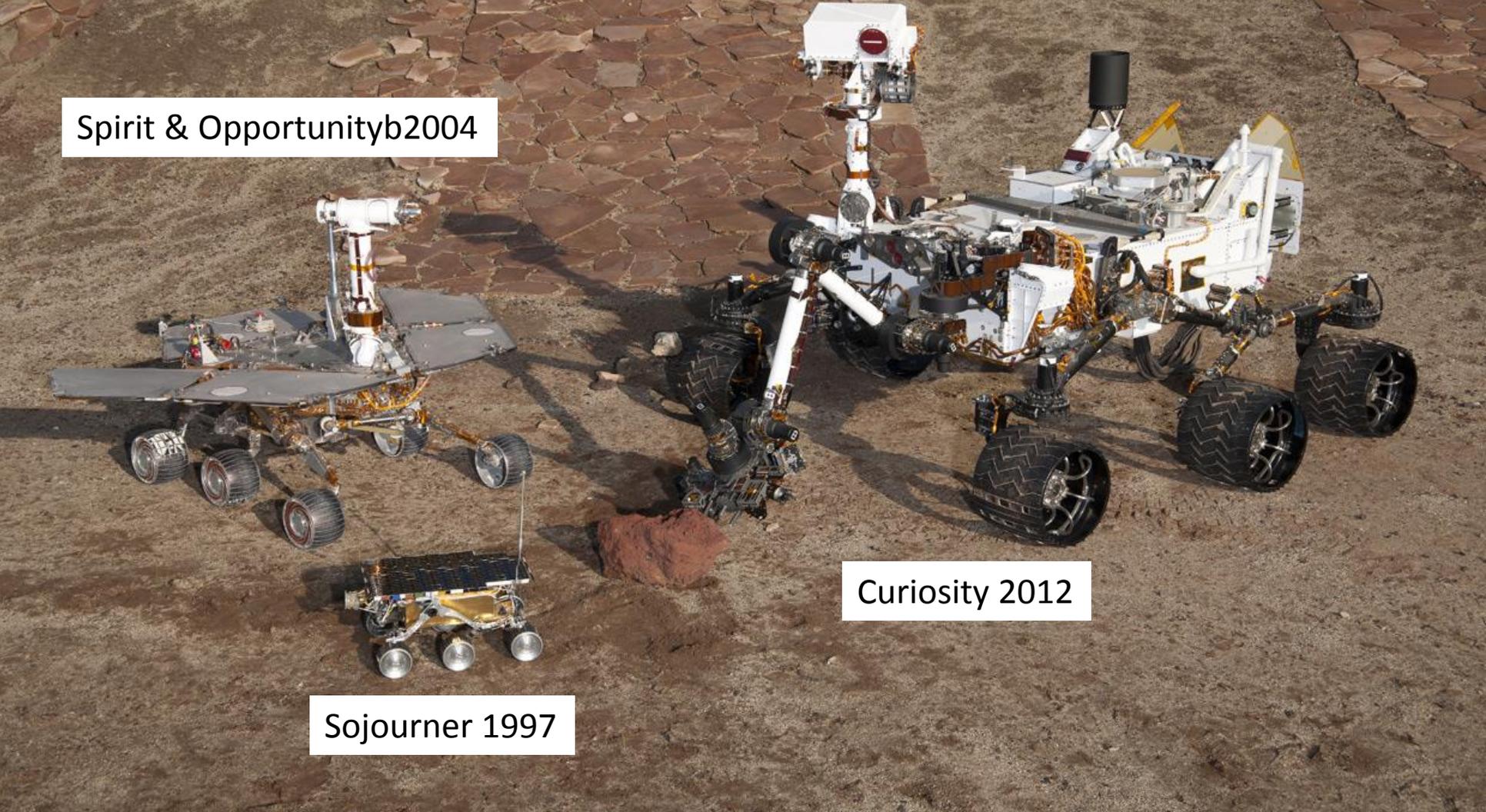
If life were to be found on Mars that developed independently from life on Earth it would imply a value for f_1 close to one. While this would improve the degrees of freedom from zero to one, but the sample is too small to be valid.



Where they have explored.



The size of the rover.

An aerial photograph of three Mars rovers in the Mars Yard at JPL. Spirit and Opportunity are on the left, Curiosity is on the right, and Sojourner is in the foreground. The rovers are arranged on a reddish-brown, rocky surface. Spirit and Opportunity are larger, six-wheeled rovers with solar panels. Curiosity is a larger, more complex rover with a prominent mast and camera. Sojourner is a small, six-wheeled rover with solar panels. The background shows a large, reddish-brown rock formation.

Spirit & Opportunity 2004

Curiosity 2012

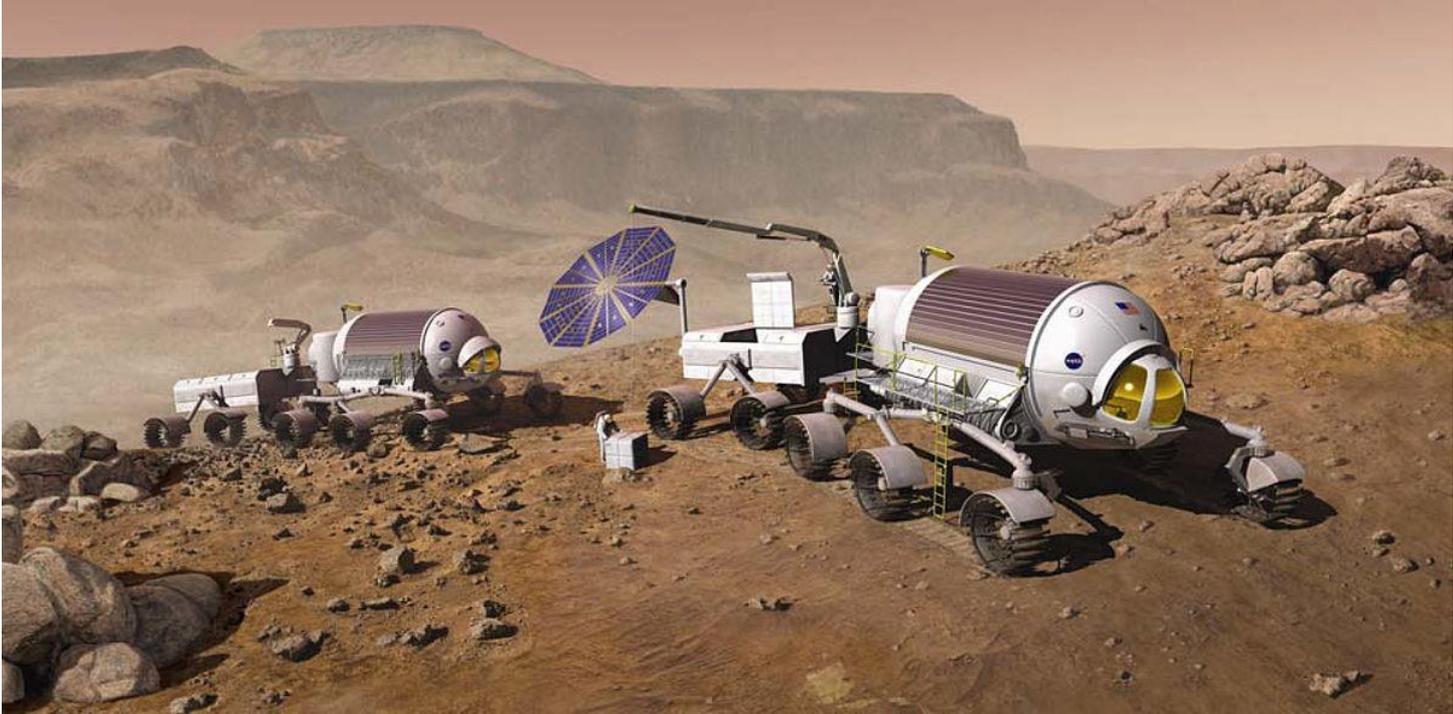
Sojourner 1997

Three Generations of Mars Rovers in the Mars Yard. This grouping shows 3 generations of NASA's Mars rovers from 1997 to 2012 set inside the Mars Yard at the Jet Propulsion Lab in Pasadena, Calif. The Mars Pathfinder Project (front) landed the first Mars rover - Sojourner - in 1997. The Mars Exploration Rover Project (left) landed Spirit and Opportunity on Mars in 2004. The Mars Science Laboratory Project (right) is on course to land Curiosity on Mars in August 2012. Credit: NASA/JPL-Caltech



Mars Exploration Rover Opportunity is superimposed on the rim of Victoria Crater on the Martian surface. Cornell /JPL/NASA

We have been searching for life on Mars since 1960 with over 55 probes sent there at the cost of billions of dollars Still no life...

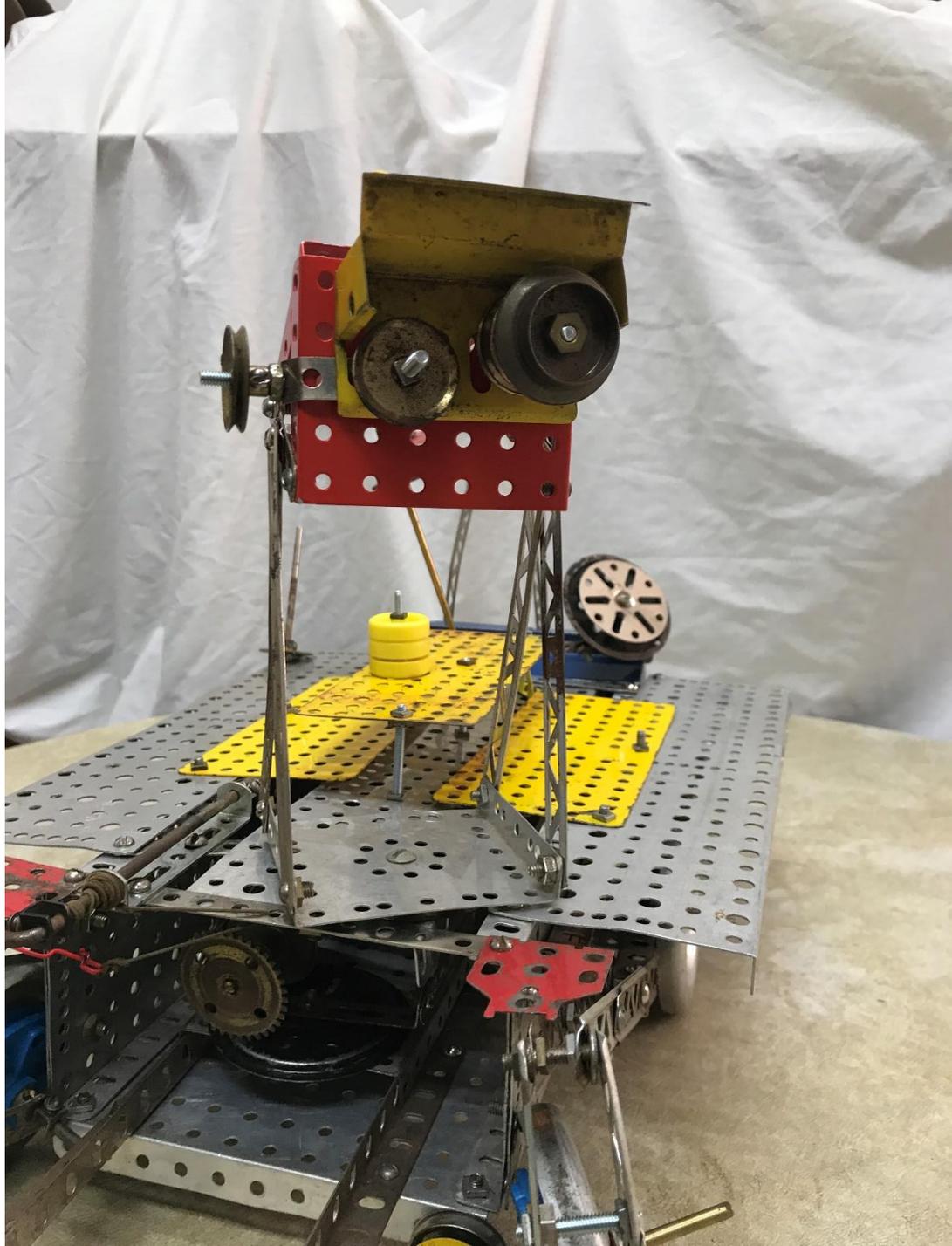


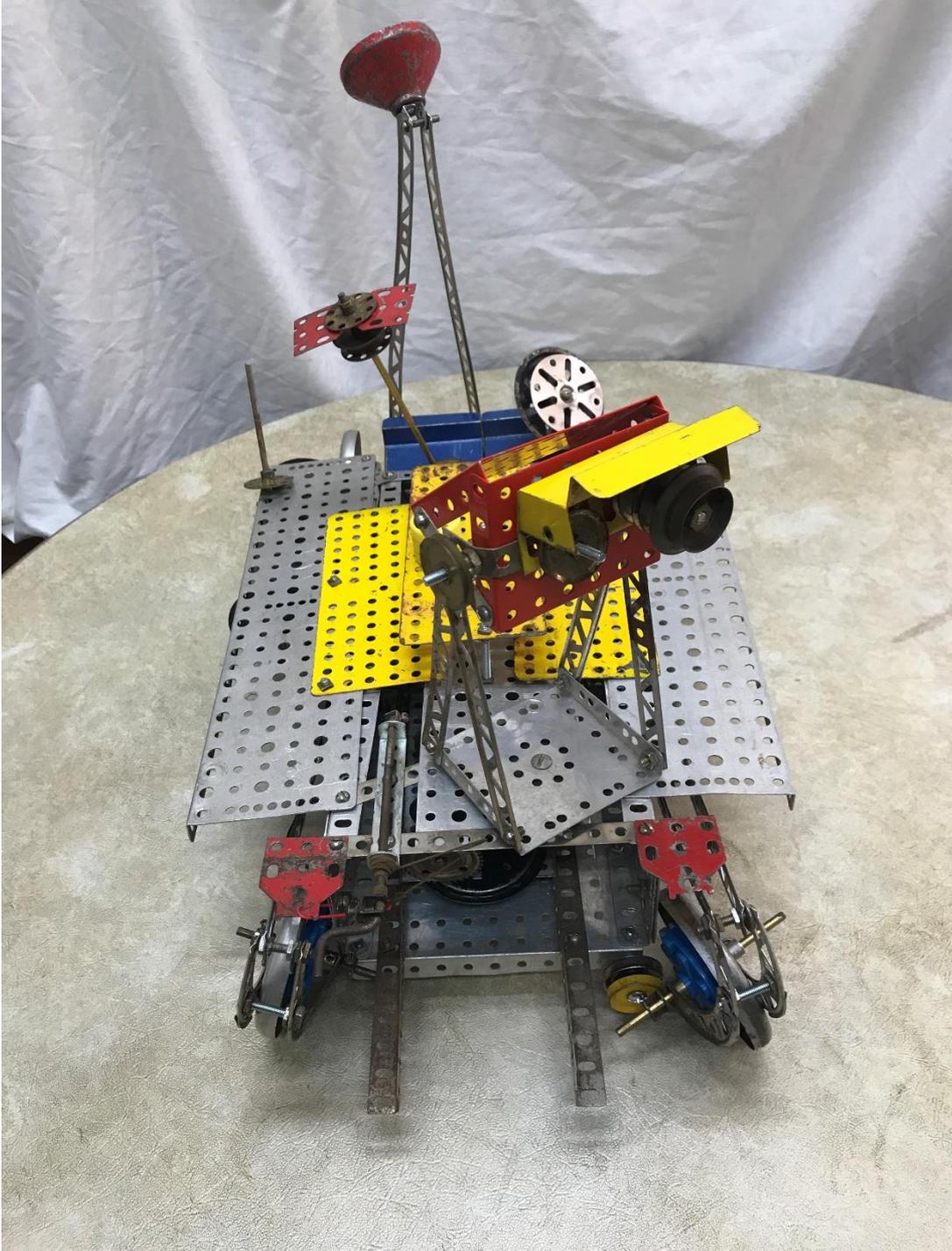
As a modest prediction, we might expect some significant discovery to be announced by NASA, say, in the year 2006 when the ten-year appropriation comes to an end. If this should be the case, watch out for retractions once new funding has been secured. The bottom line in the search for life on Mars is that by the discovery of evidence of extraterrestrial life, no matter how slim, there will be placed in the public mind the unstated suggestion that life can begin without a Creator. At the same time, the embarrassing question of how life began on planet Earth could now be completely avoided by an appeal to its origin beyond our planet and thus beyond reach for human inquiry. At this point, the issue is clearly not one of science but of religion since it is an unprovable article in the faith of evolution.

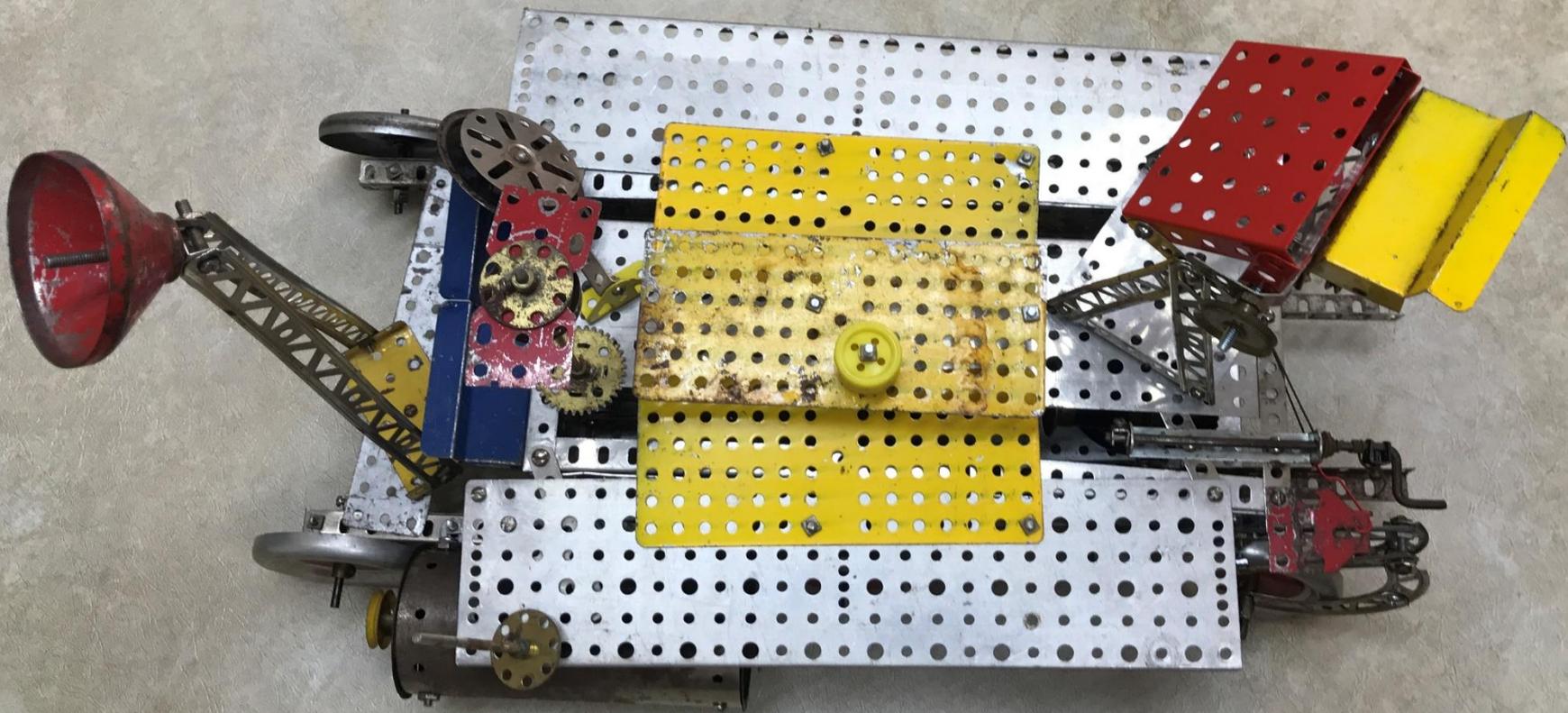


My Erector Set Mars Rover







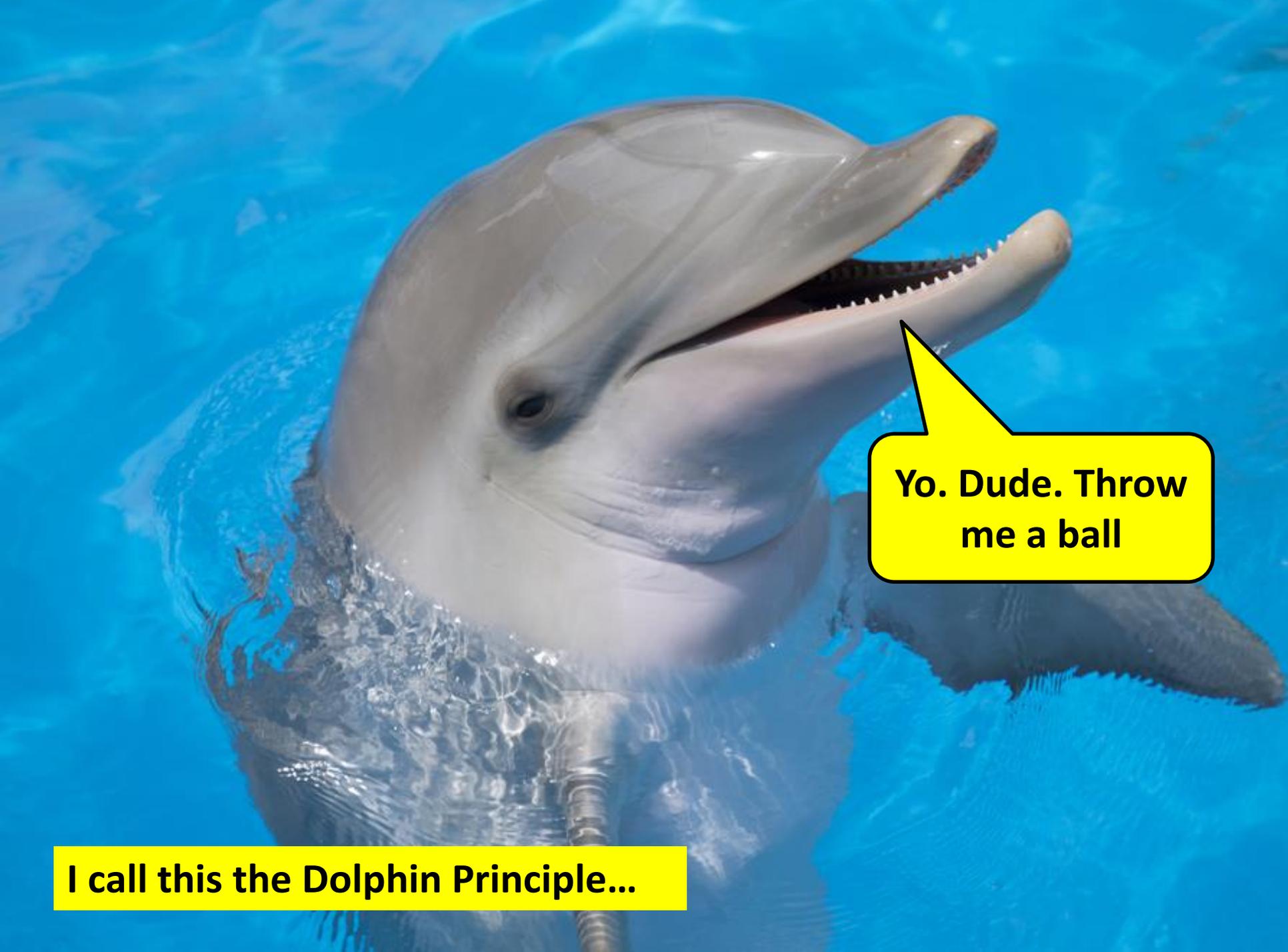


$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

Fraction of
planets that
develop
Intelligence



f_i - the fraction of planets *with life* that actually go on to develop intelligent life. This value remains particularly controversial.



**Yo. Dude. Throw
me a ball**

I call this the Dolphin Principle...



Dolphins can learn over 100 commands from their trainers. They can think and reason through complex problems.

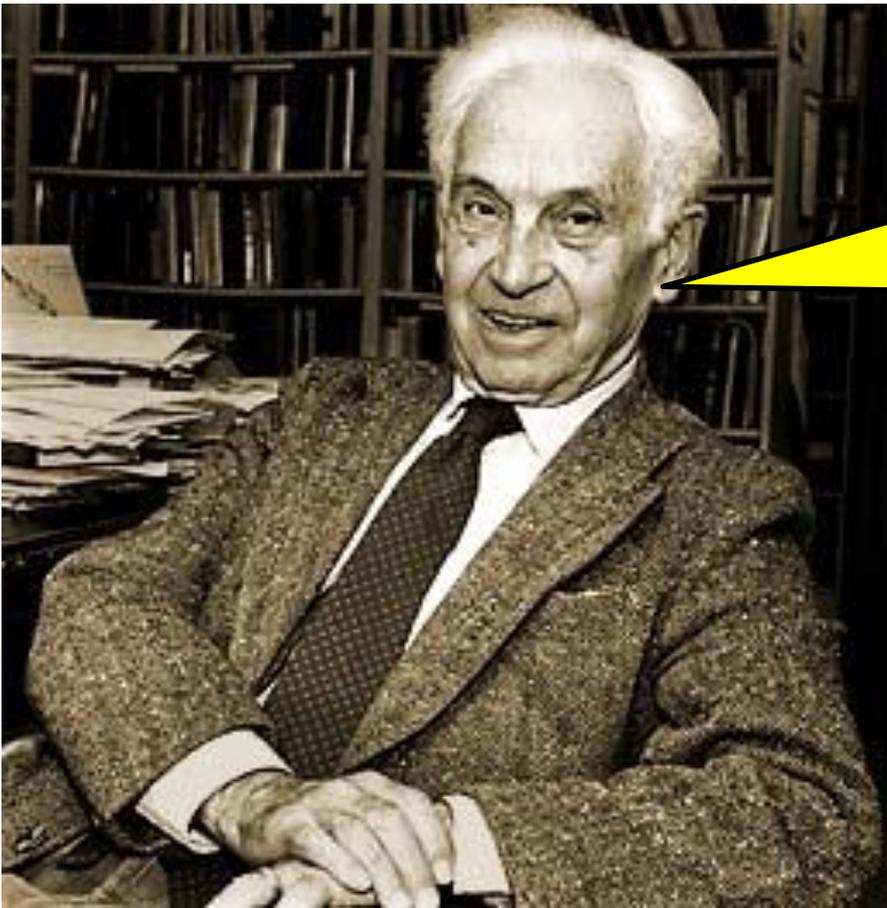


They seem to be “self aware” and they work together in their pod.



**You are wrong, Russ.
Dolphins built these
towers in Dubai**

**The Dolphin Principle -
They never built anything...**



There are billions of species that have existed on Earth, but only one has become intelligent...

From this, he infers a tiny value for f_i .

There are those who favor a low value for f_i such as the evolutionary biologist Ernst Mayr...

Hey. Life always gets smarter and travels to the stars.



Those who favor higher values for “i” (Intelligence evolving) note the generally increasing complexity of life and conclude that the eventual appearance of intelligence might be inevitable implying an f_i approaching 1...



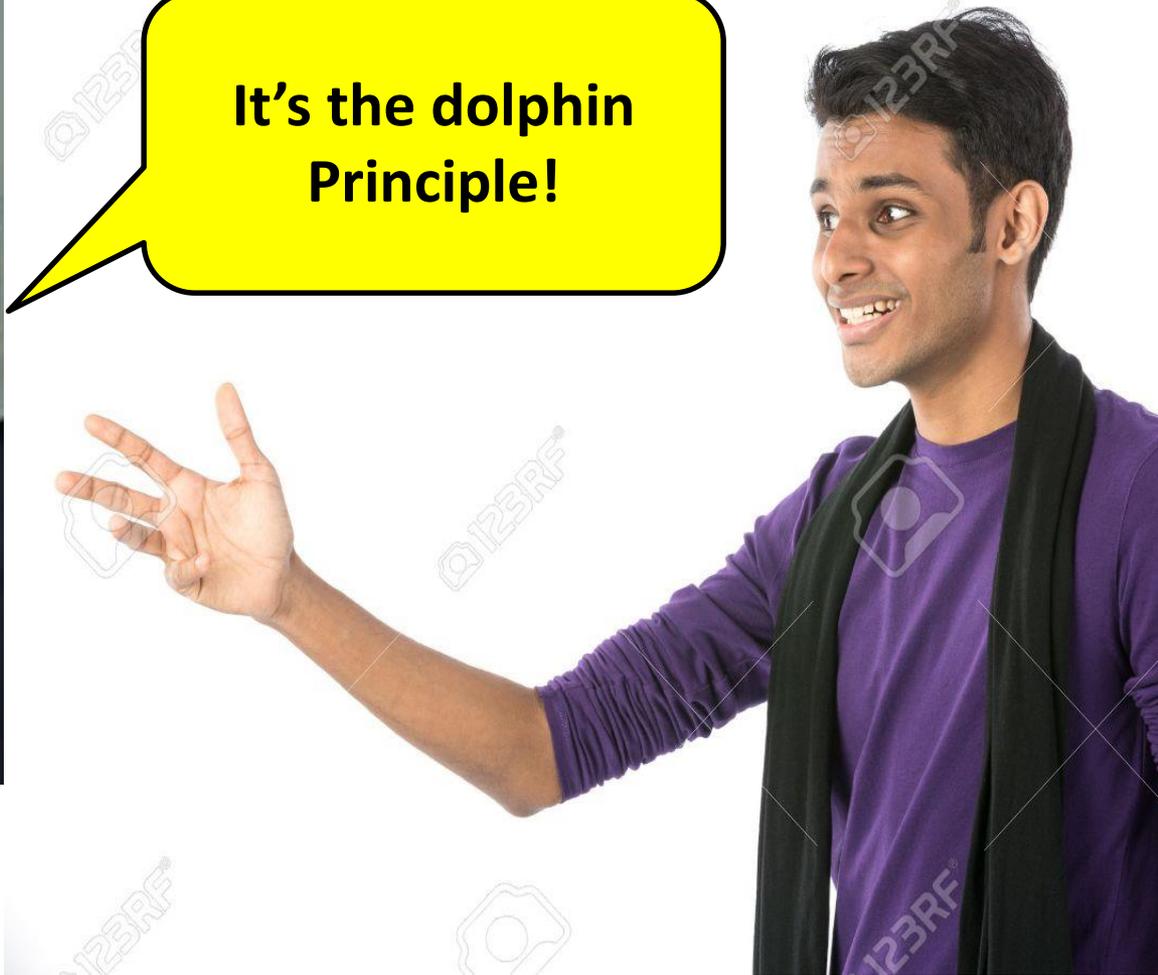
**That's not science.
That's just wishful
thinking.**



**Skeptics point out that the large spread of values
in this factor makes all estimates unreliable...**



**It's the dolphin
Principle!**





Dolphin Principle – They don't build things.

Dolphins have a certain amount of intelligence just like a dog but...

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

Fraction of planets
that develop a
civilization



For 6000 years thousands of advanced civilizations have come and gone on the Earth but only in the last 150 years have we developed radio to send communications to outer space.

f_c - the fraction of civilizations that develop a technology that releases detectable signs of their existence into space...

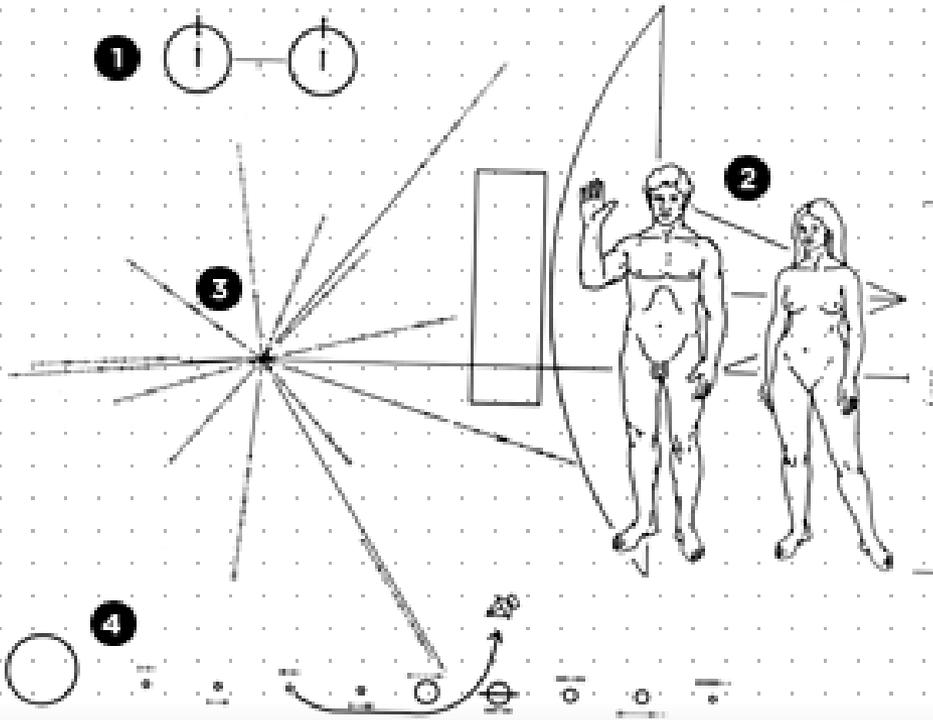
The earth has been radiating Radio signals for over 100 years...

Yet no Alien civilization has ever intercepted the signals and sent us an e mail.



THE PIONEER PLAQUE

1. Hyperfine transition of neutral hydrogen.
2. Male and female figures against a diagram of the spacecraft.
3. Position of the sun in our galaxy.
4. Solar system and the spacecraft's trajectory.



The message (above) was a pictograph and math calculations attached to the Pioneer Space Probe in 1972. Nothing came of it other than a Star Trek Movie where Voyager came back as an intelligent advanced machine!

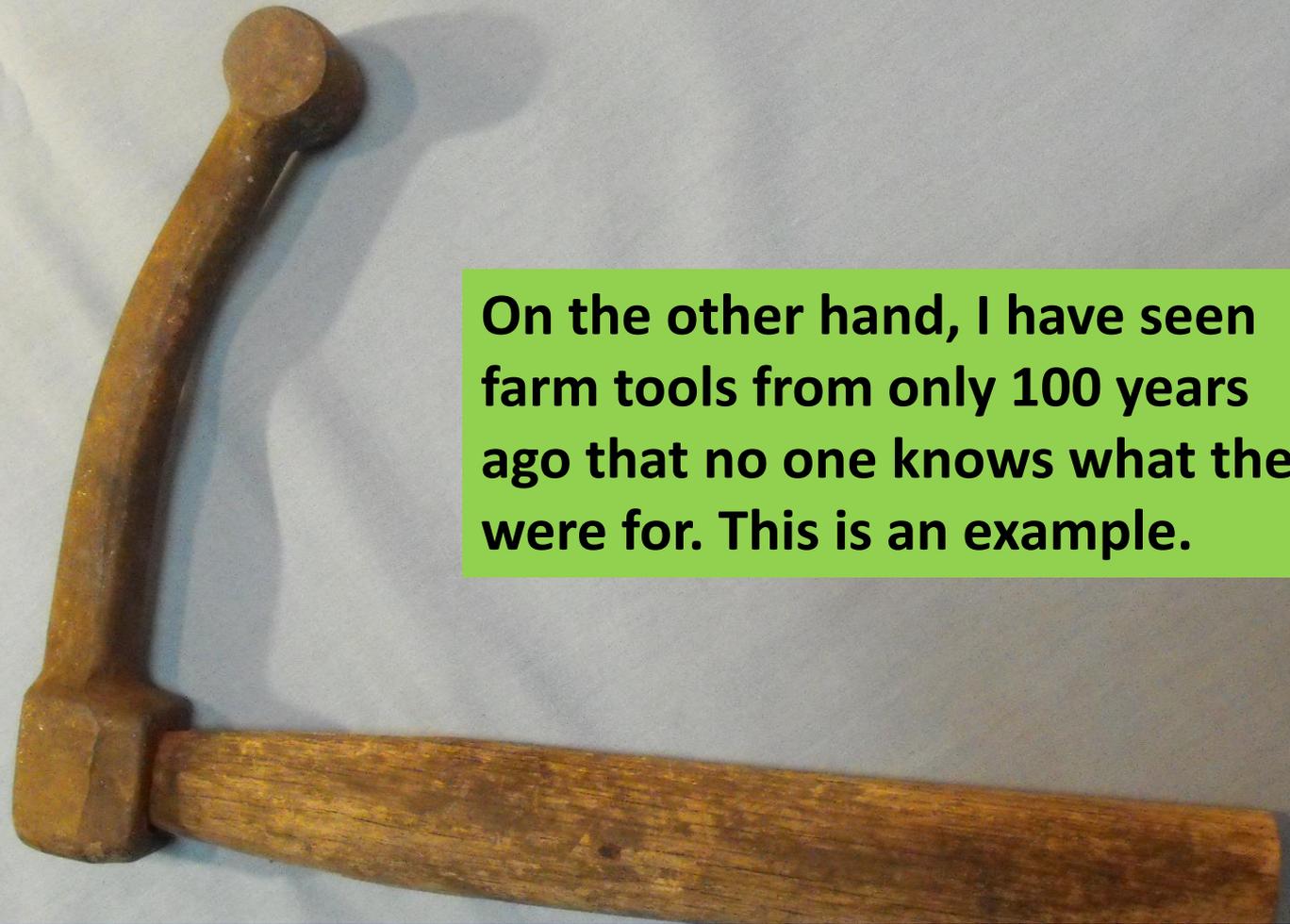
$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

Length of time
to send offworld
signals

Aztec Civilization

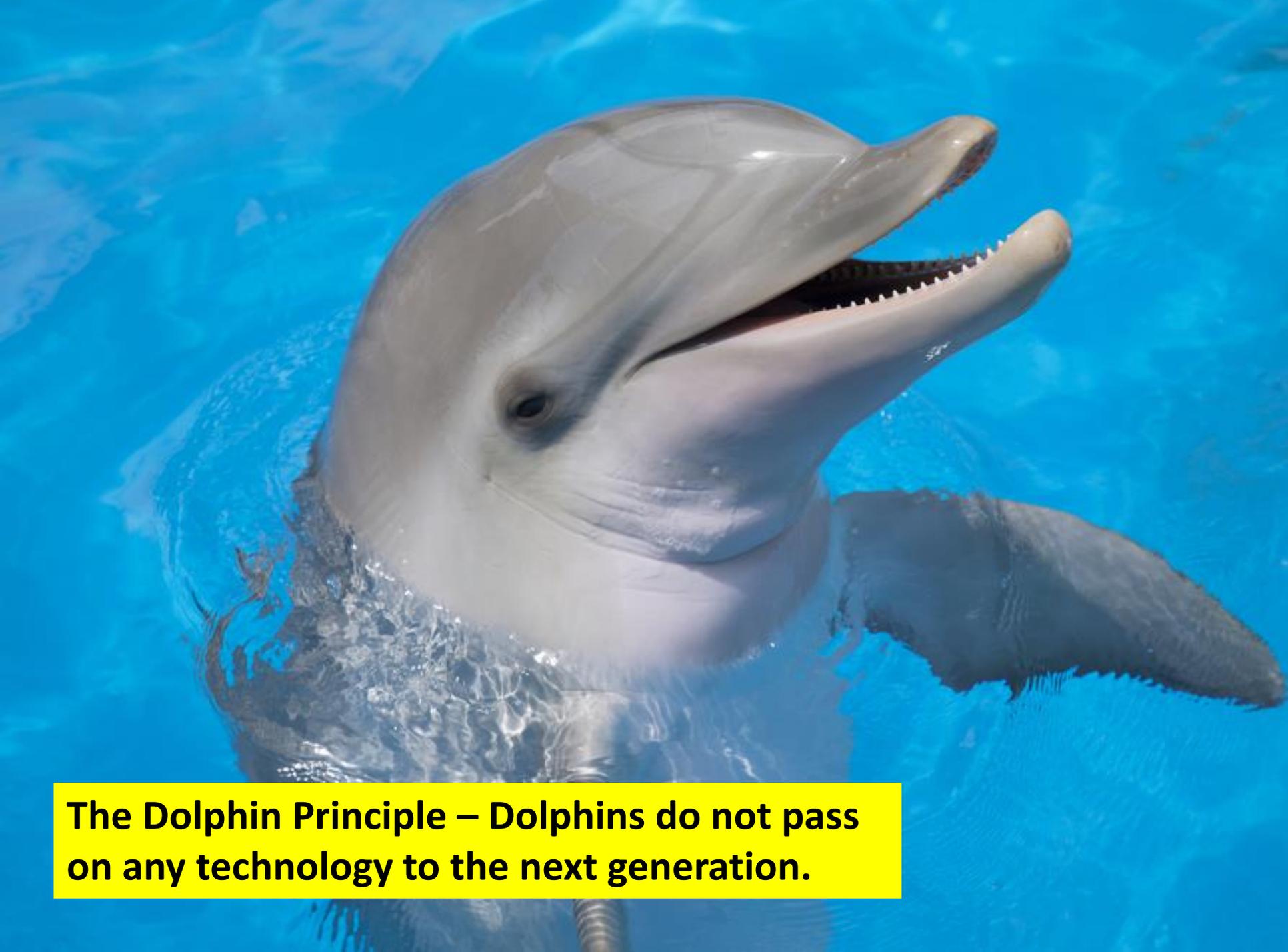


L - the length of time for which such civilizations release detectable signals into space. Michael Shermer, using 28 civilizations more recent than the Roman Empire, calculates a figure of 304 years that "modern" civilizations last.



On the other hand, I have seen farm tools from only 100 years ago that no one knows what they were for. This is an example.

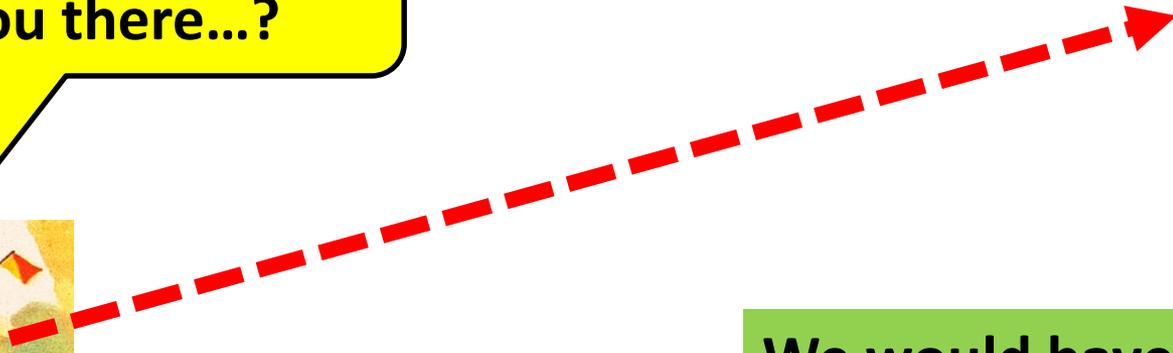
It could also be argued from Michael Shermer's results that the fall of most of these civilizations was followed by later civilizations that carried on the technologies...



The Dolphin Principle – Dolphins do not pass on any technology to the next generation.

We're here. Are you there...?

Mars

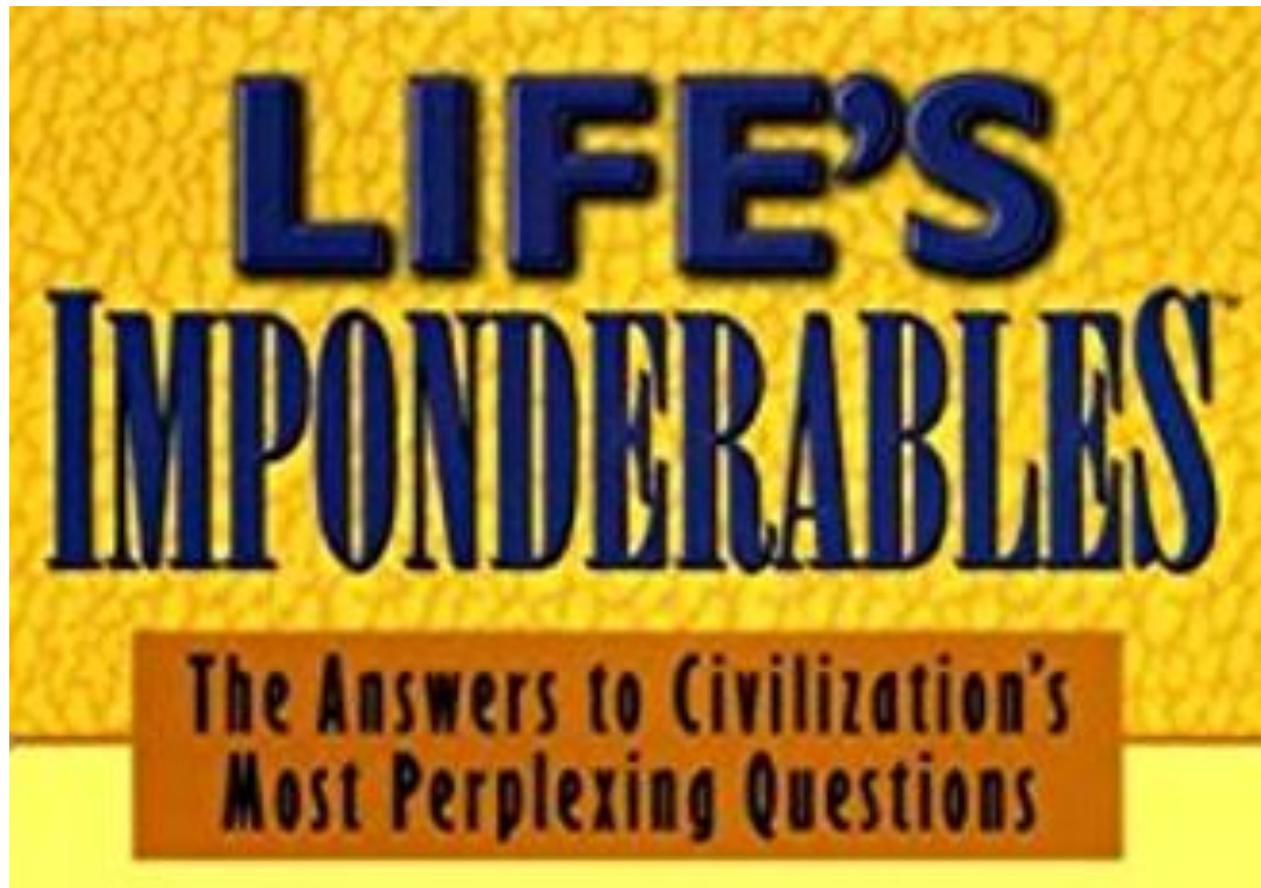


We would have to put a big "0" in the equation.

I don't think they're getting your message.

The problem is that since none of the civilizations studied in the last 300 years could communicate over interstellar space... the method of comparing L with historical civilizations could be regarded as invalid...

Summary of Criticisms





It's a big guess.

Criticism of the Drake equation follows mostly from the observation that several terms in the equation are largely or entirely based on conjecture...

**1 piece
of Data**

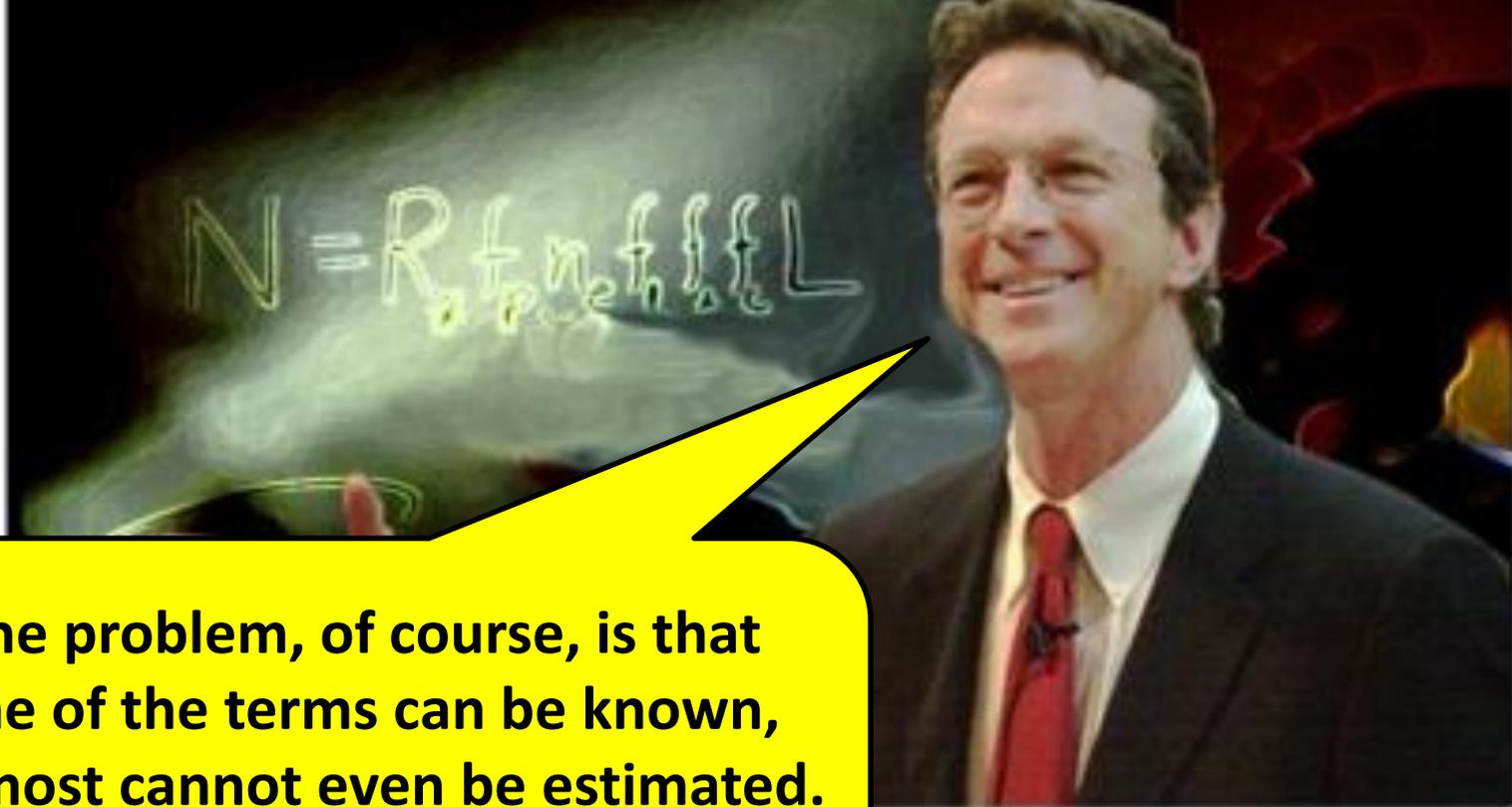
**1000 pieces
of Data**

In statistical analysis, we need 100 to maybe a 1000 statistics before we would draw a conclusion. One data is not enough...

The uncertainties revolve around our understanding of the evolution of life, intelligence, and civilization, not physics. No statistical estimates are possible for some of the parameters, where only one example is known...



The net result is that the equation cannot be used to draw firm conclusions of any kind, and the resulting margin of error is huge, far beyond what some consider acceptable or meaningful.



“The problem, of course, is that none of the terms can be known, and most cannot even be estimated. The only way to work the equation is to fill it in with guesses.”

Michael Crichton, a science fiction author, and evolutionist stated in a 2003 lecture at Caltech...

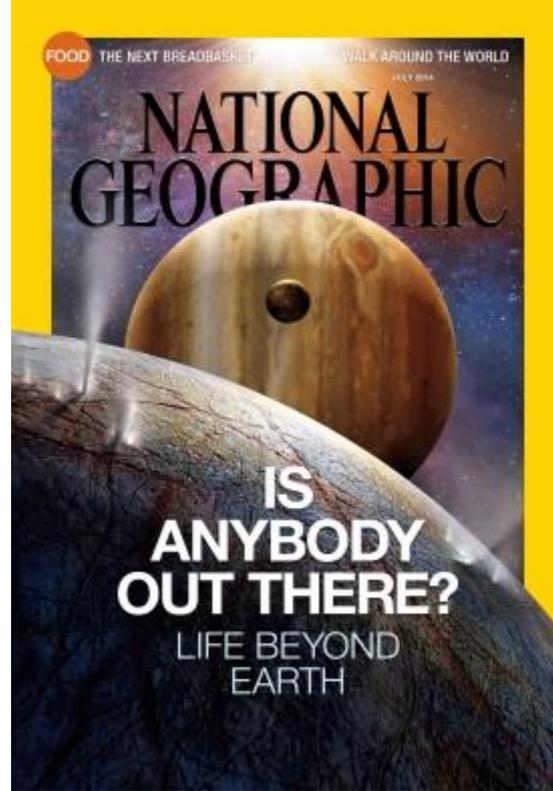


**From the author
of Jurassic Park
an evolutionist.**

As a result, the Drake equation can have any value from "billions and billions" to zero. An expression that can mean anything, means nothing. Speaking precisely, the Drake equation is literally meaningless..."

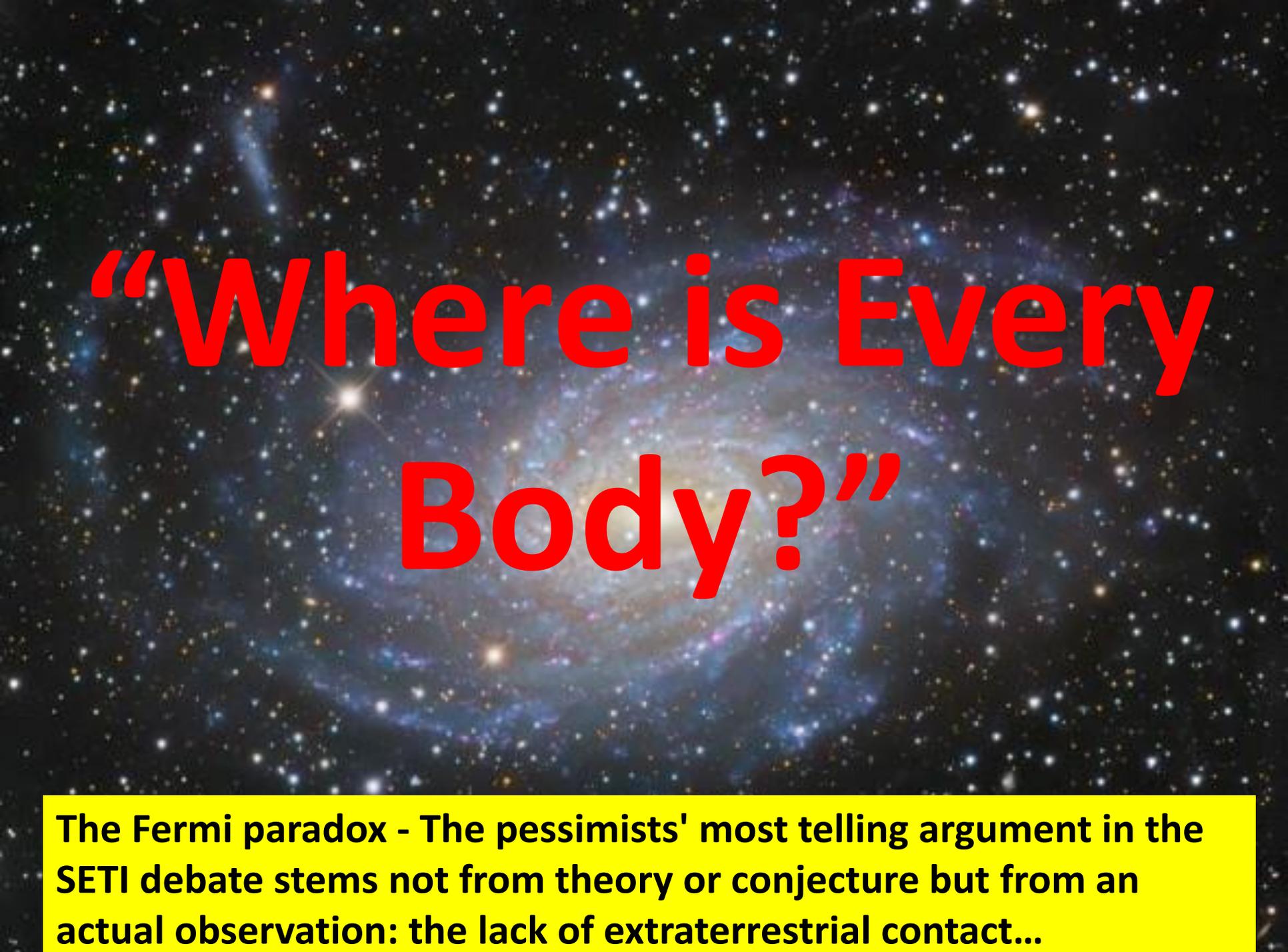
*Frank Drake
featured in
National
Geographic
magazine*

June 19, 2014



In the National Geographic (2014) that I read it inferred that the Drake Formula “proved” that we will find life in the Galaxy. It does no such thing as you will see in the conclusion...

Drake originally formulated the equation merely as an agenda for discussion at the Green Bank conference in 1961 to get funding support for his SETI program...



“Where is Every Body?”

The Fermi paradox - The pessimists' most telling argument in the SETI debate stems not from theory or conjecture but from an actual observation: the lack of extraterrestrial contact...



A civilization lasting for tens of millions of years would have plenty of time to travel anywhere in the galaxy, even at the slow speeds foreseeable with our own kind of technology.



Furthermore, no confirmed signs of intelligence elsewhere have been spotted, either in our galaxy or the more than 80 billion other galaxies of the observable universe. According to this line of thinking, the tendency to fill up all available territory seems to be a universal trait of living things, so the Earth should have already been colonized, or at least visited, but no evidence of this exists. Hence Fermi's question "Where is everybody?" [Enrico Fermi was an Italian physicist, who created the world's first nuclear reactor]

A futuristic cityscape with tall, dark, metallic structures. A large red 'X' is drawn over the scene. In the center, a red rectangular box contains the text 'SORRY No Aliens Here'.

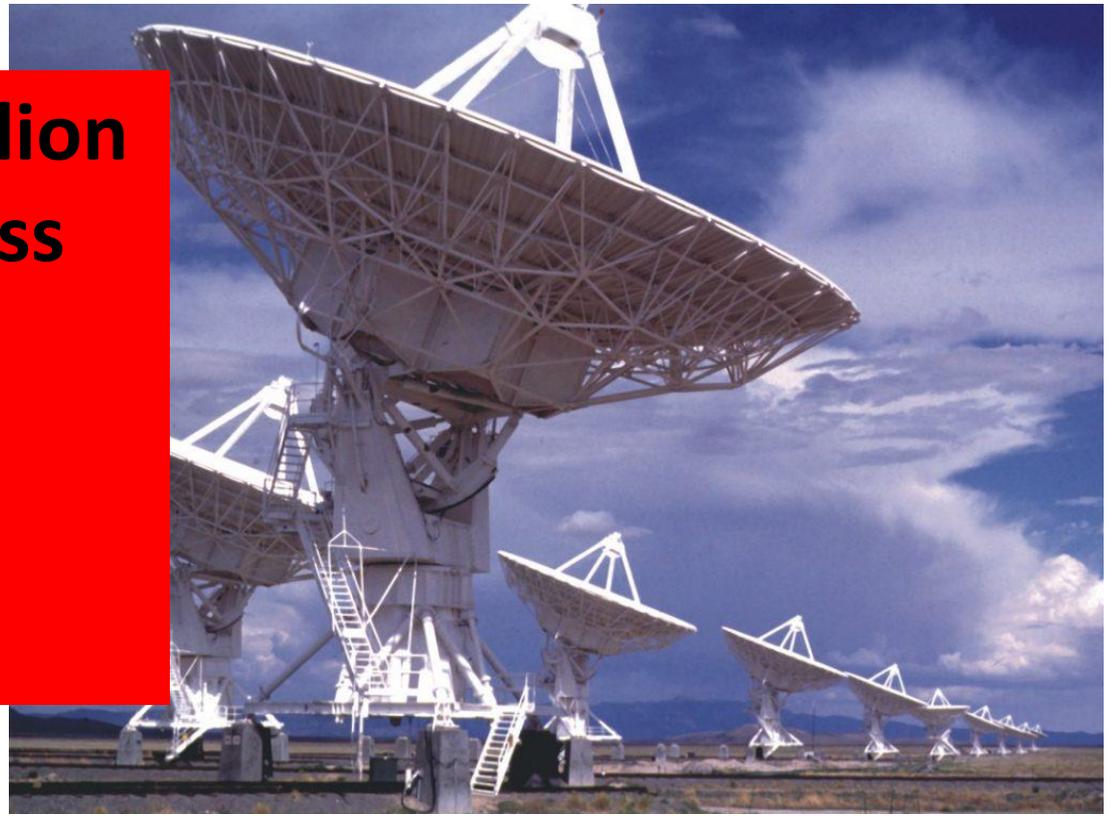
**SORRY No
Aliens Here**

Some 50 years of SETI have failed to find anything, even though radio telescopes, receiver techniques, and computational abilities have improved enormously since the early 1960s, but it has been discovered that our galaxy is not teeming with alien life...

THE MISSION OF THE
SETI INSTITUTE
IS TO **EXPLORE, UNDERSTAND AND EXPLAIN**
THE ORIGIN, NATURE AND PREVALENCE
OF LIFE IN THE UNIVERSE..

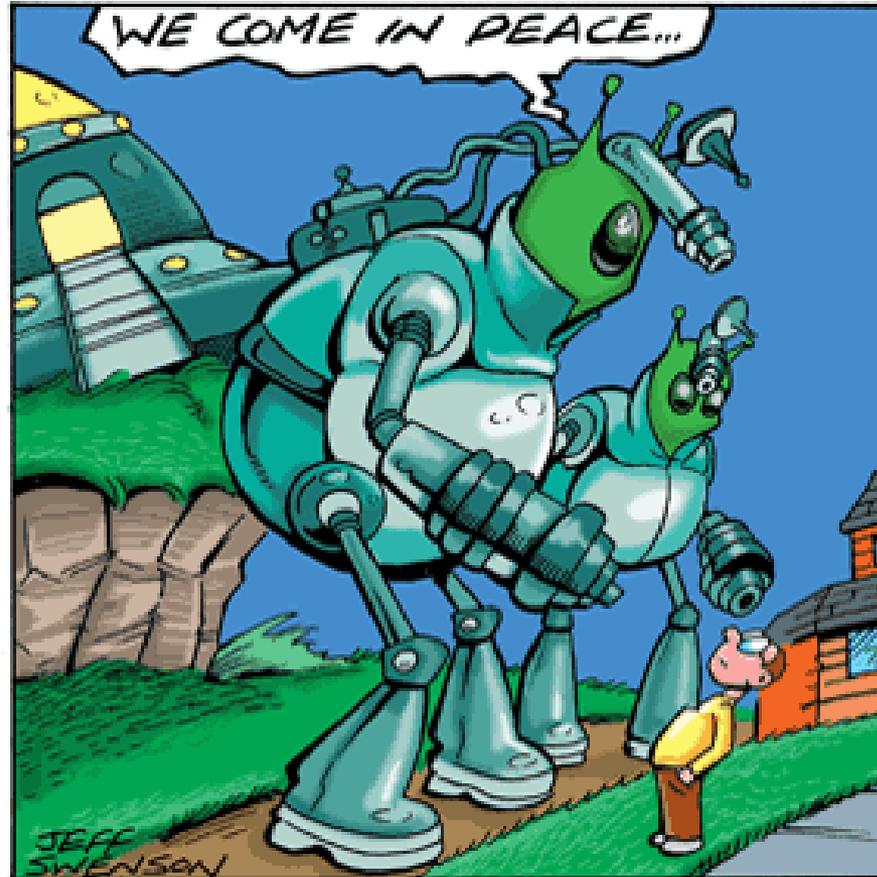
**20 years and a 4 billion
dollar cost. Congress
cut it to 0.**

**Then NASA took it
over.**



Conclusion

Running the Formula
Then - 1961 - and
Now. 2017



**Does the Drake Equation “Prove” we will find life in the Galaxy?
Lets run the formula using his original figures and what we
know now in the Present.**

1961

Figures Drake used that year.

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

50,000	=	10	.5	2	1	.5	1	10,000
Civilizations could exist in our Galaxy	per year	Assume planets around a star	Earth Mars have life	Assume “always” appears	life becomes intelligent	Civ. that can send message	years to grow & send	
			Fudged Mars					



2010 BBC

2010

Figures Drake used 2010 year in the documentary..

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

.03	=	.1 per	1	1	.01	.1	1	300
Civilizations could exist in our Galaxy		year pretend EGGs work	Assume planets around star	Earth only has life	Assume life “always” appears intelligent	Assume life becomes intelligent	Civ. that can send message	years to last

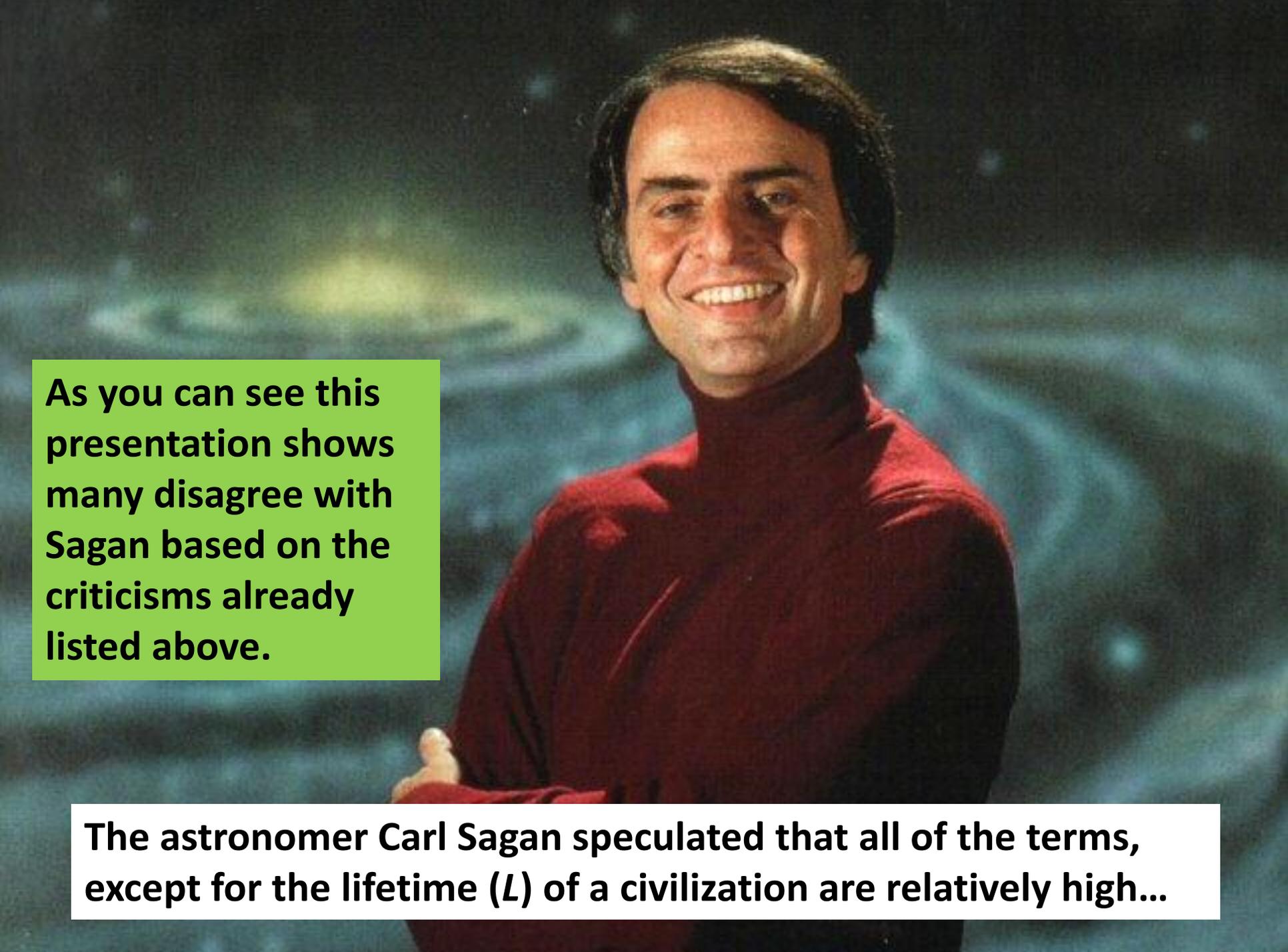
2017 + Louis Pasteure and Law Biogenesis (1862) and known Data...

NOTE: When a "0" figure is entered in any of the equation the end result is "0" i.e. no chance of any life in outer space...

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

0 =
Civilizations
could exist.

0	0	0	1	0	.1	1	300
Assume	Assume	Earth	Assume	Assume	Assume	Assume	years
# of	Livable	only	life	life	can send	to last	
stars	planets	has	life	"always"	becomes	message	
are	around	too	appears.	intelligent	Dolphins	say no	
forming	star	Un	low	Law of			
	known	data	Biogenesis	says NO			

A photograph of Carl Sagan, a man with dark hair, smiling and wearing a red turtleneck sweater. He is positioned in the center-right of the frame. The background is a dark, starry space scene with a nebula-like structure in shades of blue and green.

As you can see this presentation shows many disagree with Sagan based on the criticisms already listed above.

The astronomer Carl Sagan speculated that all of the terms, except for the lifetime (L) of a civilization are relatively high...



“An expression [equation] that can mean anything, means nothing. Speaking precisely, the Drake equation is literally meaningless...”

Inserting the current estimates discussed above into the original equation, using a value of 0.1 wherever the text says someone has proposed an unspecified "low value," results in the range of N being from a low of 2 to a high of 280,000,000 (280 million) possible worlds that would hold life...

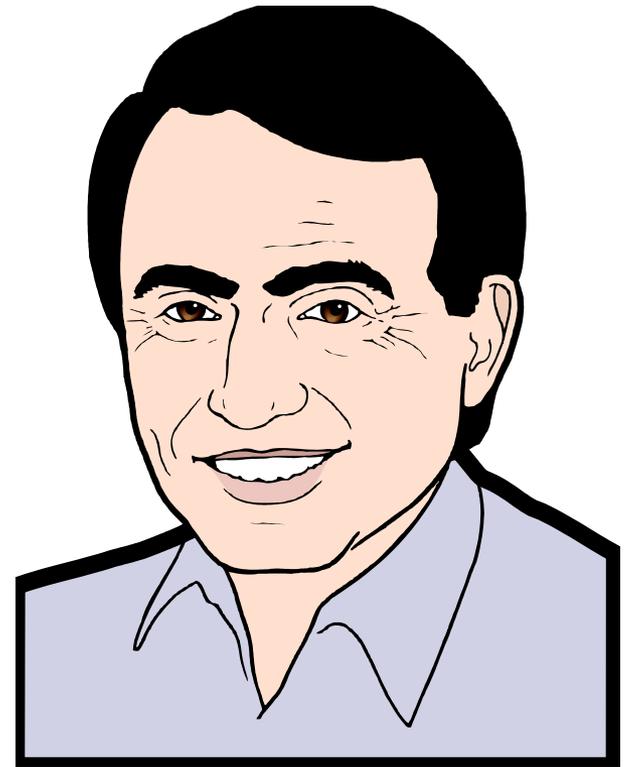


Yes the equation served as a means for discussion and arousing interest in SETI, but it cannot be used as a scientific proof of life occurring on any planet other than Earth.

The Evolutionary Humanistic Message:

“You have neighbors so be happy, don’t fight, love one another.”

From the book and movie Contact, Carl Sagan, 1997



Evolutionist to do not believe in God. They think that by having neighbors either across the fence in our backyard or across billions of light-years of space, this will help us to be better, caring, loving people.

What’s the Point...?



We will act better because we have neighbors.

“You have neighbors so be happy, don’t fight, love one another...”

Imagine you and your brother have been fighting. Your mother comes and says...



Imagine you and your spouse have been fighting. Your kids say...

“You have neighbors so be happy, don’t fight, love one another.”

Imagine terrorists are attacking you. You yell out to them and say...

“You have neighbors so be happy, don’t fight, love one another.”





“I’m your neighbor so be happy, don’t fight, love one another and clean up that mess!”

**Some neighbors are slobs and rowdy.
You yell out to them and say...**



It is through Jesus Christ living in us that we can overcome the sin nature and be happy, not fight and love one another. See the Beatitudes.

END

Drake equation conclusion

Carl Sagan's conclusion after he wrote the book contact, was this, "you have neighbors in outerspace. So be happy and be a good neighbor to them, don't fight amongst yourselves, but build a beautiful civilization."

Evolutionist to do not believe in God, think that by having neighbors either across the fence in our backyard or across billions of light-years of space, this will help us to be better, caring, loving people.

I have tried to keep this talk to 100 slides. I have expanded it to 200 slides for Ross to put at the website. So if you want more details you can go there and see the expansion of each of the formulas and the problems involved.

Hand Outs

Visuals

R_*

2 suitcases free

Stars from dust Have flower
powered and large rock like
meteor

n_e

Minnesota Visuals

Venus Model volcano paint red
give temp and melts lead bullet
Venus land melts

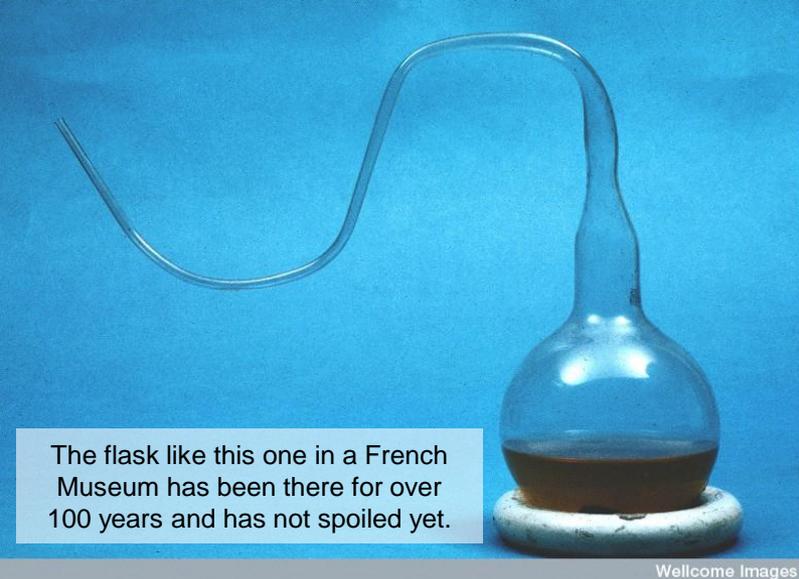
f_l

Corn, rag, mouse

ET green at museum

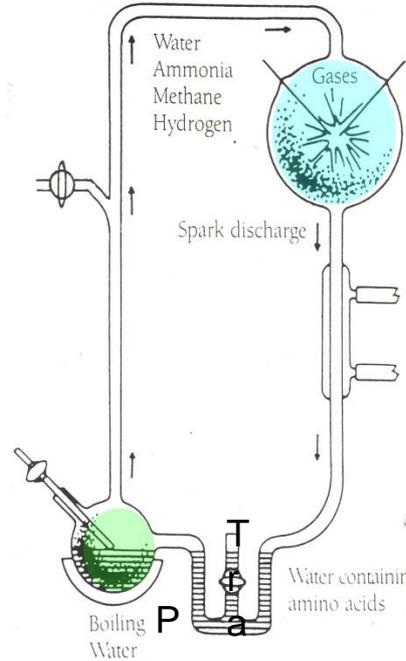
Large picture of me by Miller
experiment

Jar of mud pond water



The flask like this one in a French Museum has been there for over 100 years and has not spoiled yet.

Wellcome Images



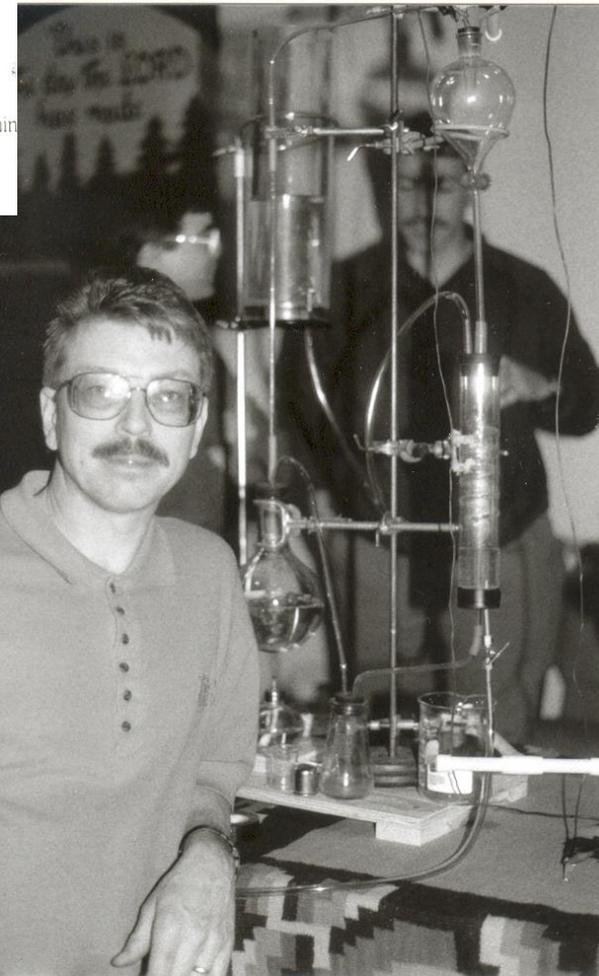
ADVENTURE SAFARIS

Outfitters for Life

E mail russmcglenn@juno.com

805 588 3353

Russ made a model of the Miller experiment in the 1990s and will have it on display at the museum.



Man Creates Life!

On May 15, 1953 the Miller/Urey experiment was hailed as proof that life could be made in a test tube, This supposedly “proved” life could spontaneously form in a primordial sea. This was deceptive as they made several amino acids that were opposite to each other (right & left handed) and in the primordial sea would have cancelled out each other. (My model of the experiment at the right)

Note that at the bottom of the apparatus is a “trap” (P) which took the amino acids out of the system otherwise they would have been destroyed by the energy and hydrogen if they went a second time around through the system. Without amino acids life could not exist. There are other problems in this experiment that actually demonstrate that life could never form in a primordial sea. (See list on another paper)

Above is the “Swan Neck Biogenesis Experiment.” It was developed by Louis Pasteur in 1864. It proved spontaneous generation was scientifically invalid. Yet the Miller experiment has been written up in most high school and college textbooks copyrighted 2000 and beyond, to show that life supposedly started from dead things about 1 billion years ago.

Since this is a “turning point” experiment in evolutionism we plan to have a reproduction of this in our museum contrasting Pasteur’s findings with Miller’s.

Eight Science Facts the Miller/Urey Experiment Proved.

- 1 Oxidizing atmosphere – Ancient rocks prove we have always had the atmosphere we have today
- 2 Reducing Atmosphere – Miller assumed a no oxygen atmosphere because it would destroy any amino acids or “life” in the primordial soup.
- 3 Preservation – An intelligent designer made a “trap” to save the amino acids from destruction from the lightning and other forces.
- 4 Reservation – This describes Oparin’s idea (from whom Miller based his experiment) that amino acids would need to be stored somewhere in a safe place until they could be united with other proteins to create life.
- 5 Uniform Orientation - All life is made from left handed amino acids. The experiment proved that right and left handed amino acids would have canceled out each other in the primordial oceans and no life would have formed.
- 6 Law of Biogenesis (Pasteur) - Life comes from life. The experiment proved Louis Pasteur’s law was true because in the random mixture right and left handed amino acids would cancel out each other.
- 7 Spontaneous generation renamed Abiogenesis. The experiment proved that spontaneous generation cannot work in a random mixture. Intelligent design was needed to create the “trap” to isolate (reserve) amino acids from energy forces that would have destroyed the amino acids.
- 8 Life by evolution - The belief in spontaneous generation because of **inherent design in nature**. “Inherent design” means that things in nature randomly (spontaneously) form complex designed systems such as amino acids that form chains that form proteins and then cells. There are 24 trillion 329 billion possible combinations of 20 amino acids. Only one combination will lead to creating life. It would take humans over 8 billion years to find the right order for all the steps needed to combine the dead chemicals required to make life.

The Miller Experiment and “Science Is Self Correcting.” Right?

The Mystery of the Mistreated Mud. Or how science learned to love Spontaneous Generation.

Spontaneous Generation: This is the theory proposed by Aristotle (about 300 BC) of how life came from mud and has been the underlying assumption of science for 2300 years. It is still considered to be the basis of modern science today. An experiment done in 1953 supposedly “proved” life could come from a primordial ocean and is reproduced today, 60 years later, in science textbooks as proof of evolution.

Russ McGlenn will be showing you that the Miller experiment actually reveals eight scientific facts that show that the primordial sea could NOT create life by spontaneous generation.

He will also show that, contrary to the much touted phrase, “Science Is Self Correcting,” much of science is NOT self correcting! Government and teaching policy has been affected by this weakness of science and has affected millions of young people in our schools today.

Russ uses hundreds of colorful pictures in his power point presentation so you will be able to visualize what he is presenting. If you are planning a career in science or have students in school you need to hear this message.

Three areas affected:

Basic Atom Theory Unborn Babies Biological science

FLYER - The Drake Equation

The Drake Equation

Flyer

$$N = R_* f_p n_e f_l f_i f_c L$$

The Drake Equation – Is there a mathematical equation that proves that there REALLY is Life In The Galaxy? In September 1959, physicists Giuseppe Cocconi and Philip Morrison published an article in the journal Nature with the provocative title "Searching for Interstellar Communications." Cocconi and Morrison argued that radio telescopes had become sensitive enough to pick up transmissions that might be broadcast into space by civilizations orbiting other stars.

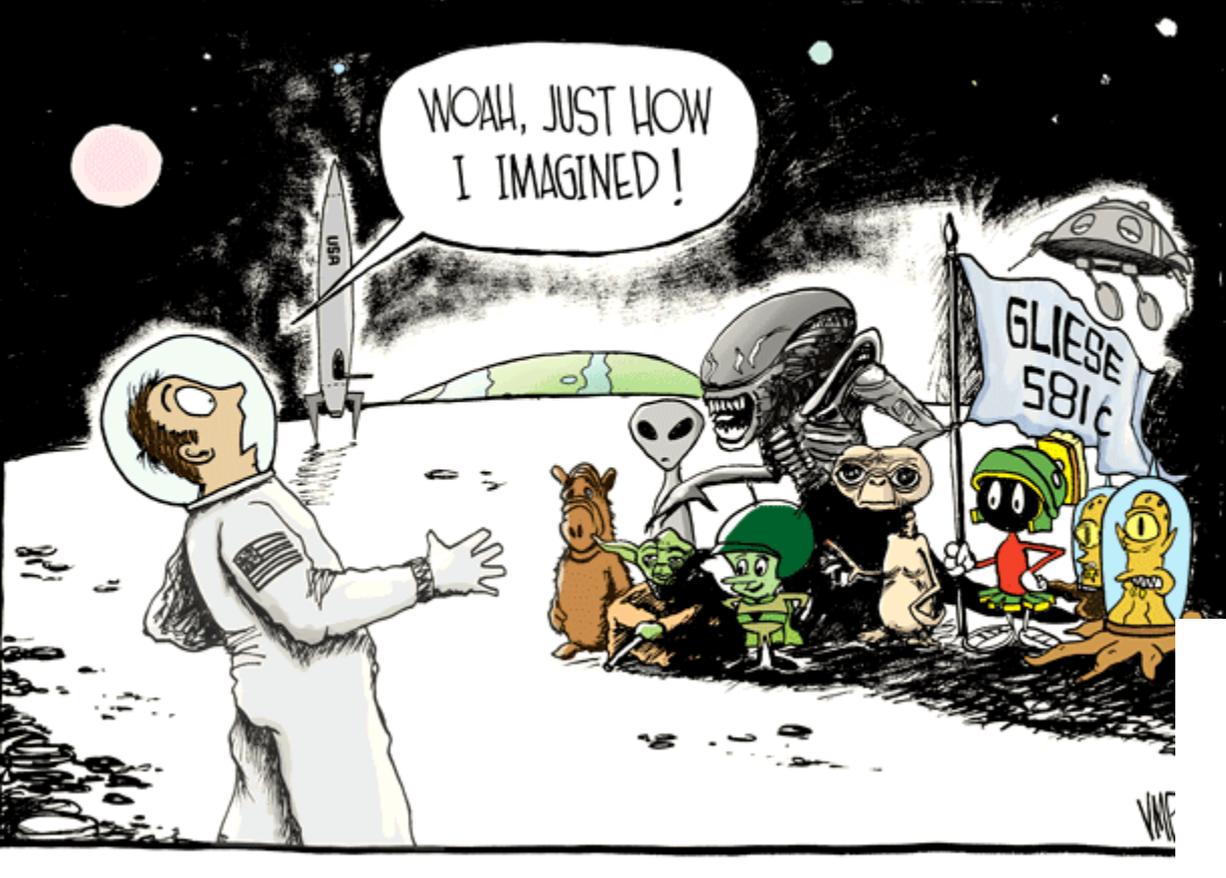
Soon thereafter, Radio astronomer Frank Drake hosted a "search for extraterrestrial intelligence" meeting on detecting their radio signals. The meeting was held in 1961. The equation that bears Drake's name arose out of his preparations for the meeting.

"As I planned the meeting, I realized a few day[s] ahead of time we needed an agenda. And so I wrote down all the things you needed to know to predict how hard it's going to be to detect extraterrestrial life. And looking at them it became pretty evident that if you multiplied all these together, you got a number, N, which is the number of detectable civilizations in our galaxy." —Frank Drake.

The Drake Equation - Last year a National Geographic (2015) article alluded to the Drake Equation as a scientific formula that proves we will find life in the Galaxy. Your ears should prick up at that because normally in the search for aliens as well as other evolutionary stories, there are never any math formulas to prove or falsify any of their statements.

In 2010 the BBC did a documentary about the Drake Equation with Drake who was still alive at that time. Again the conclusion was that it "proved" we would find life in outer space. At the TCCSA meeting we will examine the equation. We will use numbers that Drake used in 1961 and then use numbers from 2016 to see if indeed it does "prove" we will find life. The formula is very understandable and is simply the multiplying together of seven numbers to get N which is the number of civilizations that there should be in our galaxy.

Russ makes it understandable for all ages. Some may think this will be a bunch of advanced mathematical equations and will stay home. If you can add, subtract and multiply you will do fine! Does the Drake Equation "prove" there is life in outer space or prove the opposite? Come and see.





Master Script

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

17. Life Outside Planet Earth

How does the Drake Equation show that there is life on other planets in our Galaxy, or does it?

$$N = R_* \cdot f_p \cdot n_e \cdot f_\ell \cdot f_i \cdot f_c \cdot L$$

N = the Number of civilizations in our galaxy with which radio-communication might be possible

R_* = the average Rate of star formation in our galaxy

f_p = the fraction of those stars that have planets

n_e = the average number of planets that can potentially support life per star that has planets (subscript e for ecoshell)

f_ℓ = the fraction of planets that could support life that actually develop life at some point

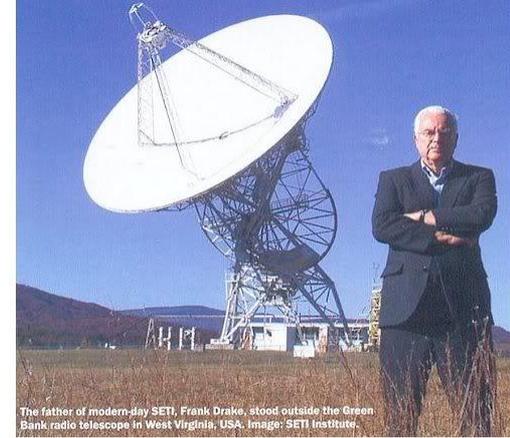
f_i = the fraction of planets with life that actually go on to develop intelligent life (in the form of civilizations)

f_c = the fraction of civilizations that develop a technology that releases detectable signs of their existence into space

L = the Length of time for which such civilizations release detectable signals into space

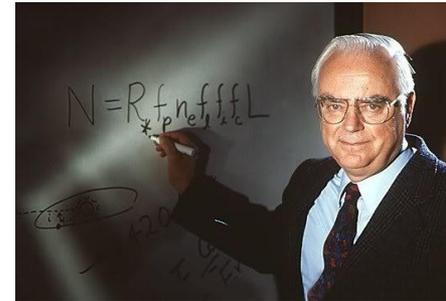


1961



2000

The father of modern-day SETI, Frank Drake, stood outside the Green Bank radio telescope in West Virginia, USA. Image: SETI Institute.



Dr. Drake
over the
years.

In this project, which he called Project Ozma, he slowly scanned frequencies close to the 21 cm wavelength for six hours per day from April to July 1960. The project was well designed, cheap, simple by today's standards, and unsuccessful.

Soon thereafter, Drake hosted a "search for extraterrestrial intelligence" meeting on detecting their radio signals. The meeting was held at the Green Bank facility in 1961. The equation that bears Drake's name arose out of his preparations for the meeting.

"As I planned the meeting, I realized a few day[s] ahead of time we needed an agenda. And so I wrote down all the things you needed to know to predict how hard it's going to be to detect extraterrestrial life. And looking at them it became pretty evident that if you multiplied all these together, you got a number, N , which is the number of detectable civilizations in our galaxy. This was aimed at the radio search, and not to search for primordial or primitive life forms." —Frank Drake. 182

In September 1959, physicists Giuseppe Cocconi and Philip Morrison published an article in the journal Nature with the provocative title "Searching for Interstellar Communications." Cocconi and Morrison argued that radio telescopes had become sensitive enough to pick up transmissions that might be broadcast into space by civilizations orbiting other stars. Such messages, they suggested, might be transmitted at a wavelength of 21 centimeters (1,420.4 megahertz).

This is the wavelength of radio emission by neutral hydrogen, the most common element in the universe, and they reasoned that other intelligences might see this as a logical landmark in the radio spectrum.

Dr. Frank Drake - Radio astronomer Frank Drake became the first person to start a systematic search for intelligent signals from the cosmos. Using the 25 meter dish of the National Radio Astronomy Observatory in Green Bank, West Virginia, Drake listened in on two nearby Sun-like stars: Epsilon Eridani and Tau Ceti.

This section discusses criticism of the Drake equation. For lack of space, I have shown most of the negative data. For the whole debate see this site: http://en.wikipedia.org/wiki/Drake_equation

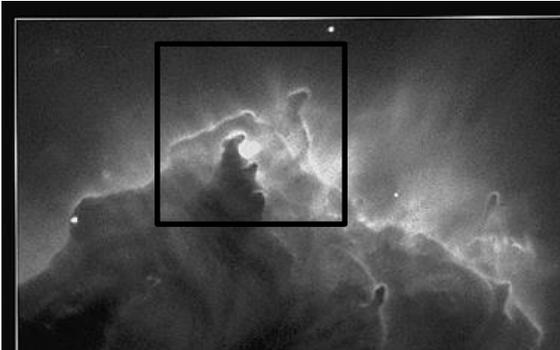
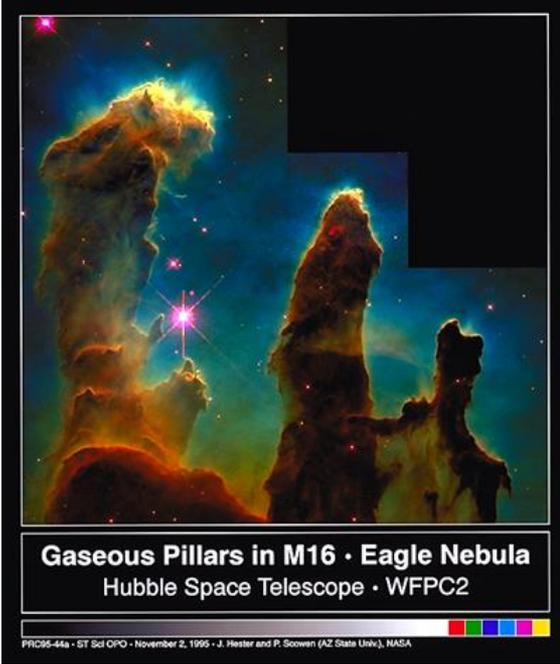
R_* - the average rate of star formation in our galaxy. "The latest calculations from NASA and the European Space Agency indicate that the current rate of star formation in our galaxy is about 7 per year." There are problems with the interpretation of data collected which assumes stars are forming in the universe at this time. In 1995, A dramatic picture from the Hubble Space Telescope of the Eagle Nebula showed Evaporating Gas Globules (EGGs) where it was claimed stars were forming.

Astrophysicist Jeff Hester had estimated (1995) that hundreds to thousands of stars were currently forming in the 73 EGGs found in the nebula. In 2002 with better data from Hubble, this has now been reduced to 11 EGGs that may be making stars. This is based on a theory of star formation that can only be proven or falsified in seven million years, the time it takes for a star to allegedly form.

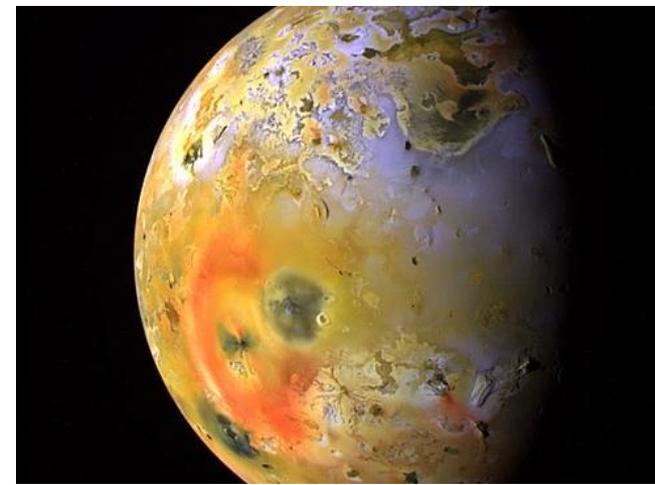
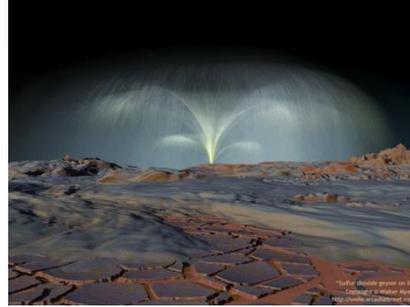
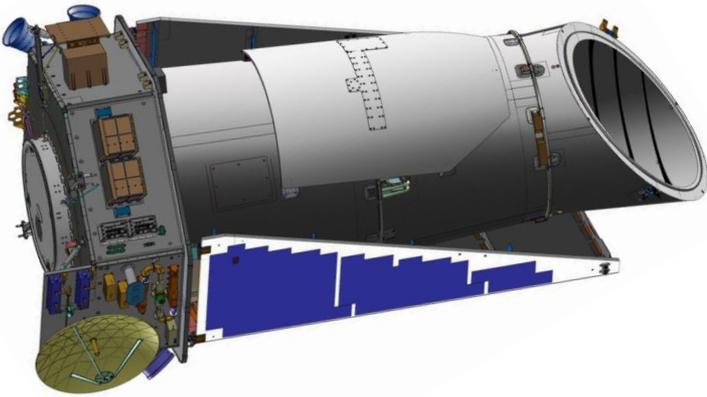
The theory fails to take into account Jean's Length and Boyle's Law of Gases (See those cards in this set) The Second law of Thermodynamic says that all molecular systems and constructs proceed from an organized complex state to one of a disorganized simple state. The measurement of this process is called entropy increase.

The above laws were applied to star (and later planet) formation in laboratory experiments It was found that hydrogen molecules will not stay bound together to form a gas star or exoplanet (like Jupiter) that are found around distant suns. If hydrogen cannot be formed into a stable gas "planets" in a controlled environment by intelligent designers here on Earth, how could it form stars and planets in the harsh environments of space?

The picture was taken on April 1, 1995 with the Hubble Space Telescope Wide Field and Planetary Camera 2. The color image is constructed from three separate images taken in the light of emission from different types of atoms. Red shows emission from singly-ionized sulfur atoms. Green shows emission from hydrogen. Blue shows light emitted by doubly- ionized oxygen atoms. This region is about 7000 light-years distant. The tower of gas that can be seen coming off the nebula is approximately 9.5 light-years or about 55 trillion miles long. As you can see, without colorization it is somewhat drab. (Lower Picture)



Evidence from the Spitzer Telescope suggests that the pillars in M16 may already have been destroyed by a supernova explosion. Hot gas observed by Spitzer in 2007 suggests that the area was disturbed by a supernova. The more slowly moving shock wave from the supernova would have taken a few thousand years to move through the nebula, and would blow away the delicate pillars – but the light showing us the destruction will not reach the Earth for another millennium. [It would seem that the whole EGG theory is now defunct with this data & R_* is not definable.RM]



f_p - the fraction of those stars that have planets. “The recent analysis of Microlensing surveys has found that f_p may approach 1 -- that is, stars are orbited by planets as a rule, rather than the exception; and that there are one or more bound planets per Milky Way star.”

Jupiter’s moon Io has 9 active volcanoes, no air and a temperature of about -230° F. Not a very inviting prospect for colonization or life. Artists painting on the left shows an erupting geyser of sulfuric acid on Io. Nothing like Old Faithful in Yellowstone Park!

The data collected from Hubble Telescope and the Kepler Space Mission Telescope (Pictured above) indicates there are planets orbiting the stars outside our Solar System. The problem is that the interpretation of the data is based on assumptions that may be wrong. For example, the “wobble” observed in a star is assumed to be caused by a large gas planet the size of Jupiter orbiting the star.

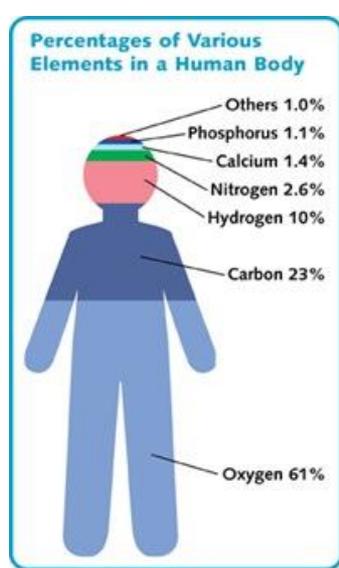
Those that are skeptical of the planet theory say that it could be a binary sister star that has “died” and become a brown dwarf. As such it cannot be seen by our present telescopes.

However, if we assume that some of the “planets” are like those in our Solar System, we find in the descriptions of them that their environments are very hostile to the formation of life based on the Abiogenesis theory of life. It has been said: “We must not confuse an Earth-sized planet as being an Earth-like planet.”



Mars Exploration Rover Opportunity is superimposed on the rim of Victoria Crater on the Martian surface. Cornell /JPL/NASA 184

n_e - the average number of planets that can potentially support life per star. Even if planets are in the habitable zone the number of planets with the right proportion of elements is difficult to estimate. Brad Gibson, Yeshe Fenner, and Charley Lineweaver estimated that about 10% of star systems in the Milky Way galaxy are hospitable to life, by having heavy elements, being far from supernovae and being stable for a sufficient time. This estimate is based on numerous assumptions and once again is mostly speculation. Planets found so far do not have the unique elements needed for a human as seen at the right



Also, the Rare Earth hypothesis, which posits that conditions for intelligent life are quite rare, has advanced a set of arguments based on the Drake equation that the number of planets or satellites that could support life is small, and quite possibly limited to Earth alone; in this case, the estimate of n_e would be almost infinitesimally small.

The discovery of numerous gas giants in close orbit with their stars has introduced doubt that life-supporting planets commonly survive the formation of their stellar systems. In addition, most stars in our galaxy are red dwarfs (Painting below), which flare violently, mostly in X-rays, a property not conducive to life as we know it. Simulations also suggest that these bursts erode planetary atmosphere.



f_l - the fraction of planets that could support life that actually develop life at some point. From a classical hypothesis testing standpoint, if we assume life arose spontaneously on Earth we have zero statistics to test an hypothesis on. In a mathematical statistical analysis, one needs 10-1000 examples of the same event happening to permit valid estimates to be made.

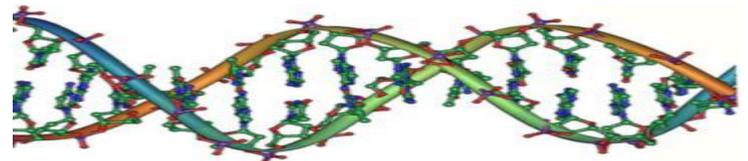
If life were to be found on Mars that developed independently from life on Earth it would imply a value for f_l close to one. While this would improve the degrees of freedom from zero to one, there would remain a great deal of uncertainty on any estimate due to the small sample size, and the chance they are not really independent.

Countering this argument is that there is no evidence for abiogenesis occurring more than once on the Earth —that is, all terrestrial life stems from a common origin. If abiogenesis were more common it would be speculated to have occurred more than once on the Earth.

In 1996, researchers suggested that microscopic rod-like structures in a Martian meteorite was fossilized remains of tiny bacteria. A year later it was determined to be contaminated in the laboratory. No world wide retraction was ever made to correct the myth that fossil life was found on Mars.



Scientists have searched for this by looking for bacteria that are unrelated to other life on Earth, but none have been found yet. Biochemists Francis Crick and Leslie Orgel laid special emphasis on this uncertainty: "At the moment we have no means at all of knowing" whether we are "likely to be alone in the galaxy (Universe)" or whether "the galaxy may be pulsating with life of many different forms."



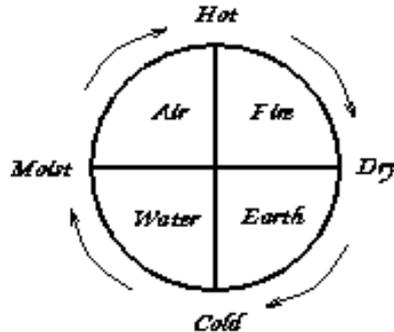


2. By reverting to the Panspermia Hypothesis, the source of the original life is pushed to some other planet and civilization. It still does not explain how life on that mystery planet got started.

Abiogenesis = dead matter changed into living matter which eventually changed into humans.

In a debate on Abiogenesis verses special creation by an Intelligent Designer, one man said, "The Law of Biogenesis must have been broken once because we are here." This is not using scientific fact to support his argument but hopeful story telling.

As an alternative to abiogenesis on Earth, some scientists proposed the hypothesis of directed panspermia, which states that Earth life began with "microorganisms sent here deliberately by a technological society on another planet, by means of a special long-range unmanned spaceship" (Crick, Orgel and Carl Sagan)

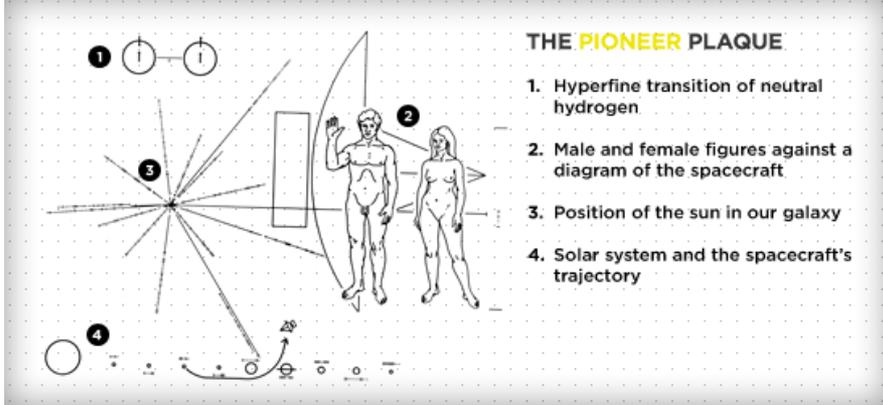


There are two major scientific proofs left out in this argument.
 1. Louis Pasteur proved with empirical laboratory experiments that life could only come from life. It is called the Law of Biogenesis and has stood the test of time for over 200 years. Abiogenesis [life from non living materials] is simply a renaming of the ancient belief that life came from dead things which they called "spontaneous generation." Renaming the Greek belief that fire, water, air and earth could spontaneously produce life Abiogenesis does not change the scientific truth that Pasteur discovered and proved called the Law of Biogenesis.



f_i - the fraction of planets with life that actually go on to develop intelligent life (civilizations). This value remains particularly controversial. Those who favor a low value, such as the evolutionary biologist Ernst Mayr, point out that of the billions of species that have existed on Earth, only one has become intelligent and from this, infer a tiny value for f_i .

Those who favor higher values note the generally increasing complexity of life and conclude that the eventual appearance of intelligence might be imperative, implying an f_i approaching 1. Skeptics point out that the large spread of values in this factor and others make all estimates unreliable.



Summary of Criticisms - Criticism of the Drake equation follows mostly from the observation that several terms in the equation are largely or entirely based on conjecture. The uncertainties revolve around our understanding of the evolution of life, intelligence, and civilization, not physics. No statistical estimates are possible for some of the parameters, where only one example is known. The net result is that the equation cannot be used to draw firm conclusions of any kind, and the resulting margin of error is huge, far beyond what some consider acceptable or meaningful. As Michael Crichton, a science fiction author, stated in a 2003 lecture at Caltech:



"The problem, of course, is that none of the terms can be known, and most cannot even be estimated. The only way to work the equation is to fill it in with guesses. [...] As a result, the Drake equation can have any value from "billions and billions" to zero. An expression that can mean anything, means nothing. Speaking precisely, the Drake equation is literally meaningless..."

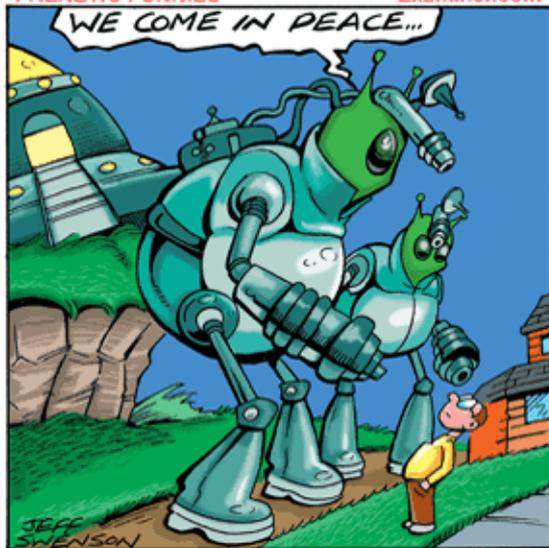
One reply to such criticisms is that even though the Drake equation currently involves speculation about unmeasured parameters, it was intended as a way to stimulate dialogue on these topics. Then the focus becomes how to proceed experimentally. Indeed, Drake originally formulated the equation merely as an agenda for discussion at the Green Bank conference in 1961 to get 187 funding support for his SETI program.

f_c - the fraction of civilizations that develop a technology that releases detectable signs of their existence into space
 For deliberate communication, the one example we have (the Earth) does not do much explicit communication, though there are some efforts covering only a tiny fraction of the star locations that might look for our presence. See the message (above) where a pictograph and math calculations were attached to the Pioneer Space Probe . This reached a minute fraction of the Galaxy.



Aztec Civilization

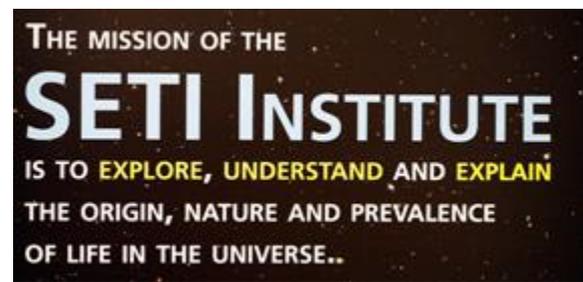
L - the length of time for which such civilizations release detectable signals into space: Michael Shermer, using 28 civilizations more recent than the Roman Empire, calculates a figure of 304 years that "modern" civilizations last. It could also be argued from Michael Shermer's results that the fall of most of these civilizations was followed by later civilizations that carried on the technologies. The problem is that since none of the civilization studied could communicate over interstellar space, the method of comparing L with historical civilizations could be regarded as invalid.



The Fermi paradox - The pessimists' most telling argument in the SETI debate stems not from theory or conjecture but from an actual observation: the lack of extraterrestrial contact. A civilization lasting for tens of millions of years would have plenty of time to travel anywhere in the galaxy, even at the slow speeds foreseeable with our own kind of technology.

Furthermore, no confirmed signs of intelligence elsewhere have been spotted, either in our galaxy or the more than 80 billion other galaxies of the observable universe. According to this line of thinking, the tendency to fill up all available territory seems to be a universal trait of living things, so the Earth should have already been colonized, or at least visited, but no evidence of this exists. Hence Fermi's question "Where is everybody?" [Enrico Fermi was an Italian physicist, who created the world's first nuclear reactor]

Some 50 years of SETI have failed to find anything, even though radio telescopes, receiver techniques, and computational abilities have improved enormously since the early 1960s, but it has been discovered, at least, that our galaxy is not teeming with very powerful alien transmitters continuously broadcasting near the 21 cm hydrogen frequency. No one could say this in 1961.



Conclusion - The astronomer Carl Sagan speculated that all of the terms, except for the lifetime of a civilization (L) are relatively high. [I disagree with him based on the criticisms already listed above. RM]

Inserting the current estimates discussed above into the original equation, using a value of 0.1 wherever the text says someone has proposed an unspecified "low value," results in the range of N being from a low of 2 to a high of 280,000,000 (280 million) possible worlds that would hold life. As a study of the concepts has gone forth, the range has increased at both the minimum and maximum ends. Yes the equation served as a means for discussion and arousing interest in SETI, but it cannot be used as a scientific proof of life occurring on any planet other than Earth.

NOTES

RELEASE: 96-160

METEORITE YIELDS EVIDENCE OF PRIMITIVE LIFE ON EARLY MARS

A NASA research team of scientists at the Johnson Space Center (JSC), Houston, TX, and at Stanford University, Palo Alto, CA, has found evidence that strongly suggests primitive life may have existed on Mars more than 3.6 billion years ago.

The NASA-funded team found the first organic molecules thought to be of Martian origin; several mineral features characteristic of biological activity; and possible microscopic fossils of primitive, bacteria-like organisms inside of an ancient Martian rock that fell to Earth as a meteorite. This array of indirect evidence of past life will be reported in the August 16 issue of the journal *Science*, presenting the investigation to the scientific community at large for further study.

The two-year investigation was co-led by JSC planetary scientists Dr. David McKay, Dr. Everett Gibson and Kathie Thomas-Keprta of Lockheed-Martin, with the major collaboration of a Stanford team headed by Professor of Chemistry Dr. Richard Zare, as well as six other NASA and university research partners.

"There is not any one finding that leads us to believe that this is evidence of past life on Mars. Rather, it is a combination of many things that we have found," McKay said. "They include Stanford's detection of an apparently unique pattern of organic molecules, carbon compounds that are the basis of life. We also found several unusual mineral phases that are known products of primitive microscopic organisms on Earth. Structures that could be microscopic fossils seem to support all of this. The relationship of all of these things in terms of location - within a few hundred thousandths of an inch of one another - is the most compelling evidence."

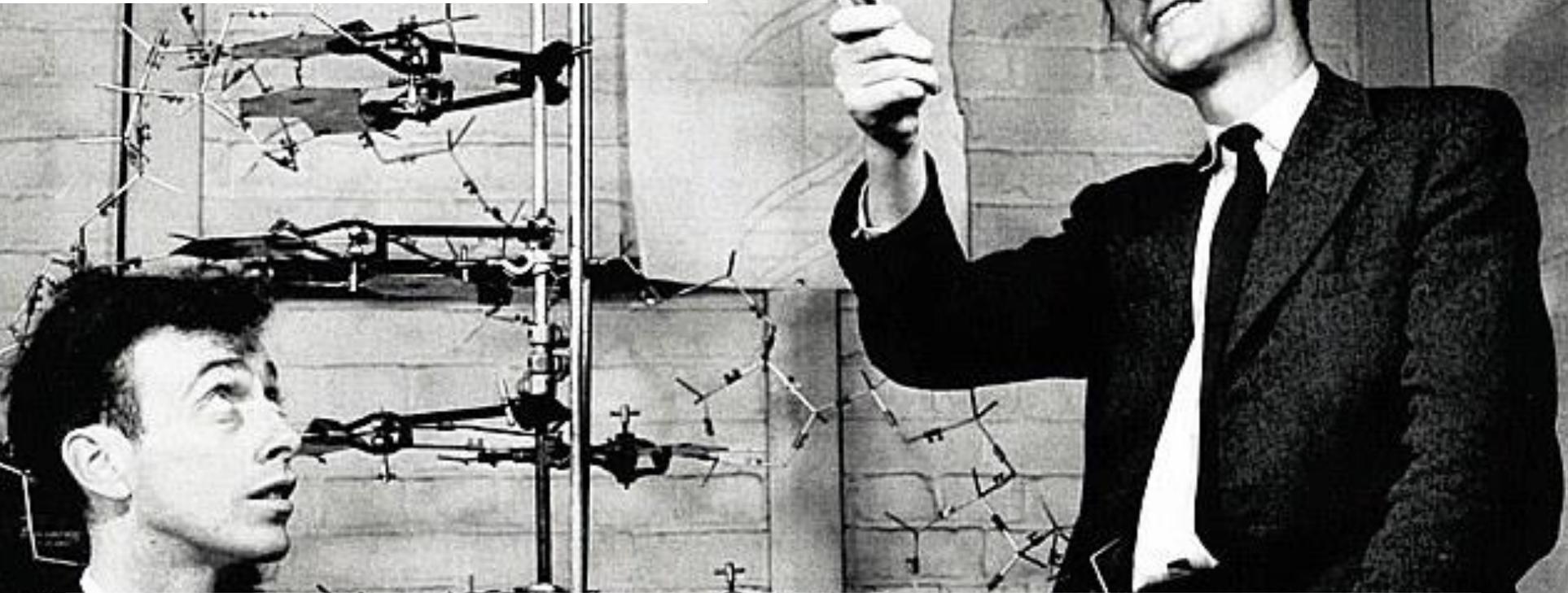
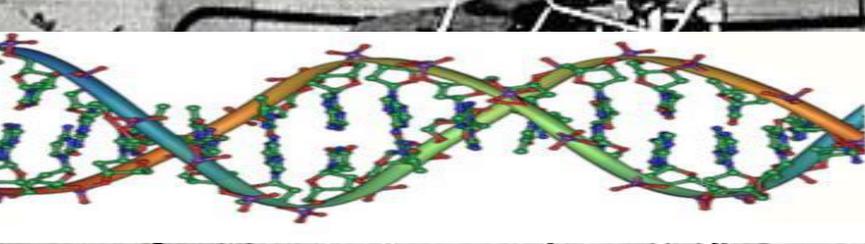
"It is very difficult to prove life existed 3.6 billion years ago on Earth, let alone on Mars," Zare said. "The existing standard of proof, which we think we have met, includes having an accurately dated sample that contains native microfossils, mineralogical features characteristic of life, and evidence of complex organic chemistry."

"For two years, we have applied state-of-the-art technology to perform these analyses, and we believe we have found quite reasonable evidence of past life on Mars," Gibson added. "We don't claim that we have conclusively proven it. We are putting this evidence out to the scientific community for other investigators to verify, enhance, attack -- disprove if they can -- as part of the scientific process. Then, within a year or two, we hope to resolve the question one way or the other."

"What we have found to be the most reasonable interpretation is of such radical nature that it will only be accepted or rejected after other groups either confirm our findings or overturn them," McKay added.

The igneous rock in the 4.2-pound, potato-sized meteorite has been age-dated to about 4.5 billion years, the period when the planet Mars formed.

Biogenesis Notes



Biochemists Francis Crick and Leslie Orgel laid special emphasis on this uncertainty: "At the moment we have no means at all of knowing" whether we are "likely to be alone in the galaxy (Universe)" or whether "the galaxy may be pulsating with life of many different forms."

Spontaneous generation or **anomalous generation** is an obsolete body of thought on the ordinary formation of living organisms without descent from similar organisms. Typically, the idea was that certain forms such as fleas could arise from inanimate matter such as dust, or that [maggots](#) could arise from dead flesh. A variant idea was that of **equivocal generation**, in which species such as [tapeworms](#) arose from unrelated living organisms, now understood to be their [hosts](#). Doctrines supporting such processes of generation held that these processes are commonplace and regular. Such ideas are in contradiction to that of **univocal generation**: effectively exclusive reproduction from genetically related parent(s), generally of the same species. Pasteur's experiment is generally known to have refuted the theory of spontaneous generation in 1859.[3] Disproof of the traditional ideas of spontaneous generation is no longer controversial among professional biologists. By the middle of the 19th century, the theory of biogenesis had accumulated so much evidential support, due to the work of Louis Pasteur and others, that the alternative theory of spontaneous generation had been effectively disproven. John Desmond Bernal suggests that earlier theories such as spontaneous generation were based upon an explanation that life was continuously created as a result of chance events.[4][5][6]

https://en.wikipedia.org/wiki/Spontaneous_generation

Britannica does not currently have an article on this topic. Below are links to selected articles in which the topic is discussed.

[Britannica.com](https://www.britannica.com)

1. www.britannica.com/science/spontaneous-generation

Encyclopædia Britannica

Editing Tools: **Spontaneous generation, spontaneous**

generation experiments Encyclopædia Britannica, Inc.

the hypothetical process by which living organisms develop from nonliving matter; also, the archaic theory that utilized this process to explain the origin of life.

Abiogenesis is the process by which life arises naturally from non-living matter. Scientists speculate that life may have arisen as a result of random chemical processes happening to produce self-replicating molecules

Abiogenesis,
archaea; Yellowstone National Park [Credit: Gary718 /Shutterstock.com]

the idea that life arose from nonlife more than 3.5 billion years ago on Earth. Abiogenesis proposes that the first life-forms generated were very simple and through a gradual process became increasingly complex.

Spontaneous generation	Abiogenesis	Biogenesis	Biogenesis
<p>Britannica - The hypothetical process by which living organisms develop from nonliving matter; also, the archaic theory that utilized this process to explain the origin of life.</p>	<p>Britannica - The idea that life arose from nonlife more than 3.5 billion years ago on Earth. Abiogenesis proposes that the first life-forms generated were very simple and through a gradual process became increasingly complex.</p>	<p>Their words – “Britannica does not currently have an article on this topic. Below are links to selected articles in which the topic is discussed...” They claim - First Abiogenesis then Biogenesis.</p>	<p>Wikipedia - Pasteur's experiment is generally known to have refuted the theory of spontaneous generation in 1859. [The same year Darwin published Origin of Species] From this came the Law of Biogenesis “Life only comes from Life.”</p>

Only one link which does not discuss the contradiction between the two words.

What Encyclopedia Britannica says about the beginning of life...

About Pasture Faith

Absolute faith in God and in Eternity, and a conviction that the power for good given to us in this world will be continued beyond it, were feelings which pervaded his whole life; the virtues of the gospel had ever been present to him. Full of respect for the form of religion which had been that of his forefathers, he came simply to it and naturally for spiritual help in these last weeks of his life

https://en.wikipedia.org/wiki/Louis_Pasteur#Faith_and_spirituality

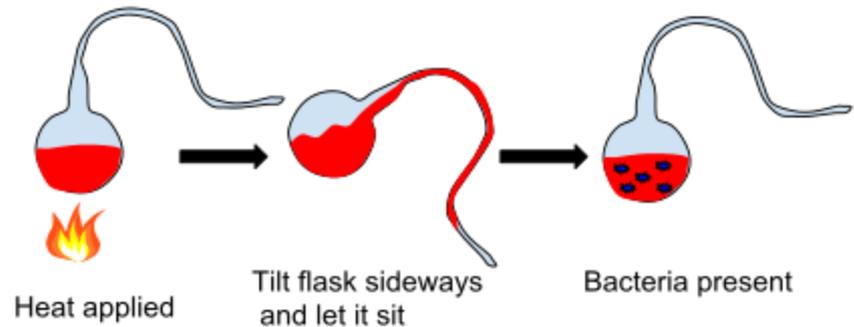
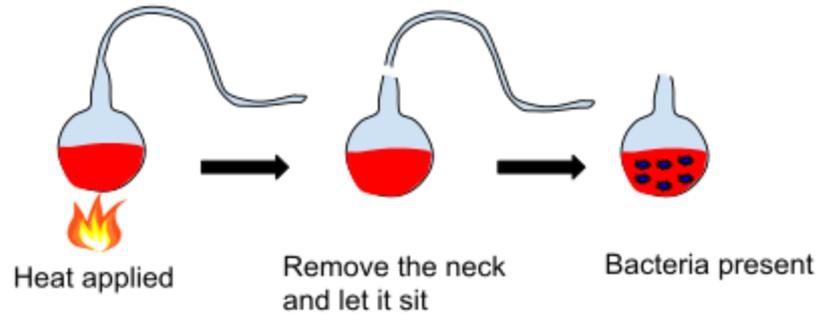
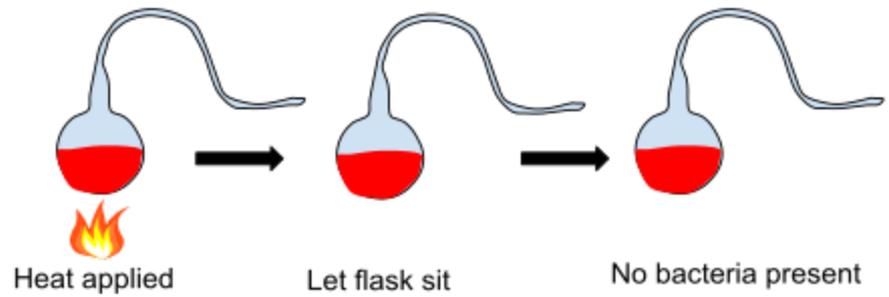
Louis Pasteur's pasteurization experiment illustrates the fact that the spoilage of liquid was caused by particles in the air rather than the air itself. These experiments were important pieces of evidence supporting the idea of Germ Theory of Disease.

Following his fermentation experiments, Pasteur demonstrated that the skin of grapes was the natural source of yeasts, and that sterilized grapes and grape juice never fermented. He drew grape juice from under the skin with sterilized needles, and also covered grapes with sterilized cloth. Both experiments could not produce wine in sterilized containers. His findings and ideas were against the prevailing notion of spontaneous generation. He received a particularly stern criticism from Félix Archimède Pouchet, who was director of the Rouen Museum of Natural History. To settle the debate between the eminent scientists, the French Academy of Sciences offered Alhumbert Prize carrying 2,500 francs to whoever could experimentally demonstrate for or against the doctrine.[31][32][33]

To prove himself correct, Pasteur exposed boiled broths to air in swan-neck flasks that contained a filter to prevent all particles from passing through to the growth medium, and even in flasks with no filter at all, with air being admitted via a long tortuous tube that would not allow dust particles to pass. Nothing grew in the broths unless the flasks were broken open, showing that the living organisms that grew in such broths came from outside, as spores on dust, rather than spontaneously generated within the broth. This was one of the last and most important experiments **disproving the theory of spontaneous generation for which Pasteur won the Alhumbert Prize in 1862**. He concluded that:[34][35]

Never will the doctrine of spontaneous generation recover from the mortal blow of this simple experiment. There is no known circumstance in which it can be confirmed that microscopic beings came into the world without germs, without parents similar to themselves.

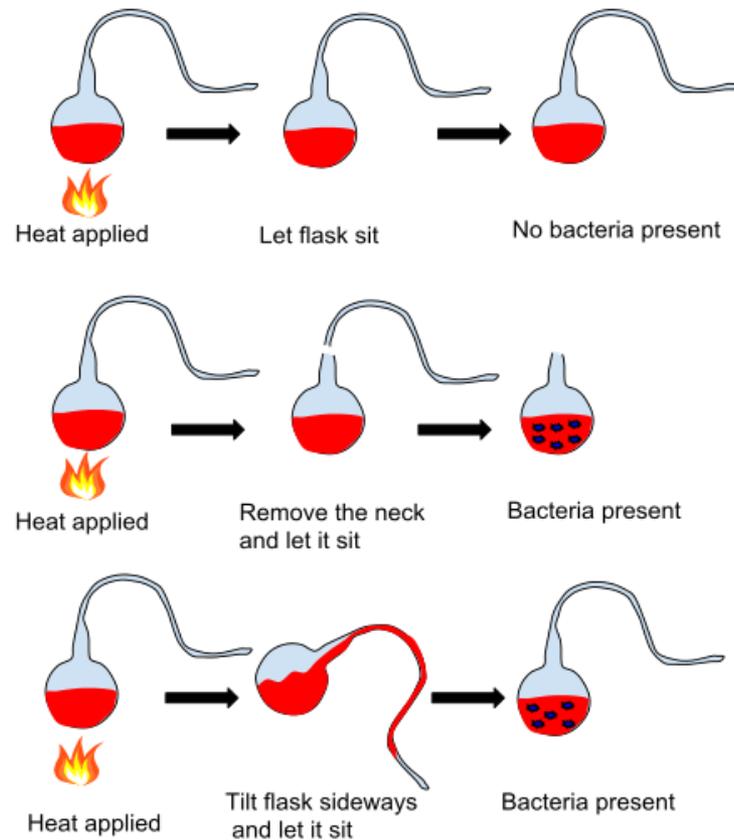
https://en.wikipedia.org/wiki/Louis_Pasteur#Faith_and_spirituality



Louis Pasteur's pasteurization experiment illustrates the fact that the spoilage of liquid was caused by particles in the air rather than the air itself. These experiments were important pieces of evidence supporting the idea of Germ Theory of Disease.



PASTEUR en 1857



“Never will the doctrine of spontaneous generation recover from the mortal blow of this simple experiment. There is no known circumstance in which it can be confirmed that microscopic beings came into the world without germs, without parents similar to themselves.”

If the facts do not support your theory, revise the theory using the new data

If the facts do not support your theory, rename the theory and ignore the new data.

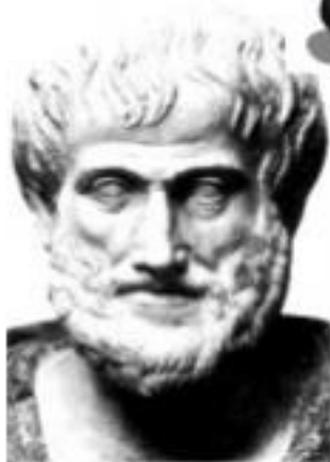
Malign anyone who presents any contradictory data

Early Greek Theories



Democritus

- 400 B.C. - Democritus thought matter could not be divided indefinitely.
- This led to the idea of atoms in a void



Aristotle

- 350 B.C - Aristotle modified an earlier theory that matter was made of four “elements”: earth, fire, water, air.
- Aristotle was wrong. However, his theory persisted for 2000 years.

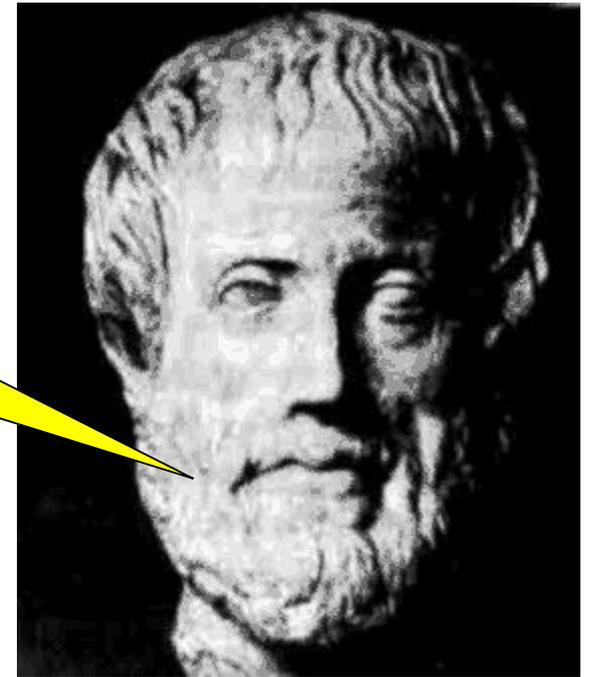
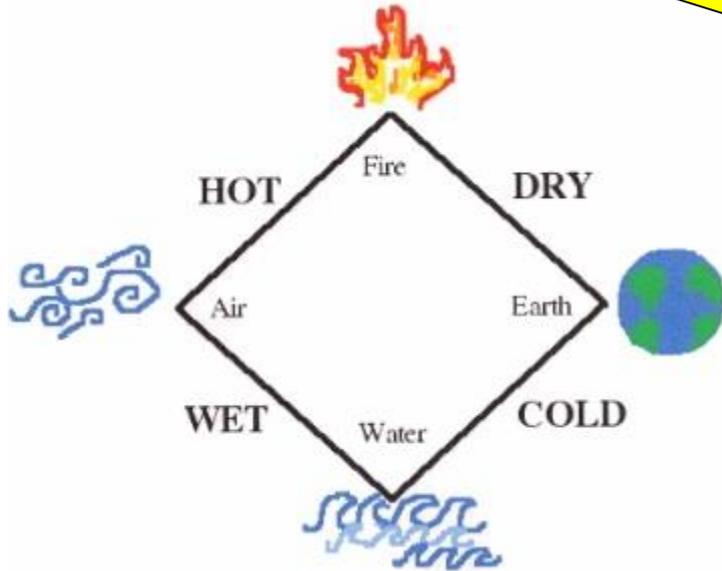


Can come from dead things...

Life...

Spontaneous generation means...

Life comes from four dead things: fire, water, air and earth.



“The theory was synthesized by Aristotle (384 - 322 BC) who compiled and expanded the work of prior natural philosophers; it held sway for 2000 years.” (Wikipedia Dictionary)

+ +

+ +

+ +

R_*

2 suitcases free
Stars from dust Have flower
powered and large rock like
meteor

n_e

Minnesota Visuals
Venus Model volcano paint red
give temp and melts lead bullet
Venus land melts

f_l

Corn, rag, mouse
ET green at museum
Large picture of me by Miller
experiment

Jar of mud pond water

NOTES

Gliese 581 Planet Missing?

Lake Mono & NASA

Gliese 581 Planet Missing?

<http://blogs.discovermagazine.com/badastronomy/2011/01/18/does-gliese-581g-exist/#.VwjjRvkrLIV>

Planets or Vain Imaginations – Interpreting the Data

- 1 Planet - Gravity wobble or light spectrum
- 2 Brown Dwarf – binary star that has collapsed and cannot be seen next to sister star (sun)
- 3 Solar Weather – events on the star surface that affect instruments.
- 4 Instrument Problems – Mars canals “discovered”??
- 5 Doppler Affect – 7 Assumptions
- 6 Star Tug – Other stars affect each other’s rotation and orbit

examples

Assumptions

Assumptions are something we assume to be true for the theory but cannot prove.

Assumptions are never used if we know they are false i.e. not facts. Mach’s Criterion.

Facts are provable data we can test and through experiments reproduce in the laboratory over and over.

The theory depends on what? -- Assumptions

Assumption about Mars proven to be falsified.

Drake Assumed Mars had life in 1961 – so in the formula he could say 2 planets had life

Now after many probes to Mars we can say that the data proves there was no life

Mars Rock data report

500 “plants found” and none have life or could be livable

I can prove by mathematical formulas that the universe did not come into existence by chance and accident. The big bang story is not based on the Laws of Science

could possibly have liquid water on its surface! This achingly earth-like planet made a major buzz, and in fact I used its characteristics to estimate that there could be billions of Earthlike planets in our galaxy.

But there's just one small, really eensy-teensy problem: the planet may not exist. But it also might. Maybe.

We're still early in the game here, and there's a lot going on... but it's worth peeking a bit deeper. There's science here, and math, and even some interesting media jiggery-pokery.

Finding planets

We know of more than 500 planets orbiting other stars, and astronomers have a diverse set of tools to find them. The first were discovered by what's called reflexive motion (a nice animation of this is on the Astrobio.net site); **as a planet orbits a star, the planet's gravity tugs on the star, causing a tiny Doppler shift in the starlight**. This is a very small and difficult thing to measure, but techniques improved vastly in the 1990s, and most planets have been discovered this way. The success of this technique has been confirmed by other methods, too, including **planetary transits, when the orbiting planet passes in front of the star from our viewpoint, and blocks a little bit of its light**. Several planets detected using reflexive motion were confirmed by subsequent transits. We know the method works.

But like any technique, things get fuzzy when you push it. **Gliese 581 is a red dwarf star a mere 20 light years away**; it's one of the closest stars in the sky to us. Two different teams of astronomers, one Swiss and one American, have observed the star for a long time, and they both confirm the existence of four planets around the star (more on that in a sec). But one of the teams (Steven Vogt and Paul Butler) claimed they found two more planets: Gliese 581 f and g, with the latter being the planet in question.

Odd planet out

Almost immediately, the planet was called into doubt; the Swiss team re-examined their data and could not be absolutely certain that Gliese 581 g was there, but still gave it a thumbs-up at the **90+% level**. That's not too bad.

Interestingly, not too long after the announcement I was at a meeting with several astronomers, and one noted that Vogt's team made a big assumption: all the planet orbits were circular. If in fact one of the planets had an elliptical orbit it could set up a false-positive, making it look like another planet was there when it wasn't. According to Vogt this turns out not to be the case; I contacted him and he let me know that orbital ellipticity was one of the characteristics they modeled as a variable. In other words, their computer model made no assumptions about orbit shape, but in fact the best fits in the end were circular orbits.

Still and all, there have been some questions about the planet's existence, and I've been holding back from posting until something happened. Well, something did: Philip Gregory, an emeritus astronomer with the University of British Columbia, has analyzed both data sets using sophisticated statistical techniques, and he concluded that **Gliese 581 g almost certainly wasn't real. In fact, he says the odds of it being a false alarm are 99.9978%!**

So which is it? Is it 90+% certain to be real, or 99.9978% certain it isn't?

Let me be up front with you: I don't know. Gregory analyzed the data using Bayesian analysis, a method of looking at the statistical certainty of a set of observations. This is fiendishly complex in practice and to be honest is not something I'm familiar with. However, in his paper, Gregory himself claims that Vogt and Butler underestimated the amount of noise in their data. Vogt disputes this, saying that Gregory adds noise to their data rather arbitrarily. I'll admit that it seemed odd to me that Gregory would add noise the way he did, but again I'm no expert.

Vogt also notes that how you run the computer model will change whether or not you find the planet. This part interests me, because I've run into similar situations myself. If you tell your computer that one of the planets (in this case, Gliese 581 d) has a highly elliptical orbit, then Gliese 581 g disappears: when you calculate the statistics, it's far more probable that the planet does not exist. But if you keep Gliese 581 d's orbit circular, Gliese 581 g can be seen in the data. **These two different assumptions lead to two different solutions, where one has Gliese 581 g in it and the other doesn't.**

Which one is right? Vogt claims 581 g exists. I won't go into details (the math gets a bit hairy) but basically he claims that statistically speaking, his solution fits the data better than Gregory's.

He said/He said

Well, that's science! Two people disagree, and they make their cases. Vogt's disagreements with Gregory's methods are reasonable, in that he can make his case scientifically and mathematically. He may not be correct, but that's a matter to be hammered out using science and peer review. Given that the claims are pretty specific (methods used, input parameters, statistical measurements), I think this will work itself out pretty rapidly.

However, the media got involved, and then things got a bit sticky.

I was tipped off to this matter with a link to the (Australian) ABC site which wrote about this disagreement. The following passage, I'll admit, made me cringe a little. Note that the HIREs data are the observations by Vogt and Butler, while HARPS is from the other, Swiss, team:

Dr Steve Vogt says he and his colleagues "stand solidly" by their original findings.

"I have studied [the paper] in detail and do not agree with his conclusions," he says.

Vogt is concerned that Gregory has unfairly manipulated the HIREs data.

"By doing so, he finds a solution that is more consistent with the HARPS data only," he says.

OK, yikes. The word "manipulated" is pretty loaded. It's easily interpreted as meaning the data are somehow being changed unfairly, and on purpose.

But then I saw an article in the Toronto Star that said this:

The revelation Gregory put forward is being dismissed by Vogt, who was quoted by the Australian Broadcasting Corporation as saying Gregory "manipulated" the numbers.

Egads. That made me cringe a lot. Note this is a second-generation quote; the Star was using something written in the ABC article. The Star continued with this:

"Vogt is not familiar with the Bayesian techniques so he might assume that I am manipulating the data. I attribute that to a lack of awareness on his part," said the soft-spoken Gregory.

Oh my. Well, to me the use of the word "manipulate" would be pretty accusatory in this context coming from a scientist when discussing the work of another, and this is why I initially contacted Vogt. He sent to me the email he sent to the ABC, and the word "manipulate" is nowhere in it. To a layman his email would be strongly worded, but as a scientist I see him attacking Gregory's work, not the man himself. What he said wouldn't draw any surprise at all were it said at a scientific conference, for example.

But the Star article actually got a response from Gregory about the "manipulation". That line I quoted above is a bit loaded, in my opinion, right down to the adjective "soft-spoken" used to describe Gregory. It's almost as if the media were playing up the contention between the two men, trying to frame the story as being personal (with one scientist the aggressor, and the other the defender) as opposed to just a scientific difference of opinion.

Again, I strongly suspect that if Vogt and Gregory got together (or when Gregory's paper goes through the review process; it's been submitted but not peer-reviewed yet) this would all get figured out pretty quickly.

[UPDATE: As I was putting the final edits on this, Wired posted a pretty good article about all this.]

To g, or not to g?

So, does Gliese 581 g exist? I can only form an opinion right now based on what I've seen, and I don't like to speculate over much. However, Vogt has good rebuttals to the opposing claims, and the Swiss team of astronomers does seem to back him on the existence of the planet.

What we really need are more and more sensitive observations. That's going to be the rule and not the exception as we move forward in looking for earth-like planets. They're small, and move slowly, and make themselves very difficult to detect with our current hardware. But progress moves on, and whether Gliese 581 g exists or not, finding another Earth orbiting another star is only a matter of time. Count on it.

It Turns Out the Closest Exoplanet to Us Doesn't Actually Exist

By John Wenz Oct 29, 2015 201 <http://www.popularmechanics.com/space/a18003/no-alpha-centauri-b-planet/>

In 2012, astronomers announced a tantalizing find: the closest exoplanet to our solar system, an Earth-sized world orbiting Alpha Centauri B in a close orbit. As the closest star to the sun, That put a planet in our cosmic backyard just 4.3 light years away, around the closest star system to our own. Except ... there is no Alpha Centauri Bb.

The news has been a few years coming, as detailed in this Planetary Society blog post by Bruce Betts. The purported planet orbited the star in just 3.2 earth days, making for a very short year and a very hard detection. So hard, in fact, that follow-up observations couldn't repeat the results of the 2012 find at other observatories. Found at ESO's HARPS Observatory, that same team is now concurring with the new results: there is no planet. The findings will be published in Monthly Notices of the Royal Astronomical Society.

So how do you just mistakenly detect a planet? The astronomers were looking at subtle changes in red shift and blue shift in the star every three days, showing the smaller of the two stars in the Alpha Centauri binary pair moving toward and away from the Earth every three days in small, subtle shifts. This method, called radial velocity or **the Doppler method, has been used to find very, very large planets** called Hot Jupiters that orbit their stars in a few days time.

But the Earth-sized Alpha Centauri Bb was a harder object to find, owing to its small size. When an Oxford team analyzed the same results as the HARPS team, they found that all sorts of things could cause such a result: solar weather, instrument problems, the tug from another star. All of them could account for the discrepancy in observational data.

All of this means the object around Alpha Centauri Bb doesn't exist; it does not preclude other planets around one of the three stars in the system, Alpha Centauri A, Alpha Centauri B, and the more distant red dwarf Proxima Centauri, which orbits the other pair. Any of those stars could harbor a planet or planets, albeit one that hasn't been detected with current methods.

This doesn't rule out planets around the stars in the Alpha Centauri system, it simply means it rules out this planet. So now, it's back to the drawing board. So congratulations, Gliese 15Ab, you are now the closest planet to Earth at 11 light years away. Just don't go squandering it by also being an observational error. And better luck next time, Alpha Centauri. Your day may still come. (But please don't make The Sparrow a prophecy.)

Source: National Geographic

Selection bias <http://rationalwiki.org/wiki/Exoplanet>

Many scientists cite the number of exoplanets and their rate of discovery as evidence that Earth-like planets, and eventually extraterrestrial life, will be inevitably found. Critics of this view are quick to point out that all the planets so far found certainly don't support this conclusion - as all known exoplanets orbit too close to their star or are gas giants. However, the search for exoplanets is subject to a high degree of selection bias. All the methods outlined below lead to a huge tendency to find large or closely-orbiting planets. With the transit method, large planets produce a more easily observed signal; with astrometric methods, more massive planets that orbit close to their star will exert a greater force and be more easily seen. As technology improves, smaller planets and more distant planets are being discovered. While it is yet to be confirmed that our own solar system is typical, the selection bias means that exoplanets are not yet strong enough evidence to say that the solar system is unique or part of a special creation.

↑ <http://www.nbcnews.com/science/astronomers-say-theyve-spotted-lonesome-planet-without-sun-8C11366309>

↑ [Interactive Extra-solar Planets Catalog](#), The Extrasolar Planets Encyclopaedia, accessed 20 October 2013

↑ This point is highly debatable; there is no real reason why some form of life could not exist elsewhere than rocky planets.

↑ Again, we are guilty of terracentrism here, imagining that only life like ours on a planet like ours could occur.

↑ [Does Gliese 581g exist?](#)

↑ [R.I.P. Possibly Habitable Planet Gliese 581g? Not So Fast, Co-Discoverer Says](#)

↑ [Space.com](#) report of Royal Astronomical Society meeting in Glasgow, Scotland April 2010



In September 1959, physicists Giuseppe Cocconi and Philip Morrison published an article in the journal Nature with the provocative title "Searching for Interstellar Communications." Cocconi and Morrison argued that radio telescopes had become sensitive enough to pick up transmissions that might be broadcast into space by civilizations orbiting other stars. Such messages, they suggested, might be transmitted at a wavelength of 21 centimeters (1,420.4 megahertz).

This is the wavelength of radio emission by neutral hydrogen, the most common element in the universe, and they reasoned that other intelligences might see this as a logical landmark in the radio spectrum.

Dr. Frank Drake - Radio astronomer Frank Drake became the first person to start a systematic search for intelligent signals from the cosmos. Using the 25 meter dish of the National Radio Astronomy Observatory in Green Bank, West Virginia, Drake listened in on two nearby Sun-like stars: Epsilon Eridani and Tau Ceti.

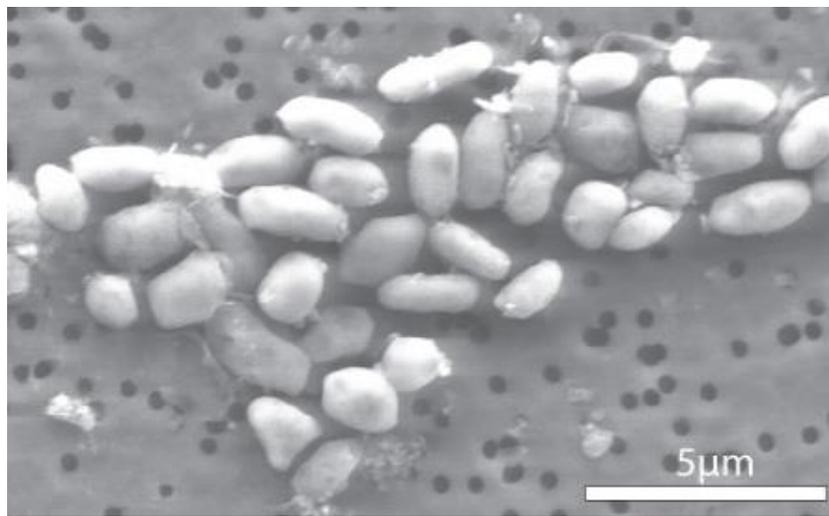
In this project, which he called Project Ozma, he slowly scanned frequencies close to the 21 cm wavelength for six hours per day from April to July 1960. The project was well designed, cheap, simple by today's standards, and unsuccessful.

Soon thereafter, Drake hosted a "search for extraterrestrial intelligence" meeting on detecting their radio signals. The meeting was held at the Green Bank facility in 1961. The equation that bears Drake's name arose out of his preparations for the meeting.

“As I planned the meeting, I realized a few day[s] ahead of time we needed an agenda. And so I wrote down all the things you needed to know to predict how hard it's going to be to detect extraterrestrial life. And looking at them it became pretty evident that if you multiplied all these together, you got a number, N , which is the number of detectable civilizations in our galaxy. This was aimed at the radio search, and not to search for primordial or primitive life forms.” — Frank Drake.

Lake Mono & NASA

Magnified cells
of bacterium
GFAJ-1 grown in
medium
containing
arsenate



GFAJ-1 is a strain of rod-shaped bacteria in the family Halomonadaceae. It is an extremophile that was isolated from the hypersaline and alkaline Mono Lake in eastern California by geobiologist Felisa Wolfe-Simon, a NASA research fellow in residence at the US Geological Survey. In a 2010 *Science* journal publication,[1] the authors claimed that the microbe, when starved of phosphorus, is capable of substituting arsenic for a small percentage of its phosphorus to sustain its growth.[2][3][4] Immediately after publication, other microbiologists and biochemists expressed doubt about this claim which was robustly criticized in the scientific community. Subsequent independent studies published in 2012 found no detectable arsenate in the DNA of GFAJ-1, refuted the claim, and demonstrated that GFAJ-1 is simply an arsenate-resistant, phosphate-dependent organism.[5][6][7][8]

Discovery[edit]

Wolfe-Simon at Mono Lake, 2010

The GFAJ-1 bacterium was discovered by geomicrobiologist Felisa Wolfe-Simon, a NASA astrobiology fellow in residence at the US Geological Survey in Menlo Park, California.[9] GFAJ stands for "Give Felisa a Job".[10] The organism was isolated and cultured beginning in 2009 from samples she and her colleagues collected from sediments at the bottom of Mono Lake, California, U.S.A.[11] Mono Lake is hypersaline (about 90 grams/liter) and highly alkaline (pH 9.8).[12] It also has one of the highest natural concentrations of arsenic in the world (200 µM).[1] The discovery was widely publicized on 2 December 2010.[2]



olfe-Simon at Mono Lake, 2010

Henry Bortman for NASA -

http://www.nasa.gov/topics/universe/features/astrobiology_toxic_chemical.html#



Discover Mag

Mono Lake bacteria build their DNA using arsenic (and no, this isn't about aliens)

By Ed Yong | December 2, 2010 12:28 pm

The discovery is amazing, but it's easy to go overboard with it. For example, this breathlessly hyperbolic piece, published last year, suggests that finding such bacteria would be “one of the most significant scientific discoveries of all time”. It would imply that “Mono Lake was home to a form of life biologically distinct from all other known life on Earth” and “strongly suggest that life got started on our planet not once, but at least twice”.

The results do nothing of the sort. For a start, the bacteria – a strain known as GFAJ-1 – don't depend on arsenic. They still contain detectable levels of phosphorus in their molecules and they actually grow better on phosphorus if given the chance. It's just that they might be able to do without this typically essential element – an extreme and impressive ability in itself.

That hasn't stopped the hype machine from rolling forward, fuelled by a public announcement from NASA, teasing a press conference about an “astrobiology discovery”. It's a shame. In teasing their own press conference two days ahead of time, and refusing to budge on the embargo when the first information trickled in, NASA effectively muzzled everyone who knew about the actual story while allowing speculation to build to fever pitch.

That may, of course, be their intention. However, I can't help but feel that the result will be a lot of disappointed people, who've been robbed of an opportunity to be excited about a genuinely interesting discovery.

<http://blogs.discovermagazine.com/notrocketscience/2010/12/02/mono-lake-bacteria-build-their-dna-using-arsenic-and-no-this-isnt-about-aliens/#.V048BcArLIV>

But if you spend your afternoon walking the lakeshore with geomicrobiologist Felisa Wolfe-Simon, you'll also discover that the mud you're walking on may hold an important secret. It may be home to life whose biological makeup is fundamentally different than that of any known life on Earth, life so different from standard terrestrial biology it can literally be considered alien.

Indeed, if the more speculative aspect of Wolfe-Simon's research bears fruit, rather than honors going to Mars or Europa, Mono Lake may go down in history as the first place in our solar system where alien life was discovered. And even if that part of her work doesn't pan out, Wolfe-Simon may still make a significant contribution to our understanding of life's origins.

- See more at: <http://www.astrobio.net/topic/origins/extreme-life/searching-for-alien-life-on-earth/#sthash.hGTnnt4b.dpuf>

Just to be clear: finding an organism that didn't need phosphorus, that used arsenic instead, would be one of the most significant scientific discoveries of all time. It would mean that Mono Lake was home to a form of life biologically distinct from all other known life on Earth. It would strongly suggest that life got started on our planet not once, but at least twice, that the origin of life on Earth was not a freak accident requiring highly specialized circumstances, but a relatively commonplace event. And that in turn would strengthen the argument that life is likely to be present on other worlds as well. Not too shabby a result for an afternoon stroll by a mountain lake. - See more at:

<http://www.astrobio.net/topic/origins/extreme-life/searching-for-alien-life-on-earth/#sthash.hGTnnt4b.dpuf>

Manual

Microbiology

Grow a Thriving Bacterial Zoo

In the 1880s, microbiologist Sergei Winogradsky sealed pond mud in a clear tube. The column nourished a diverse mix of bacteria, which formed layers based on their energy sources: carbon, hydrogen, sulfur, or oxygen. This year, the American Museum of Natural History is revisiting the Winogradsky column by displaying a 6-foot-tall version through August. Can't visit? Gather some mud and create your own.

by
**STEPH
YIN**



TOOLS+MATERIALS

- Buckets
- Shovel
- Large mixing bowl
- Mixing spoon
- ¼-page of shredded newspaper
- 1 egg yolk
- Scissors
- 1 two-liter soda bottle with top cut off
- Plastic wrap
- Rubber bands

INSTRUCTIONS

- 1** Collect half a gallon of mud from a pond or stream, adding water until it has the consistency of a milkshake.
- 2** Mix a quarter of the mud with egg yolk and shredded newspaper. Spoon the mixture into the bottle. Keep filling the bottle with mud, and tap it periodically to remove air pockets.
- 3** Add an inch of pond water, leaving a little air at the top. Seal the bottle with plastic wrap and rubber bands, and place it near a window, out of direct sunlight.
- 4** Layers will develop over two months. Look for dark green, purple, and black sulfur-eating bacteria at the bottom; red, orange, brown, and purple carbon-eating ones in the middle; and green photosynthesizing microbes at the top.

NASA Press Release



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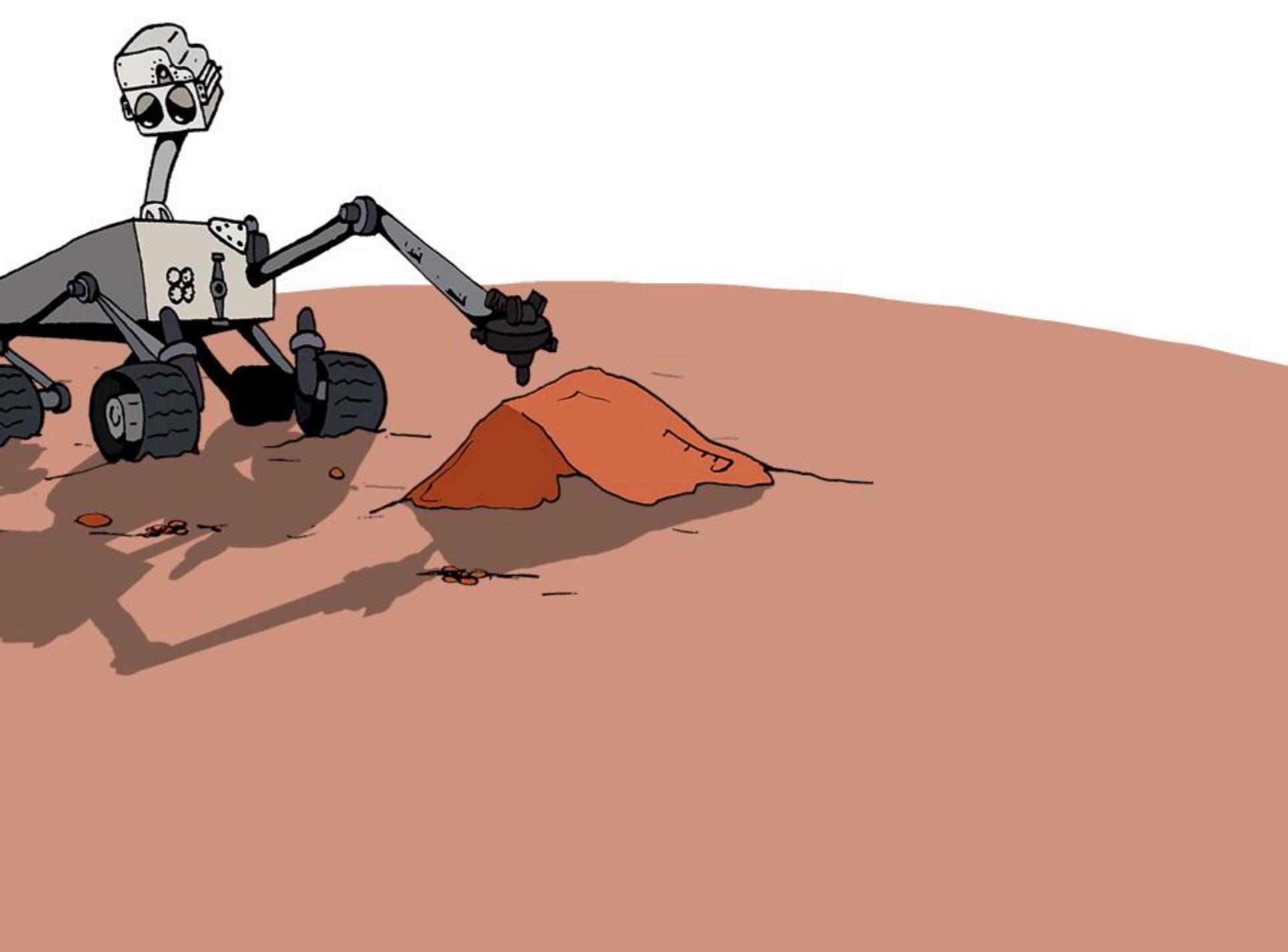
DISCOVERY OF "ARSENIC-BUG" EXPANDS DEFINITION OF LIFE

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http://science.nasa.gov/science-news/science-at-nasa/2010/02dec_monolake/

DISCOVERY OF "ARSENIC-BUG" EXPANDS DEFINITION OF LIFE

Dec. 2, 2010: NASA-supported researchers have discovered the first known microorganism on Earth able to thrive and reproduce using the toxic chemical arsenic. The microorganism, which lives in California's Mono Lake, substitutes arsenic for phosphorus in the backbone of its DNA and other cellular components.

New Life Form Discovered in Mono Lake

A microscopic image of GFAJ-1 grown on arsenic. [larger image]

"The definition of life has just expanded," said Ed Weiler, NASA's associate administrator for the Science Mission Directorate at the agency's Headquarters in Washington. "As we pursue our efforts to seek signs of life in the solar system, we have to think more broadly, more diversely and consider life as we do not know it."

This finding of an alternative biochemistry makeup will alter biology textbooks and expand the scope of the search for life beyond Earth. The research is published in this week's edition of Science Express.

"The idea of alternative biochemistries for life is common in science fiction," said Carl Pilcher, director of the NASA Astrobiology Institute at the agency's Ames Research Center in Moffett Field, Calif. "Until now a life form using arsenic as a building block was only theoretical, but now we know such life exists in Mono Lake."



Bill Nye computes the odds of another civilization in space

http://www.democraticunderground.com/discuss/duboard.php?az=view_all&address=228x32793

How to calculate the likelihood of extraterrestrial life

A well-known astronomer named Frank Drake proposed a series of approximations back in 1961 to give us a reasonable estimate of the chances of having an extraterrestrial civilization "out there." It's simple. Just use the calculation $N = R \cdot f_p \cdot n_e \cdot f_i \cdot f_c \cdot L$. Easy, right? Here's what it means:

Called the Drake equation, this calculation starts with total number of stars in a given part of space, say, our galaxy. At any time in the cosmos, some stars are forming. Others are using up their fuel and dying. Still others create more fusion energy than their gravity can contain; they're exploding. So, astronomers often estimate the total number of stars using a term associated with a rate of star formation. We call it "R*" (R-star). For the Milky Way, it's around 400 billion; hence the expression, "billions and billions" of stars. (This phrase was used by the extraordinary talk show host Johnny Carson, when he parodied the extraordinary astronomer Carl Sagan.)

Then we can consider the percentage or fraction of stars that would also have planets orbiting them. That's f_p .

Of those f_p planets, what portion of them have conditions that could sustain life, akin to the conditions on our own planet? That's n_e , ("n sub-e" for "earthlike").

Now, the fraction of planets on which self-aware, or "intelligent" life has evolved: f_i .

The answer: $N = (400 \text{ billion})(1/10)(1/1,000,000)(1/10)(1/10,000)(1/100)(10,000)$
= 40 civilizations.

<http://encarta.msn.com/encnet/Features/Columns/Default....>

$$N = R_* \times f_p \times n_e \times f_e \times f_i \times f_c \times L$$

The number of technologically advanced civilizations in the Milky Way galaxy

The rate of formation of stars in the galaxy

The fraction of those stars with planetary systems

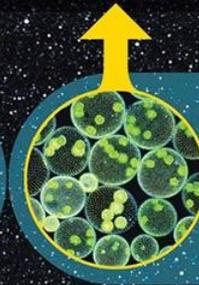
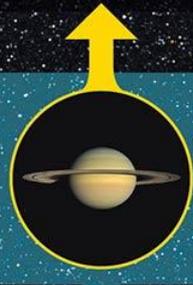
The number of planets, per solar system, with an environment suitable for life

The fraction of suitable planets on which life actually appears

The fraction of life-bearing planets on which intelligent life emerges

The fraction of civilizations that develop a technology that releases detectable signs of their existence into space

The length of time such civilizations release detectable signals into space



$$A = N_{ast} \times$$

$$f_{bt}$$

The number of technological species that have formed over the history of the observable universe

The number of habitable planets in a given volume of the universe

The likelihood of a technological species arising on one of these planets

Original estimates[edit]

There is considerable disagreement on the values of these parameters, but the 'educated guess' colleagues in 1961 were:[22][23]

$R^* = 1/\text{year}$ (1 star formed per year, on the average over the life of the galaxy; this was regarded

$f_p = 0.2-0.5$ (one fifth to one half of all stars formed will have planets)

$n_e = 1-5$ (stars with planets will have between 1 and 5 planets capable of developing life)

$f_l = 1$ (100% of these planets will develop life)

$f_i = 1$ (100% of which will develop intelligent life)

$f_c = 0.1-0.2$ (10-20% of which will be able to communicate)

$L = 1000-100,000,000$ years (which will last somewhere between 1000 and 100,000,000 years)

Inserting the above minimum numbers into the equation gives a minimum N of 20. Inserting the maximum of 50,000,000. Drake states that given the uncertainties, the original meeting concluded probably between 1000 and 100,000,000 civilizations in the Milky Way galaxy.

As many skeptics have pointed out, the Drake equation can give a very wide range of values, depending on the assumptions.[46] In particular, the result can be $N \ll 1$, meaning we are likely alone in the galaxy, or $N \gg 1$, implying there are many civilizations we might contact. One of the few points of wide agreement is that the presence of humanity implies a probability of intelligence arising of greater than zero.[47] Beyond this, however, the values one may attribute to each factor in this equation are often based more about a person's beliefs than about scientific facts.[48][dubious – discuss][better source needed] As an example of a low estimate, combining NASA's star formation rates, the rare Earth hypothesis, a value of $f_p \cdot n_e \cdot f_l = 10^{-5}$,[49] Mayr's view on intelligence arising, Drake's view of communication, and Shermer's estimate of lifetime:

$R^* = 7/\text{year}$,[24] $f_p \cdot n_e \cdot f_l = 10^{-5}$,[35] $f_i = 10^{-9}$,[38] $f_c = 0.2$ [Drake, above], and $L = 304$ years[43] gives:

$$N = 7 \times 10^{-5} \times 10^{-9} \times 0.2 \times 304 = 4 \times 10^{-12}$$

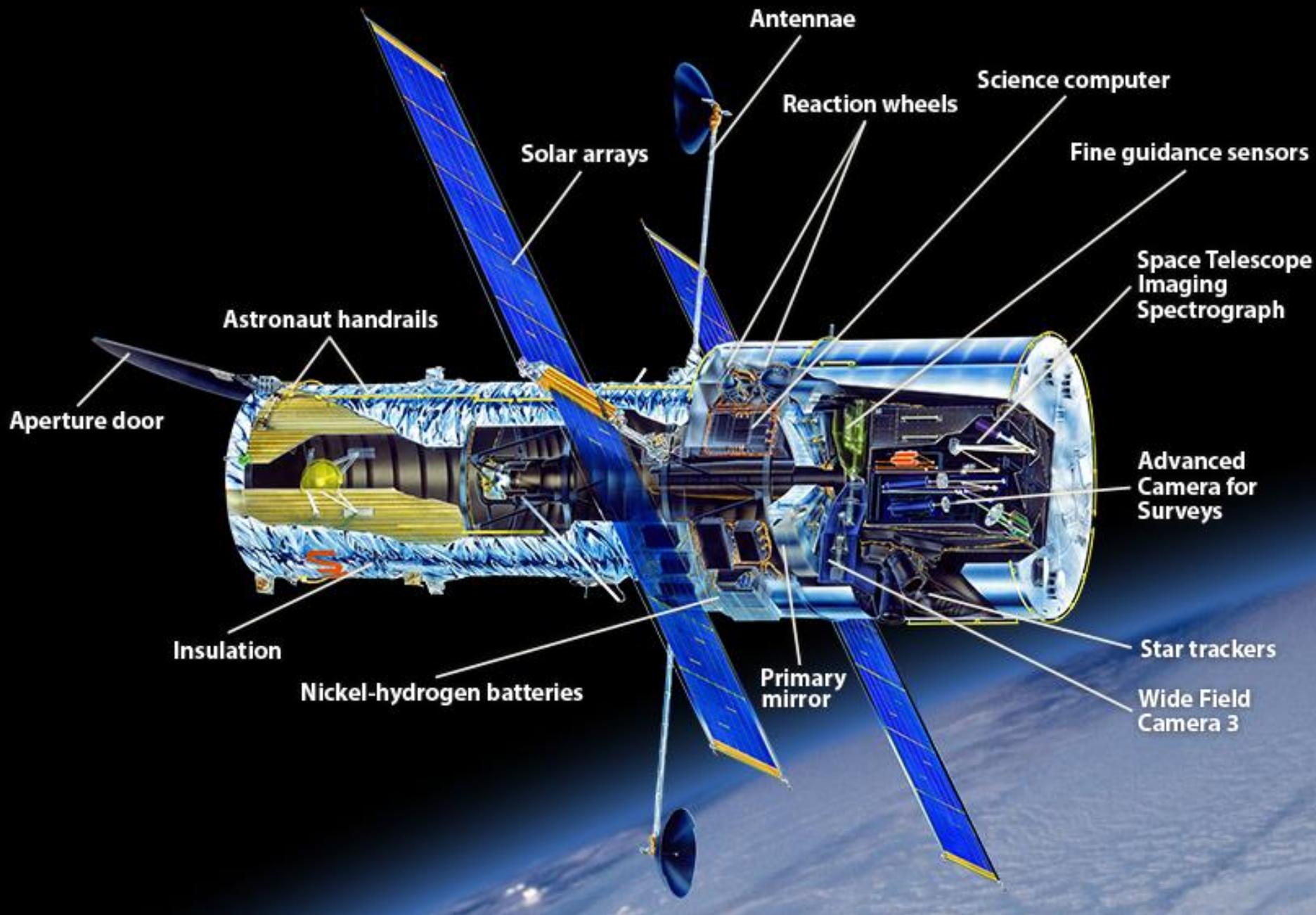
i.e., suggesting that we are probably alone in this galaxy, and possibly the observable universe.

On the other hand, with larger values for each of the parameters above, values of N can be derived that are greater than 1. The following higher values that have been proposed for each of the parameters:

$R^* = 7/\text{year}$,[24] $f_p = 1$,[25] $n_e = 0.2$,[50][51] $f_l = 0.13$,[52] $f_i = 1$,[40] $f_c = 0.2$ [Drake, above], and $L = 10^9$ years[44]

Use of these parameters gives:

$$N = 7 \times 1 \times 0.2 \times 0.13 \times 1 \times 0.2 \times 10^9 = 36.4 \text{ million.}$$



2. Boyle's Law

How does Boyle's Law of Gases show that the Big Bang could not explode and then collapse into stars and planets?

Conclusion: Boyle's Law of Gases $pV = k$ and Newton's Law of Gravity combined together show that dust floating around in outer space cannot pull together and form pebbles, then meteorites then finally planets.

$$pV = k$$



p = Pressure

V = Volume

k = Gas at a fixed temperature

3. Supernova Remnants (SNR)

How does Jeans' Length formula show that dust in nebulas could not form into a Sun with planets?

$$F_g = \frac{(3GM^2)}{r}$$

$$F_p = \frac{(3nRT)}{r}$$



g = gravitational constant

M = mass of gas cloud.

r = radius of cloud.

R = gas constant.

T = temperature of cloud.

N = number of motes in cloud

Conclusion: Sir James Jeans could not find a cloud small enough to test the formula thus proving that Nebulas could not collapse and form stars or planets. This also affirms Boyle's Law that the nebulas are expanding & getting bigger not collapsing into stars or planets.

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$



THE SPARK
A STORY ABOUT GOD'S WORD

ADVENTURE DAY
[Image of a building]



Fire

Water

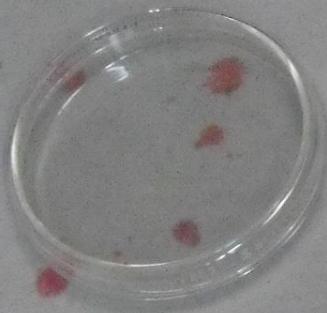
Earth

Air

Corn, Rag, Tissue

Please do not touch.

Yellow Corn
Sweet Corn



Fine

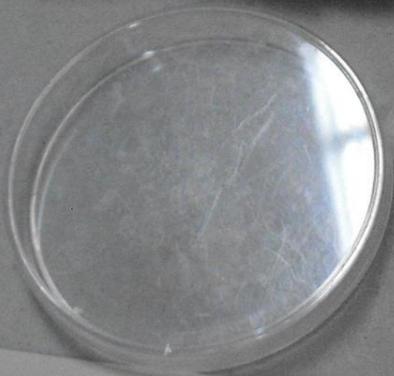
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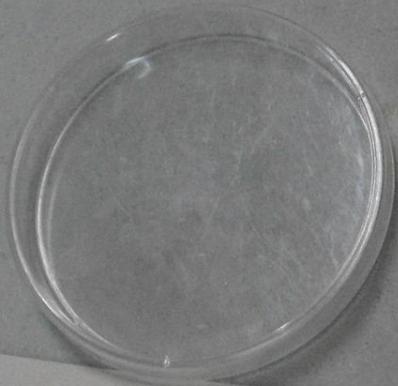
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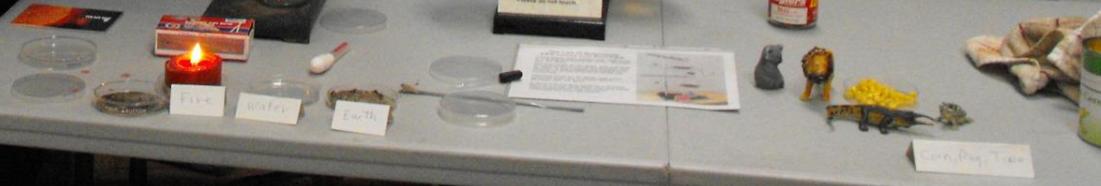
Corn, Rag, Time



Corn, Rag, Time

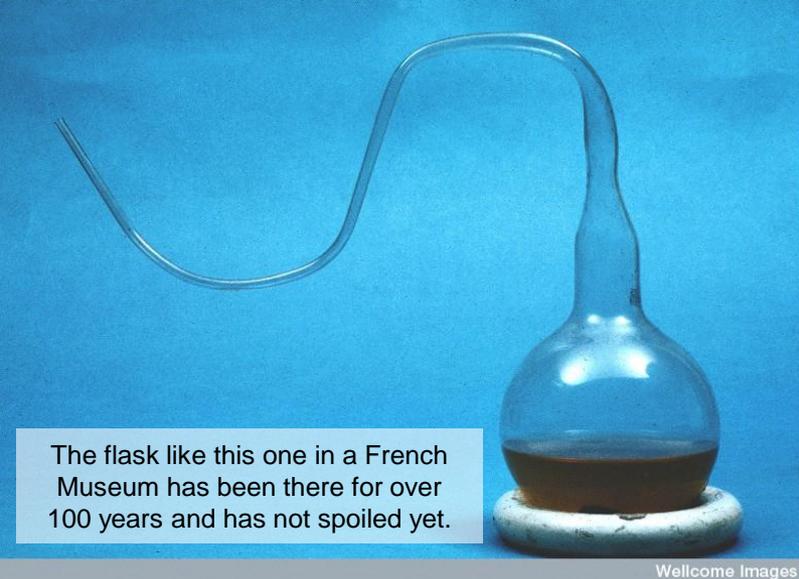


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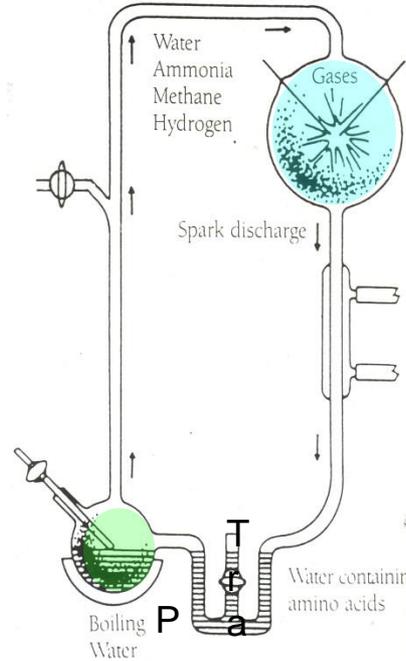
The Powerful Influence of Quality Products
Manufacturers and Great Discoveries





The flask like this one in a French Museum has been there for over 100 years and has not spoiled yet.

Wellcome Images



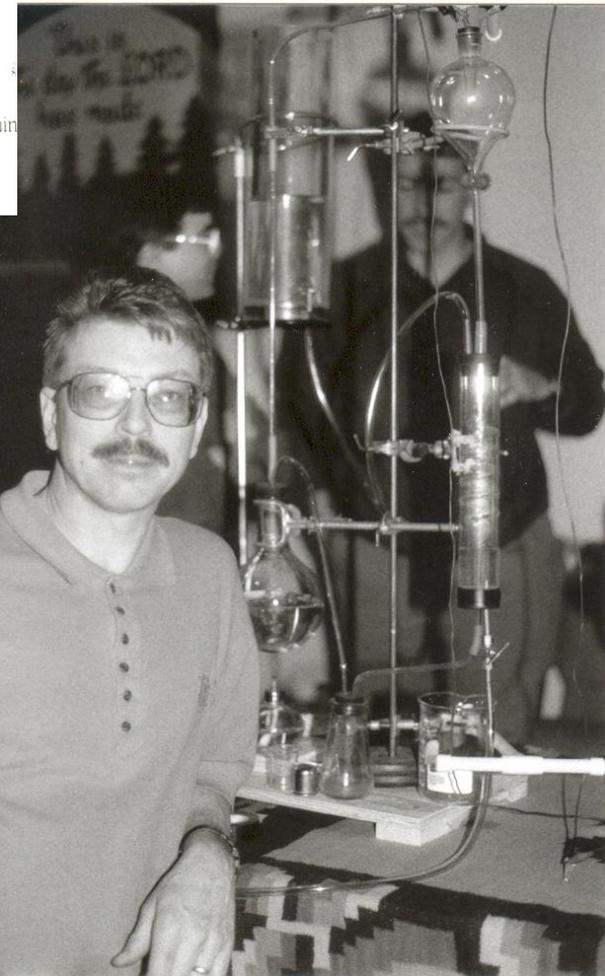
ADVENTURE SAFARIS

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Russ made a model of the Miller experiment in the 1990s and will have it on display at the museum.



Man Creates Life!

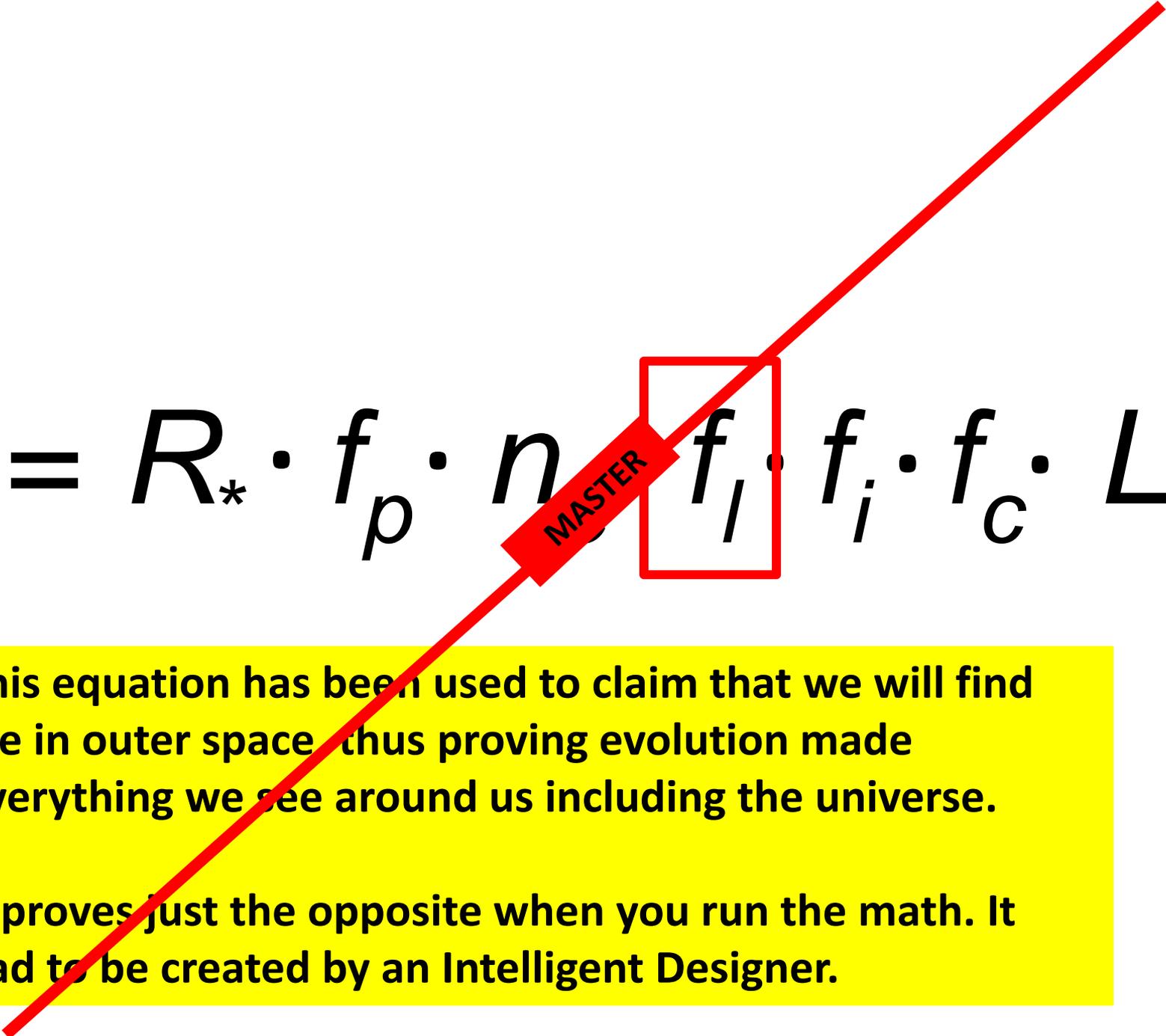
On May 15, 1953 the Miller/Urey experiment was hailed as proof that life could be made in a test tube, This supposedly “proved” life could spontaneously form in a primordial sea. This was deceptive as they made several amino acids that were opposite to each other (right & left handed) and in the primordial sea would have cancelled out each other. (My model of the experiment at the right)

Note that at the bottom of the apparatus is a “trap” (P) which took the amino acids out of the system otherwise they would have been destroyed by the energy and hydrogen if they went a second time around through the system. Without amino acids life could not exist. There are other problems in this experiment that actually demonstrate that life could never form in a primordial sea. (See list on another paper)

Above is the “Swan Neck Biogenesis Experiment.” It was developed by Louis Pasteur in 1864. It proved spontaneous generation was scientifically invalid. Yet the Miller experiment has been written up in most high school and college textbooks copyrighted 2000 and beyond, to show that life supposedly started from dead things about 1 billion years ago.

Since this is a “turning point” experiment in evolutionism we plan to have a reproduction of this in our museum contrasting Pasteur’s findings with Miller’s.



$$N = R_* \cdot f_p \cdot n \cdot f_l \cdot f_i \cdot f_c \cdot L$$


This equation has been used to claim that we will find life in outer space thus proving evolution made everything we see around us including the universe.

It proves just the opposite when you run the math. It had to be created by an Intelligent Designer.