

UFOs

Unidentified Flying Objects

Are there any images that need an extraterrestrial explanation?

Dr Steve Barrett CU3A 13 Apr 2026

Statistics Don't Lie

Have extraterrestrial aliens visited Earth? ✓ 40%

Are extraterrestrial aliens visiting *now*? ✓ 35%

That's less than the number who believe in ghosts (60%)
but greater than telekinesis (25%)
or Bigfoot (20%)

[... or evolution (31%)]

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Chapman University Survey 2018 2

UFOs? Isn't It Now Settled?

PERCENTAGE OF THE US POPULATION CARRYING CAMERAS EVERYWHERE THEY GO, EVERY WAKING MOMENT OF THEIR LIVES:

Year	Percentage
1980	0%
1985	0%
1990	0%
1995	0%
2000	0%
2005	~5%
2010	~80%

IN THE LAST FEW YEARS, WITH VERY LITTLE FANFARE, WE'VE CONCLUSIVELY SETTLED THE QUESTIONS OF FLYING SAUCERS, LAKE MONSTERS, GHOSTS, AND BIGFOOT.

xkcd.com

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No, It's Not Settled

Google hits for "UFO" > 250 million
This implies that, despite so many cameras, it's *not* settled

UFO images could be ...

- Manmade Objects
- Natural Objects
- Image Artefacts
- Deliberately Faked
- Extraterrestrial Spacecraft

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UFOs

Definitions and Claims

I will conform to the conventional usage of the acronym UFO to mean an object observed in the sky that is not readily identified.

Regarding an extraterrestrial origin, I side with Carl Sagan:

"Extraordinary claims require extraordinary evidence"

Another useful tool for a rational scientist is Occam's Razor:

"If there are two explanations for an observation, then the one that requires the least speculation is usually better"

or

"Simpler solutions are more likely to be correct than complex ones"

Reliable Information



Ideal UFO



... clear, detailed, in focus, no camera shake, well-exposed ...

Typical UFO



... blurred, out of focus, camera movement, over-exposed ...

UFOs


The First UFOs?



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UFOs might be ...

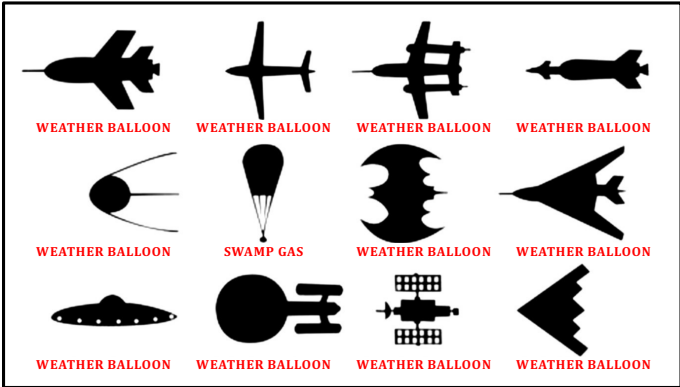
Manmade Objects



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Identifying a UFO

U.S. AIR FORCE AIRCRAFT IDENTIFICATION CHART



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UFOs in Formation

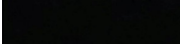


A long exposure photo of a fleet of UFOs flying in formation?

No, it's the

'Pylon of the Month'
December 2019


www.pylonofthemonth.org



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UFOs

Space Jellyfish



Who could see this
and not think ...

UFO!

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Falcon Tails



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Falcon Nebula



BRIAN B. HALDET, 2018

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Rocket Trails

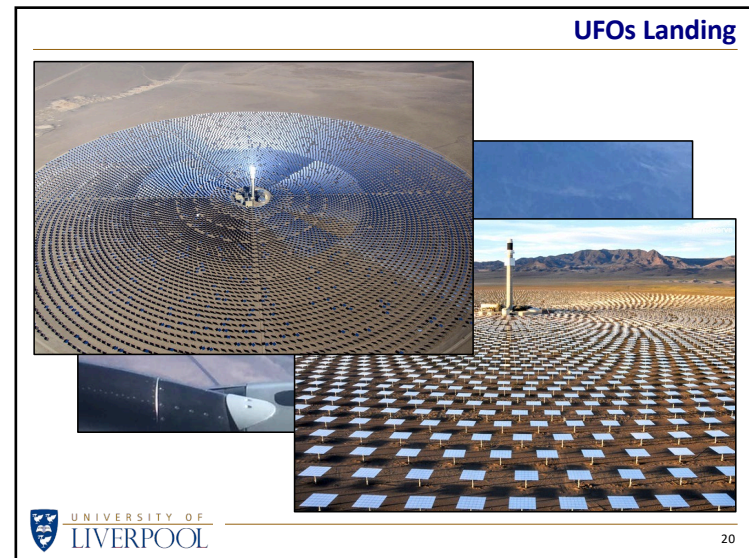
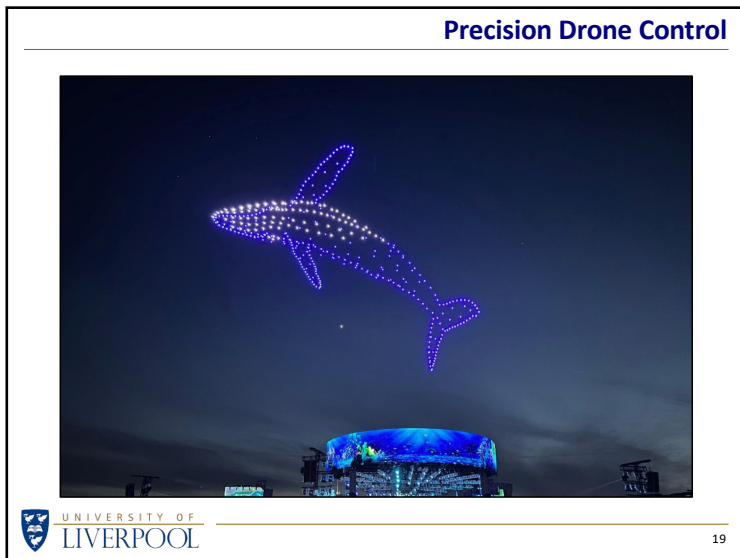


Seay Photography

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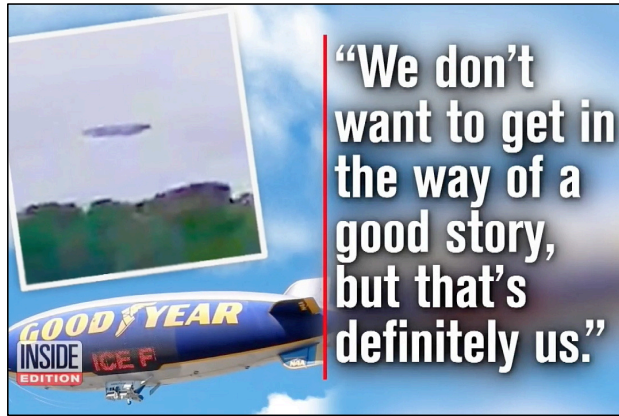
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UFOs



UFOs

A Good Year For UFOs



"Super Clear" Footage



YouTube Videos

One YouTube video in particular piqued my interest ...

" Puerto Rico's close proximity to [the Bermuda Triangle] may explain why it's a known hotbed for UFOs.

There have been countless UFO sightings over the years, but many experts consider this next piece of footage the Gold Standard. "

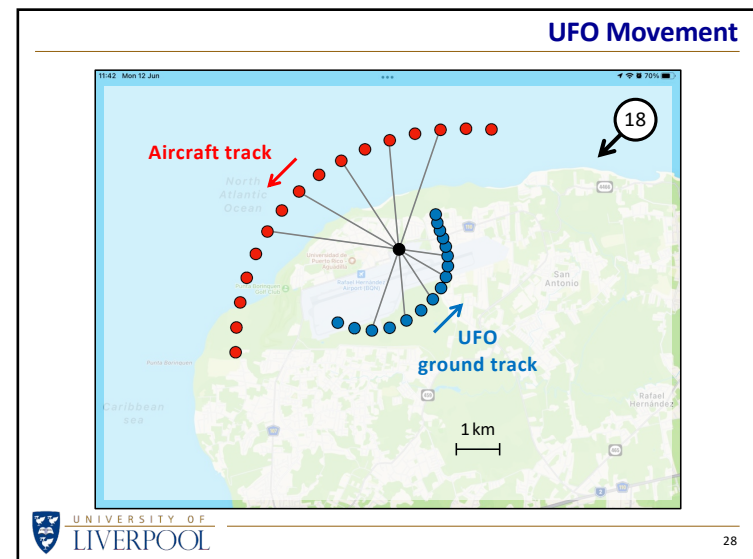
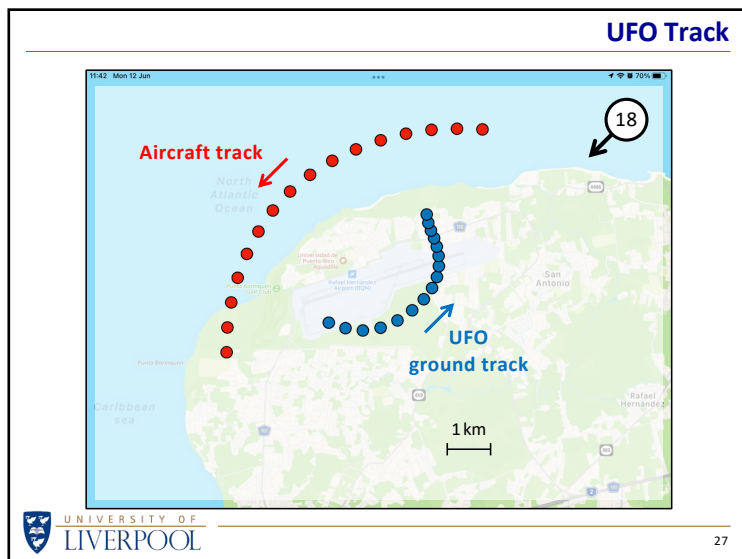
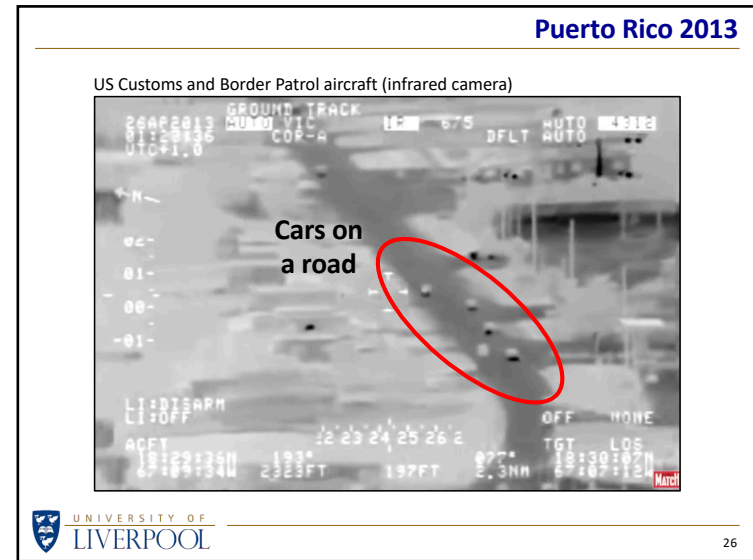
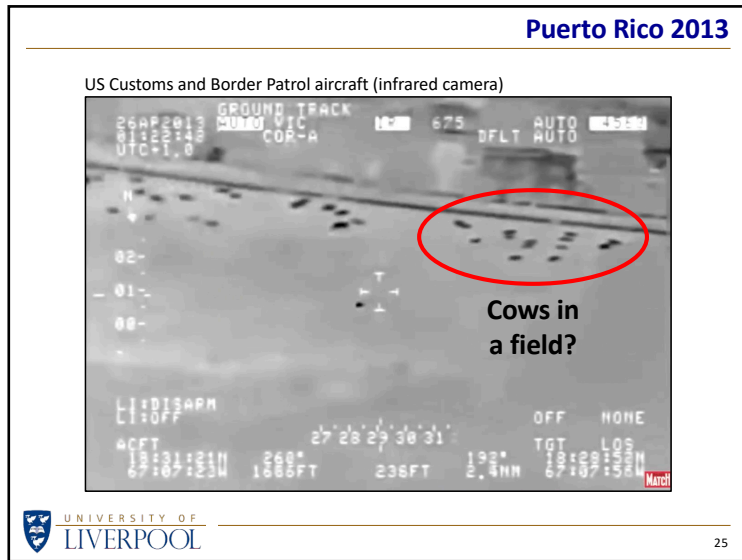
Does this 'Gold Standard' for UFO sightings stand up to scrutiny?

Puerto Rico 2013

US Customs and Border Patrol aircraft (infrared camera)



UFOs



UFOs

Occam's Razor

"Of countless UFO sightings, many experts consider this the Gold Standard."

The YouTube description:

A metallic orb ...
... moving at incredible speed
... with no obvious propulsion
... into a 18mph headwind

The infrared camera sees an object that "does not match anything we know of".

An alternative explanation:

The object is essentially static

It is drifting slowly downwind

It is probably a balloon

UFOs might be ...

Natural Objects

Clouds of the Month



Unusual Clouds



UFOs

Light Pillars



© www.salamapaja.fi

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APOD 18 Dec 2013 33

This photograph shows a snowy residential street at night. Several tall, vertical columns of light, known as light pillars, rise from the ground, appearing to be illuminated from below. The scene is dimly lit by streetlights and house lights.

Light Pillars



VINCENTBRADY.COM

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APOD 24 Oct 2018 34

This photograph shows a dark body of water at night under a starry sky. Several vertical columns of light, or light pillars, are visible, extending from the horizon up into the sky. The water in the foreground is dark and still.

Light Pillars



@WisconsinWeatherPhotography @TomPurdyWI @TomPurdyWI

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This photograph shows an open field at night with several vertical columns of light rising from the ground. The lights are of various colors, including blue, red, and yellow. The background is dark with some distant lights.

Fluctuating Lights



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APOD 8 Nov 2011 36

This photograph shows a close-up view of a cloudy sky at night. A bright, fluctuating light source is visible, appearing to move or change shape as it passes through the clouds. The clouds are dark and textured.

UFOs

Red Sprites



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APOD 2 Oct 2023 37

Arc-Shaped UFO over Ontario

"Nearing the end of the day ...
I sat down on my deck facing
west ... something caught my
eye ... it was brilliant white ...

In truth I cannot be sure what
it truly is ... my conclusion is a
'UFO'.

My friend ... thinks the object
is as big as two airliners ...
I thought one airliner, but
maybe he's right!"



still frame - enhanced

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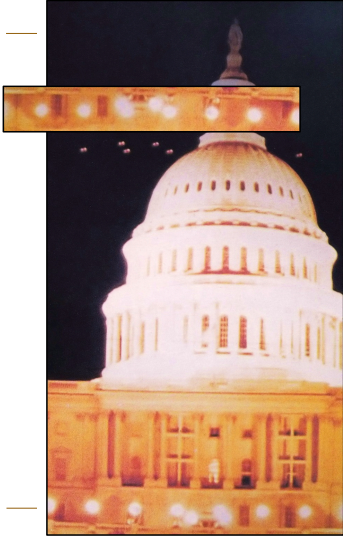
UFOs might be ...

Image Artefacts

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UFOs in the USA?



Mysterious lights in the
sky photographed over
Washington DC in 1952

... or maybe they are just
reflections of lights in the
foreground

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UFOs

UFO? – Image Artefacts

"The large craft came so close to the photographer that the windows can even be seen in the image."

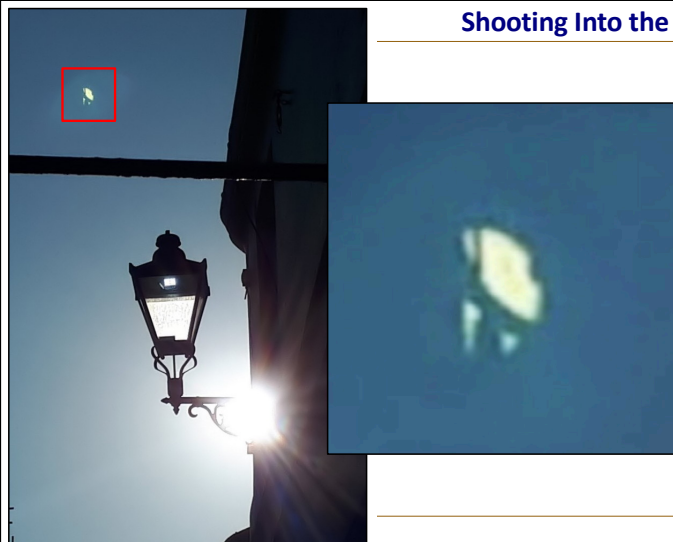


"UFO sighting is 100% proof ALIENS are here on Earth."

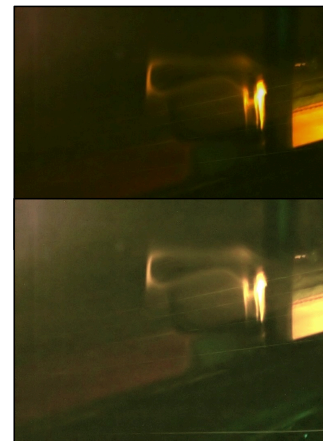
UFO? – Image Artefacts



Shooting Into the Sun



No Camera Jerk



"Note the power lines in the photo. As you see, the wires show absolutely no distortion which would indicate no camera jerk. Also based on the wires in the photo you can tell we were shooting almost straight up."

UFOs

Huge Slab in Sky



"... what appears to be a flat, rectangular aircraft with lights around its edges hovering in the air."

"UFO enthusiasts and conspiracy theorists have claimed it is an advanced type of spy craft known as a TR-3B."

UFOs might be ...

Faked

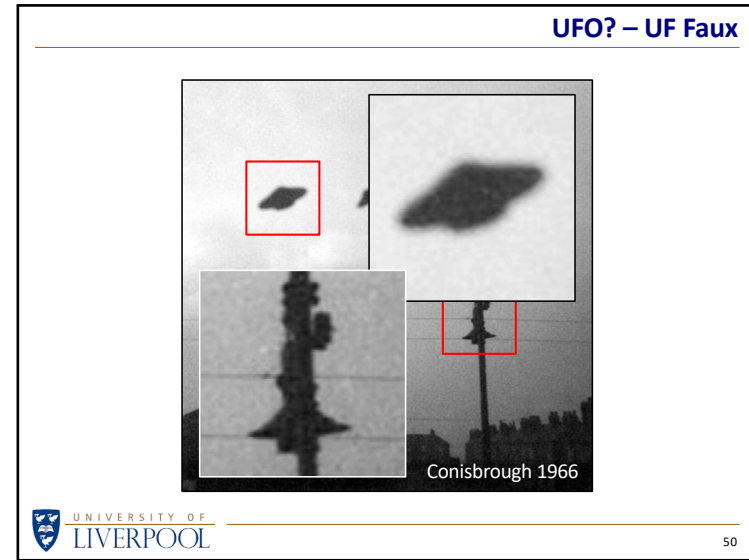
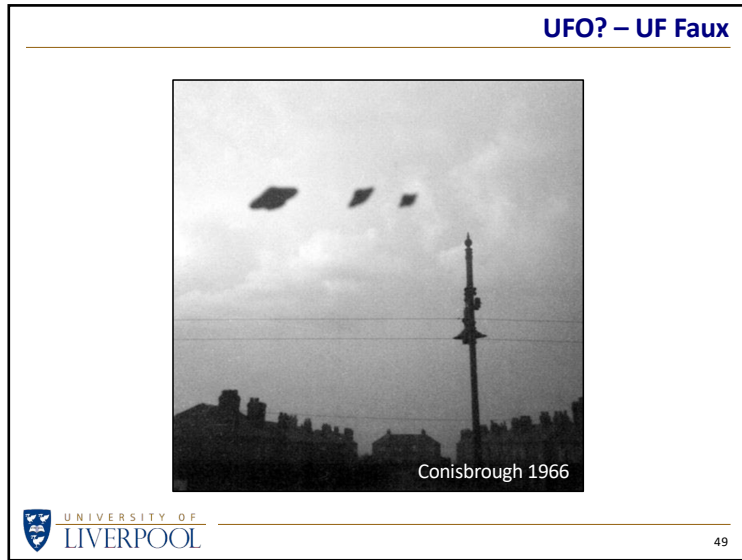
UFO? – UF Faux



UFO? – UF Faux



UFOs



UFOs

UFO? – UF Faux

80
75
70
65
60

0 10 20 30 40 50 60 70 pix

Near F18 jet

80
75
70
65
60

0 10 20 30 40 50 60 70 pix

Near UFO

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UFO? – UF Faux

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UFO? – UF Faux

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UFOs might be ...


Extraterrestrial Spacecraft

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UFOs

NASA Report



"Extraordinary claims require extraordinary evidence."

"Metadata ... are often absent, making ... a thorough understanding of context difficult."

"There is no conclusive evidence suggesting an extraterrestrial origin for UAP."

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Extraterrestrials?

The lack of evidence for extraterrestrial UFOs leads to a question...

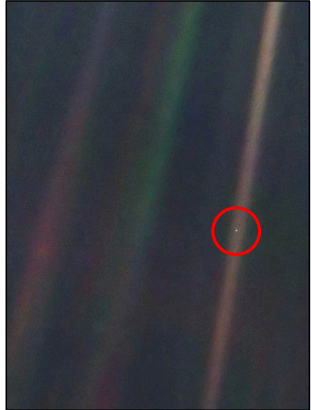
The number of stars in the Milky Way	≈	300 billion
Most have planetary systems	÷ 2 ⇒	150 billion
Quite a few planets are Earth-like	÷ 3 ⇒	50 billion
Life may have originated	÷ 100 ⇒	500 million
Complex life may have evolved	÷ 100 ⇒	5 million
Intelligent life may have evolved	÷ 100 ⇒	50 thousand

So if the galaxy is full of civilisations – **Where are they?**

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Extraterrestrials?



"Look again at that dot. That's here. That's home. That's us. On it ... every human being who ever was, lived out their lives ...

– on a mote of dust suspended in a sunbeam."

Pale Blue Dot
Carl Sagan 1994

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Unidentified Flying Objects

www.liverpool.ac.uk/~sdb/Talks

Dr Steve Barrett

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