



# SUNlite

Shedding some light on UFOlogy and UFOs

*The apparent pursuit of moving vehicles, or flight from them, is characteristic of any distant object which is imagined to be close to the observer...It is a characteristic of this "pursuit" that the object stops when the observer stops, resumes its motion as the observer resumes motion, goes the opposite direction when the observer reverses direction, and travels at whatever speed the observer happens to travel.*

*Roy Craig*

Volume 7 Number 1

January - February 2015



Front: A sub sun photographed by Robert Sheaffer. This phenomena has generated UFO reports in the past and, in one case, was considered "evidence" for UFOs being alien spaceships.

Left: The planet Venus being "chased" by a car. This induced motion illusion has generated many UFO reports, where the witness thought the UFO was exhibiting intelligent behavior.

## TABLE OF CONTENTS

Who's blogging UFOs.....	2-3
The Roswell Corner .....	4
Planes, trains, and automobiles.....	5-10
IPACO McMinnville report update .....	11-18
September 21, 1961: Case Closed .....	19-21
UFO evidence under review: May 24, 1954 .....	22-23
701 club - Case 2315: January 1, 1953...	24
UFOs on the tube.....	25

# Those who cannot remember the past.....

Probably the most amusing thing I read recently, was one of Billy Cox's ravings where he called, once again, for the US government to form an organization to study UFOs. In that article, Cox referred to the USAF "slithering out of UFO research". This is a rather interesting interpretation of what transpired. Cox overlooks the fact that the UFO groups at the time were accusing the USAF of covering up UFOs and standing in the way of the truth. Because of the military's secrecy regarding many UFO cases, UFO organizations wanted the USAF out of UFO research. Once the USAF was out of the UFO picture, they became very optimistic. NICAP would issue a press release that referred to the USAF's closure of a Blue Book a "A welcome development" and that it allowed scientific research on the subject free of any military interference.

After criticizing science and the government for "covering up" or "ignoring" the subject, Cox proposes that some politician should have the courage to set up a UFO research branch in the US government. He is obviously taking his cues from Leslie Kean, who suggests that such a group would only require a small office of one to three people that would work with other agencies to solve these UFO cases. She also implies that there would be a "volunteer group", which would provide necessary guidance to the staff. Do Cox and Kean really expect politicians to pay a few UFOlogists to set up in a office in Washington, where they can do the same thing they have been doing for the past fifty years? No politician, in their right mind, would create such a group without proper supervision. This means the UFO research group would have to answer to a political appointee, who would give direction and monitor the work. I am not sure if that individual would take kindly to some group of "volunteers" giving them "advice" on how to do their job, especially if this group is populated by a bunch of UFO proponents from an organization like MUFON.

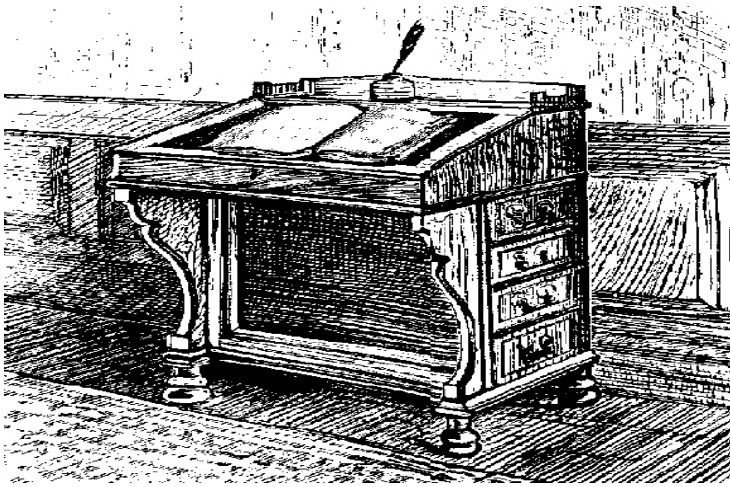
In 1966, a committee of scientists was formed to review the performance of project Blue Book. That committee concluded that the minimal staff employed by Blue Book (one officer, a sergeant, and a secretary) was inadequate for the task. This implies that Kean's meager staff of a few individuals would be quickly buried underneath all the UFO reports. While Kean chose not to be specific about who would compose this group of UFO specialists, it would have to be populated by qualified experts and not well intentioned amateurs. Such an organization would probably look and behave like the Condon study. If given adequate resources, this group could probably select the most prominent or interesting cases for analysis/investigation. Assuming they put their personal bias aside, they might be able to solve some interesting cases. However, what would happen if they investigated a case that UFO aficionados had heavily promoted and solved it? Would UFO proponents accept the explanation or would there be the standard cries of government cover-up? Even if a case ended up with the "unexplained" label, it would prove nothing of significance. This means that, after spending millions of dollars discovering they can prove nothing (other than people misperceive various things as UFOs), receiving criticism from the UFO groups, media, and scientific community, the politicians would realize it is a waste of taxpayer dollars and probably close the branch down. This would prompt UFO groups to, once again, cry "cover-up". It would be a case of "lather, rinse, repeat".

George Santayana once wrote, *"Those who cannot remember the past are condemned to repeat it."* What Kean and Cox propose, without any specifics, sounds great but, after closer examination, appears to be nothing more than a UFOlogical boondoggle that is doomed to fail.



# Who's blogging UFOs?

## Hot topics and varied opinions



In an effort to highlight the internet links in this section, I have changed the highlight to "brick red" so it will be easier to see. Readers can simply "click" on the box to go to the web site where this information can be found.

**Boyd Bushman, a scientist from Lockheed, appeared in a "UFO disclosure" type video just before he passed away..**

People considered it a "deathbed confession" and the video was very popular on the internet. However, the photographs he showed of UFOs turned out to be less than convincing and his photograph of an alien body appears to be nothing more than a plastic alien doll that was, supposedly, available from Wal Mart or K Mart. Was Bushman taken in by a hoax or was he perpetuating one? We will probably never know since he is now deceased. Personally, I find the people who record these videos just as guilty of the hoax because they should know better. Bushman was a dying man when he made the video and may or may not have known what he was doing. The per-

son promoting it was healthy and knew exactly what they were doing. They published this ridiculous video in order to promote themselves at Bushman's expense. There are some in UFOlogy, who have no shame.

**Dan Aykroyd states that aliens are disgusted by humanity and that is why they don't contact us.** His evidence are two UFOs that watched planes crash into the World Trade Center in 2001. Hmmm.....maybe they might be equally disgusted by actors, who make silly statements about airplane contrails being UFOs. Aykroyd is just another MUFON sensationalist, who should stick to doing comedies. Critically analyzing UFO reports and videos is something he appears to be incapable of doing.

**Rumor has it that John Ventre is being "silenced" by MUFON because of his outrageous claims.** In my opinion, he has some rather bizarre tales and interpretations of events that are impossible to accept. However, I have seen the same kind of behavior from Harzan and others in the MUFON leadership. The entire Hanger One cast wears the MUFON label. They have done nothing but sensationalize the subject with ludicrous claims that fall apart with just a bit of research. MUFON criticizing Ventre's claims is the pot calling the kettle black.

**Jack Brewer followed up on the MJ-12 debate by stating that MJ-12 is suffering form a technical knockout.** I am sure Stanton Friedman would disagree but his opinion really does not matter at this point. Stanton Friedman has invested his entire career on MJ-12 and could never come to the conclusion that they are all fraudulent. You might as well expect a creationist to accept the concept of evolution. It just isn't going to happen. Despite his failure to recognize fraud, some UFOlogists feel he belongs on the "Mount Rushmore" of UFOlogy. I guess myths are hard to dispel.

**There was a panel of UFO proponents who addressed an "honors" class at American University in Washington D.C.** Details of the event seem to have eluded the news media with the exception of Tom Carey announcing he had the "smoking gun" of Roswell in his possession but chose not to present it there. It got him headlines but appeared to upset Leslie Kean, who stated on Facebook that she had nothing to do with the "Roswell business". Kean repeated her desire to have a government funded UFO study program. I assume she envisions herself, or some other prominent UFOlogist, in charge of such an organization. If Congress would not fund SETI, they certainly won't fund research into such a fringe subject. I suppose she wants them to fund research into Bigfoot and ESP as well. Kean should stick to selling and signing her book. I doubt that she could even defend any of the cases in her book in front of a panel of skeptics. She just repeats the stories that she wants to believe. Remember, she was the one who thought the Chilean bug videos were real UFOs simply because she was told so. Despite the academic setting, this seemed to be another UFOlogical dog and pony show that accomplished nothing except give another opportunity to sell books and grab headlines.

**Curt Collins wrote two interesting articles about some UFOlogical hoaxes.** The first had to do with Mandate 0463, which I had mentioned in SUNlite 6-3. Curt noticed that the same clip appeared in MUFON's recent kickstart campaign to collect money from people to improve their web site. While MUFON could blame producers of Hanger one for the fake Mandate 0463 imagery, one has to wonder why they chose to perpetuate the fraud in their own video. The second article had to do with the often published imagery associated with Washington D.C. sightings of 1952. Starting with the original photograph, which was nothing more than internal reflections of ground lighting, Curt presented all the artistic creations based on this image. Even more amazing is how some producers have taken the image and animated it so viewers can be given the impression that these are actual images/recordings of the event. These are very good examples of how some UFO proponents feel that their audience is very gullible.

**Alejandro Rojas, and others, exposed another UFO hoax.** This one is related to the 1997 Arizona UFOs and a hoaxed video that will be shown in an upcoming television program hosted by an investigative journalist by the name of David Collins. The video ap-

## Who's blogging UFOs? (Cont'd)

appears to be shot in night vision and shows UFOs and USAF fighters in a dogfight of some kind. To me, it looks fake and many other individuals have also made that observation. To make matters worse, nobody seems to think David Collins really exists and he is a fictional character that is been portrayed in videos by actor James Patrick Stuart. This has all the earmarks of one of those fake documentaries you see on the Discovery channel every so often. The most famous of them was the one involving the story about a Megladon existing off the coast of South Africa. Unlike "Hanger One", this will probably have no UFO organization endorsement. However, it will only take one prominent UFOlogist to add his name to the program for it to tar UFOlogy, as a whole, as a bunch of nuts and kooks. In my opinion, Hanger one has already done this but this will be just another nail in that coffin.

**Last September, FOTOCAT's blog had an entry that was very interesting.** It involved a sighting that appeared to be a very good "Close encounter" case, from 1968. The UFO responded to the witnesses flashing a light and electromagnetic interference was observed. Vicente-Juan Ballester Olmos then pointed out the case can be solved as a barium release from a Puerto Rico launched rocket. In my opinion, the important thing to draw from this case is that perceived "intelligent behavior" of UFOs can often be attributed to the emotional/psychological state of the witnesses. For those wanting, or expecting, the UFO to exhibit such characteristics during a sighting, they will often perceive them even though they did not happen.

**Robert Hastings is desperate for your money.** Not happy with public speaking and appearances on television, Hastings now is involved in producing a film about "UFOs and Nukes". Unfortunately, he doesn't have enough money to complete the film and desires that "generous" individuals give him the necessary funds. Those that will donate him the necessary money probably expect it to change the world's opinion about the subject. They are mistaken because the film itself will accomplish nothing other than give Hastings the publicity he desperately craves. All this plea demonstrates is Hastings is no better than people like Bassett and Greer. He resorts to begging people for their hard-earned money so he can benefit.

**Robert Hastings and Marc D'Antonio had a debate on The UFO Chronicle's blog.** This is the second major debate in the past few months on Frank Warren's site. In this case, Hastings and D'Antonio were debating one of those unconfirmed UFOs and Nukes stories that Hastings likes to talk about. All we know is the witness CLAIMS the event occurred between January and June of 1974 at Malmstrom AFB and a UFO had caused a missile to go into launch mode. Additionally, F-106s were sent to intercept the intruder but they failed to catch it. Despite all these details, the witness can not remember the exact date of such a unique event. As usual, there is no documentation to support it and the witness is anonymous. No wonder D'Antonio was skeptical of the story. When Hastings can produce actual documents that support these cases, I will be more willing to listen to what he has to offer.

**Tim Hebert weighed in and presented the technical details regarding this controversial story.** While he offers no definitive conclusions, he does point out the problems with the UFO part of the story and that the missile could never have launched by itself. This makes it seem that the story, as told, is not accurate and the need for documentation to support it important. Since Hastings is more interested in retelling stories than finding supporting documentation, this will be a hotly contested topic for decades to come.

**Robert Sheaffer commented on the recent publicity stunt by the Aeronautical and Astronautical Association of France (AAAF) and Chile's Committee for the Studies of Anomalous Aerial Phenomena (CEFAA).** They are going to work together to study the subject of UFOs. CEFAA's track record is less than stellar for objectively studying "evidence" and has resorted to having a kiosk in the local Santiago mall to drum up public interest. I suspect that the AAAF will discover that they have hitched their wagon to an old broken down horse that is incapable of fulfilling the promises of great UFOlogical revelations.

**IPACO has solved an interesting UFO photograph that looked like a spaceship of some kind.** The initial image looked pretty convincing until IPACO decided to look further and discovered that it was a photograph of a star field with all the stars having the same shape as the UFO. The UFO was the star Iota Hercules and it was distorted by the optics of the telescope it was taken through or by the blur produced by the shutter being depressed.

**I found Chris Rutkowski's four part series, "The myth of radioactive UFOs" very good reading.** The concept of UFOs emitting radiation, or leaving radioactive traces, has always interested me since I was familiar with the various forms of radiation monitoring used in submarine nuclear reactor operations. Far too often, these UFO stories contain "radiation myths" that are presented as proof when they are often a case of the operator not understanding what they are measuring or the writer misinterpreting what was measured.

# The Roswell Corner

## The slides are back!

Tom Carey announced that the infamous slide(s) are supposed to appear in public in 2015. He then went on to describe the slides as showing an alien body being partially dissected in a glass case. This is the same case that has a label on it so people remember that there is an alien inside. Carey went on to state that the alien is three and a half to four feet tall with an "insect-like" head that has been partially removed. He went on to suggest that the wife of the field geologist, who owned the slides, "might" have been involved in World War 2 intelligence. This sounds like the same kind of wild speculation that Carey, Schmitt, and Bragalia are famous for. I do not doubt the slide(s) exist in some form. However, the desperate effort to link them to Roswell is going to take a lot more than guesswork and innuendo.

### "Three letter agency" interested in slides?

As if the slide story did not have enough mystery associated with them, Ross Evans reported that his and other's e-mails had been hacked by a "three letter agency". While he makes these claims, we are not provided any actual "evidence" of these hacked e-mails. Assuming his claims are accurate, one has to wonder who would benefit from such an attack. Is it possible that somebody involved in the e-mail exchanges might have been the culprit? By generating the belief that the government has conspired to undermine the slides, it would improve their credibility. If there were a government agency that was interested in covering all this up, they would not have done something so obvious. The slides were pretty much dying on their own and the best thing to do would be to ignore it. This is more of a case of enthusiasts generating a conspiracy in an effort to prop up the weakness of the case. I suggest Ross Evans and his cohorts produce all the evidence before they start making wild government conspiracy claims.

Anthony Bragalia then claimed that Ross Evans, and an unknown individual, were the ones doing the hacking. He presented his version of events on Kevin Randle's blog. In this version of the story, there was no "three letter agency" associated with these matters. It appears that it was a third party, who hacked into Bragalia's e-mail account. Bragalia also claimed that there was somebody pretending to be an FBI agent, who also became involved. This version of events appears to be more accurate as it describes the kind of behavior one would expect from isolated individuals, who are interested in obtaining information through nefarious means.

In Bragalia's article, he made several accusations towards Rich Reynolds, which prompted Reynolds to post several blog entries that painted Mr. Bragalia as a very unpleasant person. This tit-for-tat is really silly in my opinion. The story about the slides is at the root of all this nonsense. We continue to be teased with promises that these slides are the greatest event since the dropping of the atomic bomb or the first moon landing. These assurances about great UFOlogical revelations have been made before and they have never lived up to the promises. I expect the same will occur with the slides. Ten years from now, the slides will probably be mentioned in the same breath as the "alien autopsy"

Within 24 hours of posting these revelations, Rich Reynolds and Tony Bragalia, who seemed to hate each other intensely, "kissed and made up". All was right with the world again and we were left wondering if the slides would ever see the light of day. Let's hope that the new year will see the promised revelation so everybody can chuckle, speculate, and then draw their own conclusions. I continue to wonder, "What happens to Carey, Schmitt, and Bragalia if the slides turn out to be a bust?" Only time will tell.

# PLANES, TRAINS, AND AUTOMOBILES

It is a common theme in UFO reports that UFOs like to play “cat and mouse” with moving vehicles of all kinds. This makes them appear to behave “intelligently”. Are the UFOs actually moving on their own or is their movement something misperceived by the observer? I would like to demonstrate that there are some UFO cases, involving apparent intelligent behavior, that can be attributed to more mundane sources.

## Induced motion illusion

Allan Hendry once wrote:

*Everyone is familiar with the illusion of heavenly bodies “keeping pace” with one’s car while the local landscape moves past...or so I thought. A number of people reported stars as “UFOs” for this very reason. A news photographer even chased Venus in his car for two hours to take its picture...Similarly, a witness in case 926 drove fifteen miles after a star “fixed” in one position....In case 323, a twenty-three-year-old man was “chased” by Jupiter through curves and straight road alike. When he got home, it hovered 30 degrees up in the east-northeast for thirty minutes....not to mention showing up the next two nights running. Or take the farmer whose tractor was followed by a light which stayed “in one position” in the sky one night. The common feature in all of these cases is that when the witnesses’ vehicle stops, the light stops. When they move, it moves.<sup>1</sup>*

This illusion is often referred to as “induced motion”. Hendry’s observations are important because it demonstrates that one has to be careful when evaluating UFO reports no matter who is describing what they saw. If a news photographer can be fooled for two hours by Venus, it seems perfectly possible that “reliable” witnesses might make the same mistake.

## Locomotive chased by a UFO

Trains have been around for centuries but only recently have UFOs been reported as being interested in them. A case that was presented to me a few years ago occurred on October 21, 1973. <sup>2</sup> According to the train operators, around dawn, a UFO began to follow a train near Mount Vernon, Indiana. Francis Ridge investigated the case and was impressed by the story. However, there appears to be details that he did not consider.

The train was traveling east through Mount Vernon and was experiencing problems with one of the diesel units. Around 6:50 AM, when the train was at the Lamont crossing, east of Mount Vernon, the operators saw a bright light coming from the north and heading south. It pulsed and eventually disappearing in the east. The Conductor informed the rear conductor about the sighting near Caborn. When the train neared Saint Phillips, the rear conductor reported that a train was following them. The “blocking system” appeared to indicate something was on the tracks but, according to the yardmaster, there were no trains following them. Eventually, the train could not get up a grade called “Belknap Hill” and the conductor had to get out and restart the faulty diesel unit. By then, the UFO behind the train was no longer present. The diesel successfully started up and the train continued on its way. To summarize the sighting, a UFO had come out of the north and went east. It either got behind the train in the west or another UFO did. The UFOs had been able to inhibit the diesel engine during this time period. This sounds like a classic E-M UFO case but is it possible that there might be another explanation.

The initial UFO sighting really did not sound that exotic. A high flying aircraft that is reflecting the sun in twilight is not that unusual. The object may have also been a satellite glint. In either case, it seems likely that the brightness of the object was probably due to it reflecting the sun.

The second UFO report is more interesting because it appeared to follow the train. When I was shown this story, I wanted to see if there were any astronomical objects low in the west that morning. The instant I brought up Stellarium I noticed that Mars was near opposition, which occurred on October 25. This means it rose around sunset and set around sunrise. The magnitude of Mars was around -2.2, which is almost as bright as the planet Jupiter at opposition. Could Mars have played a role? This possibility needs to be considered.

According to the story, the sun had risen above the trees when the sighting occurred at 6:50 AM. However, the actual time of sunrise was 7:04 AM CDT for Evansville, Indiana indicating that some of the details may have become confused. The time of the sighting could have been in a range between 6:30 and 7:30 AM. It is too bad that records of the train’s operations were not presented as evidence because it might have resolved the issue. It seems possible that the sun had not risen prior to the sighting’s end.

At 6:50 AM CDT, Mars was at azimuth 277 degrees and elevation of +7 degrees. This table lists the azimuth of the heading and reverse heading of the train for various locations mentioned in the story:

Location	Train heading	Opposite direction
Lamont crossing	72	252
Caborn rd crossing	57	237
St. Phillips rd crossing	92	272



Hogue rd crossing	60	240
-------------------	----	-----

The stretch of track where the train went at an azimuth of 92 degrees was about 4 miles before it turned to the northeast.



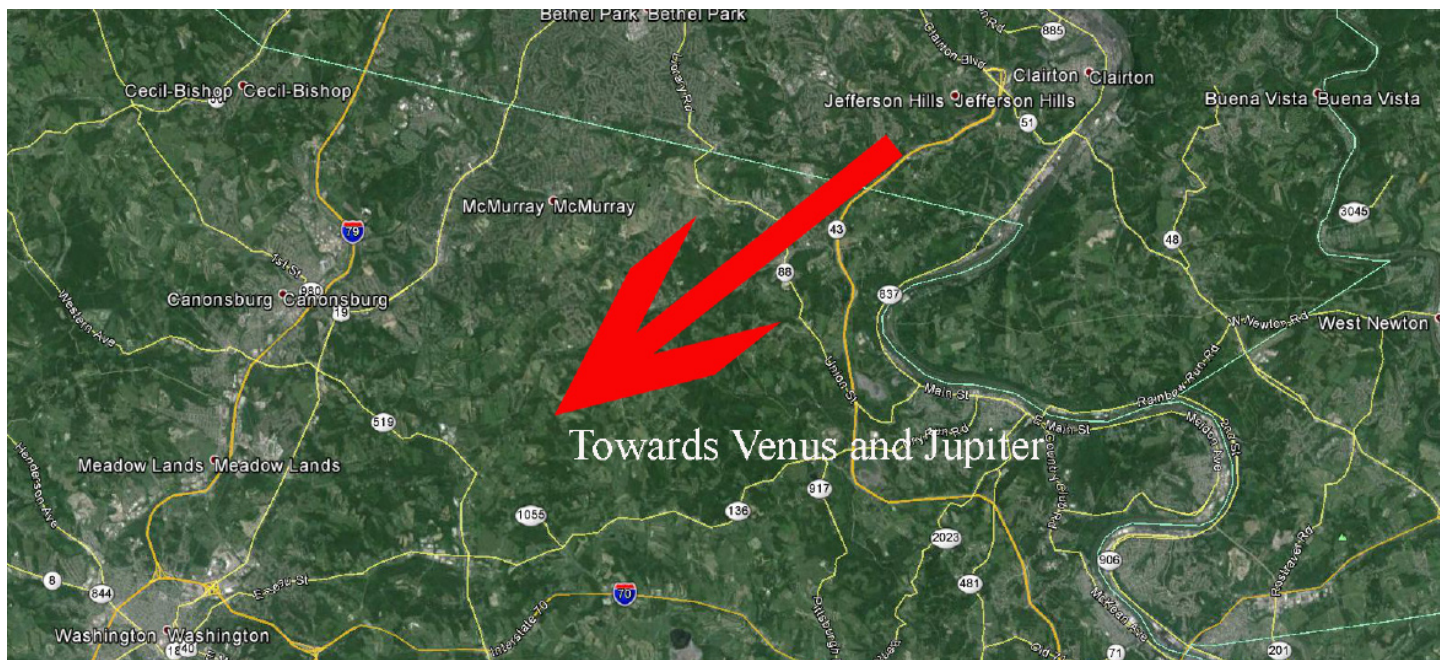
It is interesting to note that after the train had turned towards the east and being told that they had seen a UFO, the rear conductor suddenly noticed that a bright light was behind them. Details of the event are sketchy about when the UFO disappeared but I would not be surprised if the UFO was no longer visible after the train had turned to the northeast. Since it was assumed that it was a train on the track behind them, the rear conductor may have simply assumed it was still on the tracks after they had made the turn. When the UFO/light did not appear it was assumed that it had "left".

Was the UFO following the train the planet Mars? One can not really say for sure but the possibility exists. It seems more likely than an alien spaceship that was interested in how trains work. According to the story, the diesel wasn't working correctly before the UFO even appeared. If that is the case, it would seem that one can not really link the UFO sighting to the diesel's problem.

### Automobile pursuit

On November 28, 2008, around 1900 local time, a couple were driving along a road in Jefferson Hills, Pennsylvania<sup>3</sup>. They suddenly noticed two lights in front of them. The driver drove up to a hill for a better look. From there, the lights appeared to be only a few hundred feet above the ground. What followed was a pursuit by the driver, who was intent to get a closer look. They drove from Jefferson Hills towards Washington. They never caught up to the lights, which eventually "disappeared". Did they chase some UFOs or did they chase something else?

This event is pretty easy to explain. On November 28, 2008, the planets Venus and Jupiter were very close together. They set around





1945 at an azimuth of about 240 degrees. Washington is at an azimuth of 243 degrees from Jefferson Hills. There is little doubt that they saw Venus and Jupiter and were driving towards them in an attempt to "catch them". This report came from the National UFO Reporting Center (NUFORC). Even Peter Davenport concluded this one was probably Venus and Jupiter.

In this case, both Venus and Jupiter were misperceived as being very close and only a few hundred feet off the ground. One could make the argument that the witnesses were inexperienced and unreliable observers. However, the history of UFO reports has shown that the "reliability rating" of observers is not really a good argument.

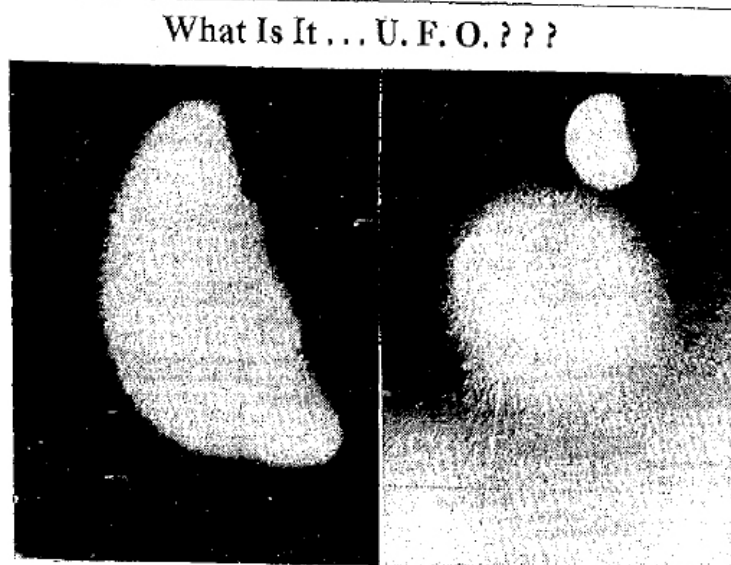
## Cops and saucers

There are numerous cases in the record where police officers were chasing or chased by astronomical objects. The fact of the matter is that police officers are not considered that "reliable" when it comes to UFO reports. When Allan Hendry categorized the number of IFO reports with occupation, he revealed that 94% of the time, police officers were misperceiving mundane objects for extraordinary ones. In one instance, he reports that police chased the setting moon!

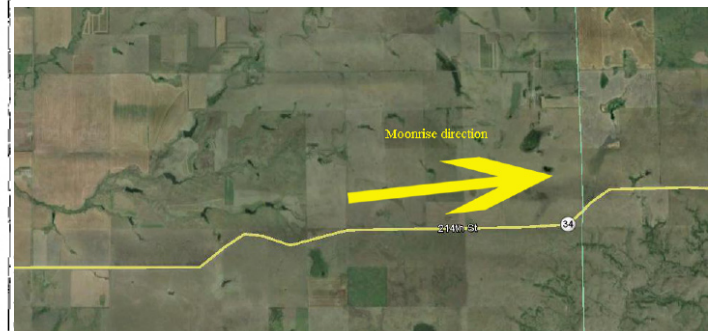
*In case 100 police officers in separate cars were convinced that the setting moon was moving away from them at fantastic speed "while setting on Main street" at 3:25 AM. The police sped up to 60MPH to chase it, but to no avail.<sup>4</sup>*

This apparently was repeated in November of 1956 when a patrolmen in South Dakota thought they saw a UFO low on the horizon when they were on route 34 about 30 miles east of Pierre. They described it as "...bowl shaped-like an eggshell cut in half-and it gave off a red light which illuminated the highway"<sup>5</sup>. The Police officers then set off in pursuit but the UFO managed to always stay ahead of them by a distance of a mile. After seven miles, the police officers stopped their pursuit, took some photographs and then turned back towards the west. Much to their surprise, the UFO then began to pursue them. Eventually, the UFO "disappeared". It is interesting to point out that the direction they described the UFO as being low on the horizon in the direction that the last quarter moon rose. The description is also similar to how one might describe the last quarter moon. Finally, the enlarged image that appeared

in the newspaper looks exactly like the last quarter moon. One might suggest that they saw a real UFO but the possibility is high that the UFO was actually the moon.



These pictures of what may be a flying saucer were taken early Sunday morning by Jack Peters state police radio dispatcher, on Highway 31 about 30 miles east of Pierre. He and Don Kelm spotted a percellular, bowl shaped object, looking like an egg shell cut in half, giving off a bright red light, lighting the entire highway. These were taken with a 35mm camera on fast film, 1/10 sec. at f/3.5, then they were enlarged 160 times with a microscope. Peters said they followed the object for six or seven miles and were as close as a city block to it when they first came upon it as they drove over a hill. It appeared to be about the size of an automobile. In the picture on the right the moon may be seen in the background.



The moon is not the only astronomical object that has confused police officers. During the Condon study, there was one case where several police officers, over several nights, were confused by Jupiter and Venus.<sup>6</sup> In one instance, a police officer pursued and was pursued by Venus at high speed! Dr. Hynek would later comment, "It is a case of particular value to psychologists and, one is tempted to say, to those responsible for hiring policemen."<sup>7</sup>

## Dark Blue UFO Chases Police Officer As Mystery Objects Dot Georgia Skies

NEWNAN, Ga. (UPI) — Police reported a rash of unidentified flying object reports early Sunday, including a dark blue ball that a police officer said chased him and then hovered over this small central Georgia town until daybreak.

The sightings were the latest in a series of UFO reports that began early Friday in East Georgia and spread into central portions of the state Sunday.

Highway patrolman Jerry Goldin at the Mountaintop Manchester state patrol station said he was the first to spot Sunday's UFO's, one ice blue and about a mile high and the other one a yellow rectangle-shaped object with a red side about 100 yards above the trees.

Before the night was over, highway patrolmen and policemen from 11 different towns had seen similar objects. Reports came from such scattered middle Georgia locations as Milledgeville, Greenville, Newnan, Talbotton, Fayetteville and Taylor County.

Newnan patrolman Dale Spradlin said he chased a ball of

light about eight inches in diameter for about eight miles down a road just outside Newnan.

"It was a good distance in front of us, pulling away, so we turned around to come back to town," said Spradlin who was on patrol with officer Gerald Mascon. The object was travelling above tree-top level.

"The object turned on us and followed," he said. "It was gaining on us and was going about 75 miles per hour."

After the object caught up with him, it pulled into the sky, emitting a beam of bluish light that illuminated the roadway, the officer said.

A spokesman for Warner Robins Air Force base said he had heard the reports of the objects but that nothing was seen on the base radar.

The Weather Bureau at Athens said it had released four weather balloons Saturday night and Sunday morning, but a spokesman said it was unlikely they were the cause of the reports.

If you thought Venus and the moon were not enough, other astronomical objects were equally capable of confusing police officers into a high speed pursuit. There was a recently publicized story about police officers, from the Buffalo, New York area, who chased a UFO back on October 21, 1974.<sup>8</sup> According to the article, two police officers saw the UFO, at 2: 15 AM, just south of Geneseo, NY. They reported the UFO as being overhead but then decided to pursue it along route 20-A towards the town of Leicester. The police officers noted that the object always stayed just in front of the vehicle even if they sped up or slowed down. After 15 miles, they got to the Perry-Warsaw town line and chose to stop the pursuit. One of the officers thought it might land at the Warsaw airport (east of the town of Warsaw). Could there be an astronomical explanation for this UFO? On October 21, 1974, the planet Jupiter was setting





in the west around 2:15 AM (Jupiter set around 3:30 AM EDT). At 2:15 AM, it was at azimuth of 244 degrees and an elevation of 15 degrees. By 3:30 AM, it was at an azimuth of about 256 degrees. When we look at the azimuths with the direction the police were driving, we see an interesting correlation. They appear to have chased the planet Jupiter as it was setting.

There are enough cases of Police officers chasing the moon, Venus, Jupiter, and even bright stars to make one question if police officers can be classified as “reliable” observers. This makes one wonder about the other witnesses often classified as “highly reliable”. Is it possible that pilots can also be fooled by astronomical objects and suffer from the same illusion of apparent motion?

### Pilots are human too

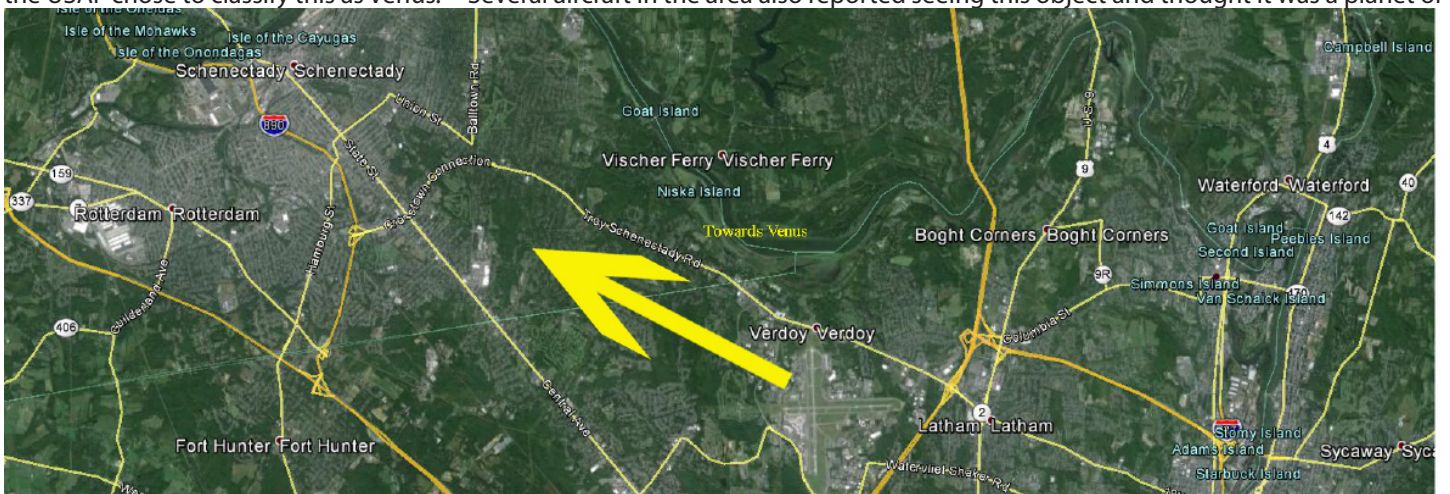
Pilots do not seem to be immune from making mistakes. Dr. Hynek once noted that pilots were just as prone to misperception as other occupations.<sup>9</sup> There are dozens of examples in UFO history where pilots mistook celestial objects for UFOs and felt they were pursuing them or being pursued by them.

A story I mentioned in SUNlite 5-1 involved a military pilot, who saw a light in the east that they thought was an aircraft they were trailing. As time passed, the light began to climb in altitude, which meant it was not a normal aircraft. They thought it was some aircraft at extremely high altitude or something more exotic. They eventually identified it as the planet Venus.<sup>10</sup>

There are other cases where pilots mistook Venus for a UFO. In the Condon study case, where police were chasing Venus in their car, a plane was sent to pursue the UFO on one morning. The pilot initially could not find the UFO but then began to pursue it, once he realized that was what the police officers were describing. Of course, he was never able to catch it.<sup>11</sup>

A popular UFO case promoted by NICAP and other UFOlogists is the Captain Ryan UFO chase that Blue Book identified as the planet Venus.<sup>12</sup> On April 8, 1956, an American airlines plane took off from Albany and headed west towards Schenectady. The air crew then saw a UFO in their way. In order to avoid a possible mid-air collision, the pilot turned south. He would eventually turn west towards their destination of Syracuse. According to an account the pilot would give, the air crew chose to pursue the UFO instead of flying their passengers directly towards Syracuse. The UFO was never caught and would eventually disappear in the direction of Oswego, New York.

As one can see in this graphic, Venus was in the direction of Schenectady as seen from the airport. This makes one understand why the USAF chose to classify this as Venus.<sup>13</sup> Several aircraft in the area also reported seeing this object and thought it was a planet or





bright star. Many of the ground observers just saw the UFO as a bright object in the west that disappeared over the horizon. They made no mention of it pacing or being chased by an aircraft.

Assuming the UFO reported by Ryan was Venus, one can possibly explain some of the issues associated with his report and how he thought the UFO was pacing him and then running away from his aircraft. According to Ryan, once they saw the UFO over Schenectady, they turned south to avoid it. If this is true, then the planet Venus would shift from dead ahead to his starboard wing. Once they turned towards the west to proceed to Syracuse, the UFO would then have proceeded to be in front of them as they flew west. This explains how he recalled the UFO moving from beside his plane to in front of it. Since Venus was setting in the west-northwest, it would then appear in front of his craft as he flew in that direction until it had set.

The story about the plane deviating from its scheduled route seems to have been something of an exaggeration by Ryan and his copilot. The plane landed at its scheduled time contrary to what he had claimed. There also seemed to be no record of permission to go outside their scheduled route to chase the UFO. Ryan would eventually state the plane did not pursue the UFO and they maintained their scheduled course. Of course, NICAP contended that this was a cover-up on a grand scale, where records were altered in order to hide the truth.<sup>14</sup> While this case remains hotly contested, the coincidence of Venus being in the same direction of the UFO and the plane's motion seem to be enough to list this one as probably Venus.

Another possible Venus/pilot event occurred in the same region over twenty years later. On March 12, 1977, a DC-10 aircraft was flying east over Syracuse, New York.<sup>15</sup> Around 2105 EST, the air crew made an adjustment to their autopilot, the plane started to turn north. As they looked out their port window, they saw a UFO off their left wing. The pilot noticed problems with the compasses and then took manual control of his aircraft to restore the plane's heading. The UFO disappeared in the west after a few minutes as the aircraft resumed its easterly course.

While this sounds like a promising case, there seems to be a more logical explanation. This, once again, involves the planet Venus. It set around 2105 local time in Syracuse. For an altitude of 37,000 feet, it probably would have set about 5-10 minutes later (a thumb rule is about 1 minute extra time for every 5,000feet/1.5km).<sup>16</sup> This all fits with what the pilot reported. The UFO was only visible after the plane started to turn north and was visible off their port wing, which would have been to the west. As for the plane's deviation from course, I find it an interesting coincidence that the plane only changed course after they had adjusted the VOR settings. One might suggest that this problem had little to do with the light and more to do with potential human/equipment error. Never mentioned by UFOlogists is that the number one cause of aircraft accidents is pilot error. Perhaps one should consider this when classifying pilots as "highly reliable" individuals incapable of being mistaken.

Astronomical objects are not the only objects that pilots think are chasing them. In 2004, a Mexican AF surveillance plane recorded on video some UFOs that appeared to be pacing the aircraft.<sup>17</sup> For several months, some UFOlogists trumpeted that this was evidence that true UFOs had been actually recorded. Indeed, the lights appeared to be moving as they passed behind clouds and flew in formation. However, careful examination revealed that the objects turned out to be distant oil well flames, which were stationary. The plane's motion made it appear they were moving behind, or through, the clouds. UFOlogists, who initially saw the film were fooled by the induced motion illusion into thinking that the motion was due to the objects and not the aircraft that was recording them.





## Motion does not always mean intelligent behavior

There are many instances of reported UFOs following or running away from various vehicles. It is possible that many of these cases involve more distant stationary objects that the witness/witnesses simply thought were close and reacting intelligently to their actions. This does not mean that all UFO reports of this kind are caused by mundane objects but it does mean that UFOlogists need to seriously consider this possibility when these kinds of cases appear.

### Notes and references

1. Hendry, Allan. The UFO Investigators Handbook. London: Sphere Books Ltd. 1980. P. 27
2. Ridge, Francis. "Mount Vernon, UFO stops train." UFO Casebook. Available WWW: <http://www.ufocasebook.com/mtvernon.html>
3. "Sighting report 11/28/2008". National UFO Reporting Center. Available WWW: <http://www.nuforc.org/webreports/067/S67229.html>
4. Hendry, Allan. The UFO Investigators Handbook. London: Sphere Books Ltd. 1980. P. 102
5. "Motor patrolmen sight, chase, photograph "Flying Saucer;" Saucer "chases" back, fades away". The Huronite and daily plainsman. Huron, South Dakota. November 27, 1956. P. 1
6. Condon, Edward U., et al., eds. Scientific Study of Unidentified Flying Objects. New York: Bantam, 1968. P. 368-375. Available WWW: <http://files.ncas.org/condon/text/case37.htm>
7. Hynek, J. Allen. The UFO Experience A Scientific Inquiry. New York: Marlowe & Company 1972. P. 205
8. Chicon, Steve. "October 21, 1974: Cops chase UFO in Geneseo". Buffalo news. October 21, 2014 Available WWW: <http://history.buffalonews.com/2014/10/21/oct-21-1974-cops-chase-ufo-geneseo/>
9. Hynek, J. Allen. The Hynek UFO Report. New York: Barnes & Nobles, 1997. P. 261
10. Mervine, Kitty. "It's a bird, it's a plane, it's fooling a veteran Air Force pilot". Yankee Skeptic. Available WWW: <http://yankeeskept.com/2012/11/11/its-a-bird-its-a-plane-its-fooling-a-veteran-air-force-pilot/>
11. Condon, Edward U., et al., eds. Scientific Study of Unidentified Flying Objects. New York: Bantam, 1968. P. 372. Available WWW: <http://files.ncas.org/condon/text/case37.htm>
12. "Air Force Requests Plane Loaded With Passengers To Chase UFO" NICAP. Available WWW: [http://www.nicap.org/560408ryan\\_dir.htm](http://www.nicap.org/560408ryan_dir.htm)
13. Project Blue Book - UFO investigations". Fold 3 web site. Available WWW: <http://www.fold3.com/image/6785530/>
14. "Cover-up suspected in reported air-UFO chase". UFO Investigator. NICAP. January 1958. P. 10-12 Available WWW: [http://www.ufodocarchive.org/NICAP/UFO\\_Investigator/003%20JANUARY%201958.pdf](http://www.ufodocarchive.org/NICAP/UFO_Investigator/003%20JANUARY%201958.pdf)
15. Sturrock, Peter. Interference with aircraft equipment. UFO Evidence. Available WWW: <http://www.ufoevidence.org/documents/doc622.htm>
16. "How to adjust sunrise and sunset times according to altitude". Photography stack exchange. Available WWW: <http://photo.stackexchange.com/questions/30259/how-to-adjust-sunrise-and-sunset-times-according-to-altitude>
17. Printy, Tim. "UFOs appear in Mexico (again)!" My skeptical opinion about UFOs. Available WWW: <http://www.astronomyufo.com/UFO/Mexico04a.htm>

# IPACO MC MINNVILLE REPORT UPDATE

The IPACO team contacted me and asked me to include some recent material written about their report. Since there was plenty of recent commentary about the images and the report, I felt it was important to provide the articles that were posted in the IPACO forums so it might help reader's understand the report and their present stance on the images.

## Part 1: The radiometric domain: facts without (too many) formulae

### Electromagnetic Radiation (EMR)

In all known matter the constituent molecular and/or atomic structure is in an energy state of vibration or "excitement". These phenomena cause the release of energy. Some of this energy is released when individual electrons drop to lower energy levels around their nuclei, emitting a small packet or quantum of energy (N.B. To retain its original energy level the atom would need to absorb exactly the same quantum: emission and absorption therefore being complementary).

However the main source of energy emission is thermal, or kinetic, agitation. The level of this internal kinetic energy (Kinetic meaning "derived from motion") is manifest as the temperature of the matter and is proportional to it.

An object having no internal kinetic energy would therefore also have zero temperature. This level cannot be achieved in reality, but by extrapolation it is at around -273 degrees centigrade ( $^{\circ}\text{C}$ ) or Zero degrees Kelvin ( $^{\circ}\text{K}$ ).

At any temperature above  $0^{\circ}\text{K}$  all matter in the known universe emits or "radiates" energy. This energy is known as Electromagnetic Radiation (EMR) and the measurement of it is termed Radiometry.

### Some features of EMR

EMR travels across a vacuum at the velocity of light which is around 300,000 Kilometers (or 186,000 miles) a second.

It can be thought of in two ways, either as a waveform or as a stream of particles of energy (known as quanta or photons). We use both concepts in Imagery Analysis and Remote Sensing applications.

In dealing with EMR as a waveform some basic relationships become evident.

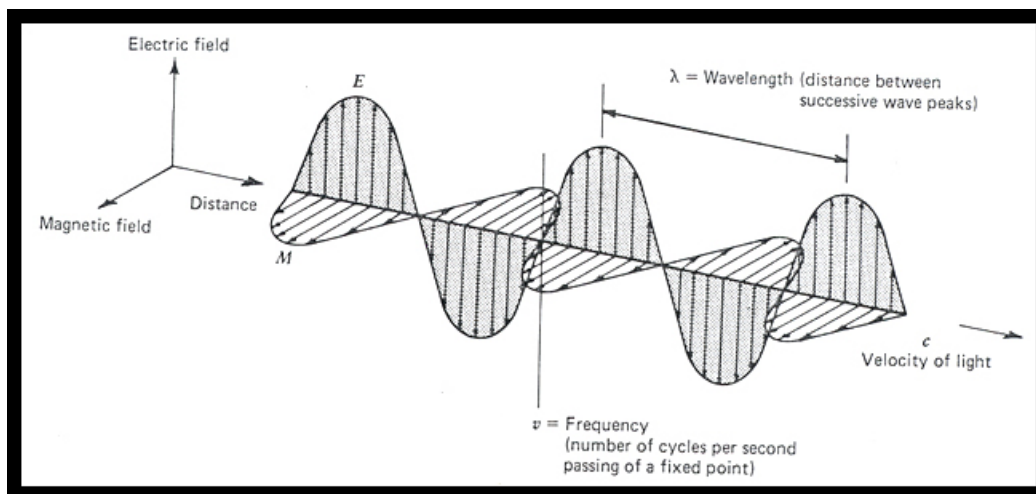


Fig1. Electromagnetic Waveform

Note that:

- There are two waveforms (Electric and magnetic) in synchrony but at 90 degrees to each other.
- The velocity of light " $c$ " (on the "distance" axis above) is fixed and determined as around 300,000 km/s. This is often alternatively expressed as  $3 \times 10^8 \text{ m/s}$ .



- c. The wavelength " $\lambda$ " (lambda) covers a complete cycle of the wave, i.e. from peak to through peak.
- d. The frequency  $\nu$  (nu) is the number of wave cycles passing a given point in time (usually 1 second).

Thus as the wavelength gets longer, so the frequency gets lower and vice versa, since when multiplied together they must come to the fixed velocity constant " $c$ ".

In other words, when treating EMR as a waveform:

Velocity( $v$ ) x wavelength ( $\lambda$ ) is a constant value, this being the velocity of light ( $c$ )

$$V\lambda = c$$

One consequence of this relationship is that there is continuous family of wavelengths and frequencies all adding up to " $c$ ". We categorize these in rough groups according to wavelength along what is termed the electromagnetic spectrum.

Common measurements for wavelength include Millimeters ( $\text{mm} = 1/1000\text{m}$ ), Microns ( $\mu\text{m} = 1/1000\text{mm}$ ) and Nanometers ( $1\text{nm} = 1/1000\mu\text{m}$ )

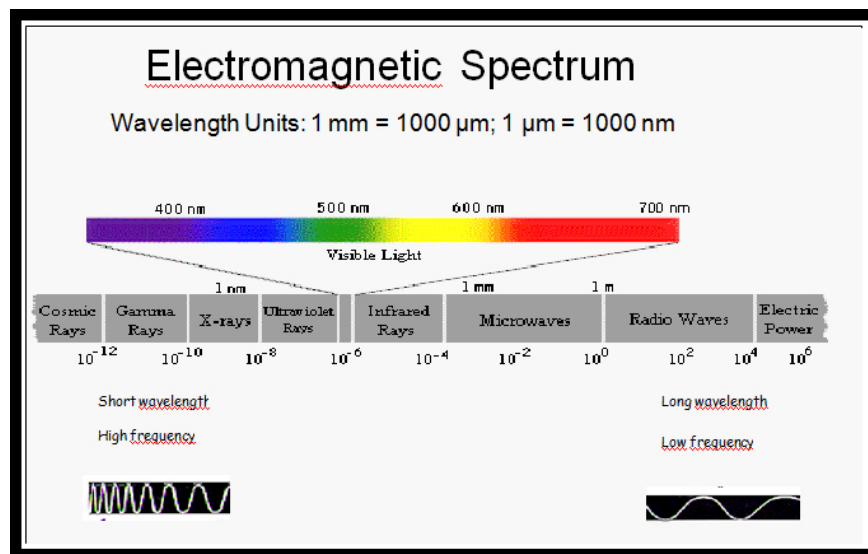


Fig. 2 EM Spectrum

It will be seen that the radiation spectrum is, fairly arbitrarily, divided into several sections, typically seven or eight.

For example NASA typically uses gamma-ray Radiation, X-Rays, Ultraviolet, Visible, Infrared, microwave and radio.

The portion of the spectrum visible to the human eye is small, ranging only from about 400nm to 700nm. Within this "blue" is very approximately from 400-500nm, "green" 500-600nm and "red" from 600 to around 700nm.

Going on from red the spectrum goes in to the infrared (IR) and this is typically sub-divided in to three categories: near IR (from 0.7 to  $1.3\mu\text{m}$ ), mid IR (from  $1.3$  to  $3\mu\text{m}$ ) and thermal IR (beyond  $3\mu\text{m}$ ).

N.B. within the IR bands only thermal IR energy is directly related to the sensation of "heat". Near IR and mid IR energy is not.

Adjoining the Blue end of the visible spectrum, the Ultraviolet is also invisible to us (but not to bees incidentally), however our bodies can react to overexposure to UV in the form of sunburn.

Radiometry is often defined as the measurement of optical radiation, which is electromagnetic radiation within wavelengths between 0.01 and 1000 micrometers ( $\mu\text{m}$ ), and includes the ultraviolet, the visible and the near infrared. Alternatively sometimes it is used to embrace the entire Solar Spectrum i.e. that put out by our nearest star and this range goes from X-Rays right through to radio waves.

Photometry, on the other hand, is restricted to the measurement of light which is defined as EMR as detected by the human eye and thus restricted to the wavelength range from about 400 to 700 nanometers. Also photometry, being based upon the non-linear

spectral stimulus response (identified qualitatively by the human visual system in psychophysical experiments) invokes a few different concepts and definitions to radiometry, but to which it can still be mathematically related.

### Reflection, Refraction, Absorption etc.

When rays of EMR encounter a physical interface (e.g. a solid object), one or, more normally, a combination of several, phenomena will occur.

- a. The waves can pass through the object (Transmission)
- b. The waves can bounce back off the object as in a mirror (Reflection)
- c. The waves can bounce off the object in different directions (Scattering)
- d. The waves can dissipate within the object (Absorption)
- e. The waves can alter the angle of their path through the object (Refraction)

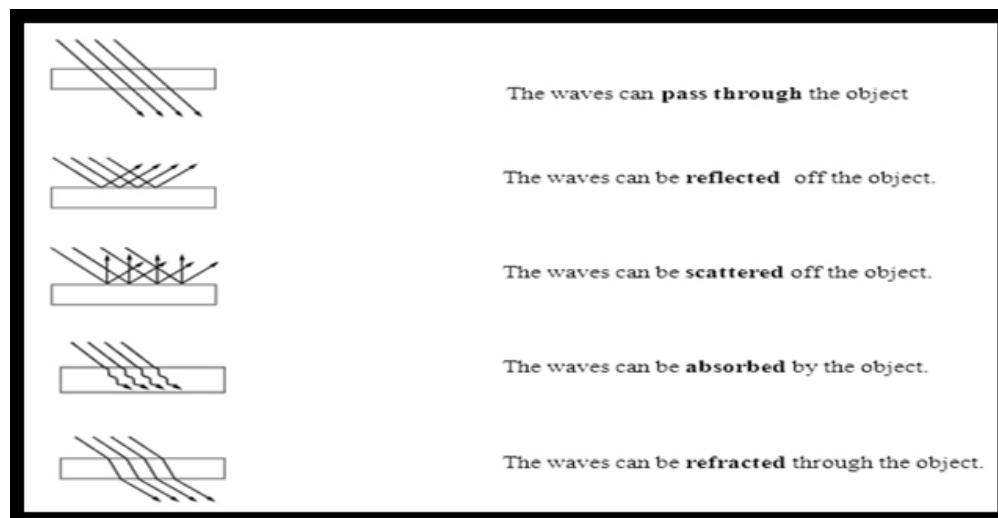


Fig. 3 EMR interaction with materials.

The coefficient of transmission varies with wavelength from 0-1 and is usually considered along with that of absorption for the same wavelength and thus may not usually be 1 since, for transparency, both coefficients have to sum to 1, the object thus having a degree of transparency.

With reflection some or all of the EMR bounces back off of the encountered surface in a manner dictated basically by that surface's roughness in comparison to the wavelength(s) of the incident EMR. With a comparatively smooth surface this is termed specular reflection (from speculum, a type of mirror) in this case the incident and reflected angles of the EMR at the surface are the same. Polished surfaces, such as with many metals and alloys, show this characteristic. The coefficient of reflection for a specific wavelength is also in the range 0-1 inclusive.

If the surface is rough compared to the incoming EMR then it may bounce off and around the surface as it is scattered. Rough surfaces such as oxidized metals and tarmac may exhibit this non-specular reflecting. In addition small particles in the atmosphere scatter EMR in various ways according to their size. Raleigh (when the particles are small compared to the incoming EMR wavelengths) and Mie (when the particles size approximates the EMR wavelengths) are examples. Blue skies during the day are due to Raleigh scattering the blue wavelengths around and Red sunsets are due to Mie scattering filtering out the shorter wavelengths, thus leaving the longer Red to predominate to the ground observer.

If the EMR velocity slows (or speeds up) across the interface then bending or refraction occurs. This bending is for any angle of incidence wavelength variable. Hence the opening up of the visible spectrum "rainbow" in a glass prism.

A surface's Albedo is another term for its reflection coefficient, derived from Latin albedo "whiteness" (or reflected sunlight) in turn from albus "white," and is the diffuse reflectivity or reflecting power of a surface. It is the ratio of reflected EMR from a surface to that of the incident radiation upon it. Surfaces such as snow have a high albedo, whilst loose damp earth tends to have a much lower level due to the high percentage of EMR absorption in the latter. Note that albedo can vary considerably with the wavelength of



incident EMR.

The concepts of reflection, transmittance and absorption of EMR come together when ideal surfaces in thermodynamic equilibrium with their environment are considered. The theoretical ideal surface that fully absorbs all received EMR and emits maximum EMR along all wavelengths is termed a blackbody.

## Black-body Radiation

There are three important laws of physics which describe the characteristics of EMR generated by any body above absolute zero.

Firstly the Stefan Boltzmann Law describes the total amount of EMR emitted for a body at a stated temperature. Basically this determines that the total EMR emittance ( $M$ ) goes up enormously as temperature increases, by the Stefan Boltzmann constant ( $\sigma$ ) multiplied by the fourth power of the absolute temperature ( $T$ )

$$M = \sigma T^4$$

This dramatic variation in EMR across the spectrum is very useful, for example in thermal imaging applications where very minute differences in surface temperature of ambient everyday objects can be identified.

Next, Wein's Displacement Law determines the temperature ( $T$ ) in deg K at which the maximum EMR wavelength ( $\lambda_m$ ) is emitted.

$$\lambda_m = A/T$$

"A" is a constant ( $2898 \mu\text{m} \cdot \text{K}$ )

In word this means that as the temperature increases, the wavelength at which EMR is at a maximum decreases.

Next Plank's Formula, which is a quite intimidating construction, wraps up how much EMR emittance occurs at each wavelength for a body of known temperature. The formula provides a model for the behavior of an idealized material that emits in a perfect fashion at all wavelengths. This is a blackbody.

The Planck formulation is best considered by a visualization of the amount of EMR produced with respect to wavelength.

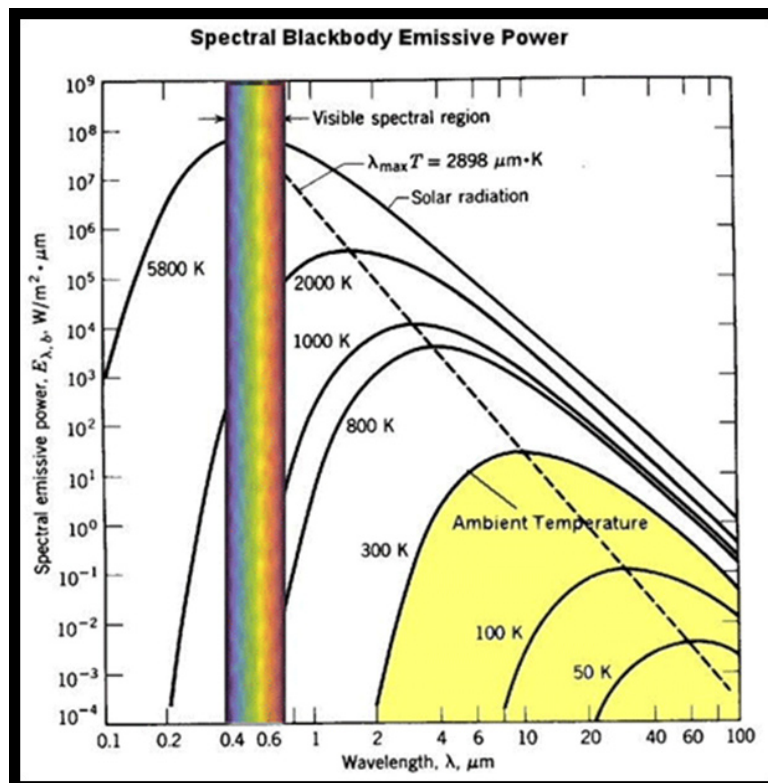


Fig. 4 Spectral profile of blackbody radiance versus absolute temperature.

The Sun can be considered to be a blackbody with a surface temperature of around 6000 deg K .Referring to Fig 4 above, it can be seen that this equates to a maximum emission wavelength of around .5 microns ( $\mu\text{m}$ ) or 500nm. This approximates to the maximum sensitivity of the human visual system. The Sun being by far the biggest source of EMR reaching the Earth it is consequential that the human being has well adapted to “seeing” solar radiation.

It can also be seen in Fig. 4 that the surface temperature of the Earth (around 300 deg K or 27deg C) would, if it was a black-body, radiate EMR at this ambient temperature at around a wavelength of 9.6 $\mu\text{m}$ . In reality, this is not the case and there is a slight shift, nevertheless this maximum emission takes place at wavelengths far beyond those perceivable by the human eye.

In reality natural bodies are considered as gray-bodies. Unlike theoretical blackbodies, graybodies do not absorb all received radiation but reflect or transmit a part of it. Likewise a gray-body does not emit as much EMR as a black-body at the same temperature. When in thermodynamic (kinetic) equilibrium with its environment, its emissivity is in balance with its absorption, this being dependent on its temperature. It will be noted that this partial reflectivity of solar radiation is what allows us to see objects and colors.

A relationship can now be deduced, the Radiation budget. Since that part of radiation which is not absorbed must be reflected or transmitted. For a given wavelength:

The coefficients of absorption + reflection + transmission = 1

Each of these individual coefficients are between 0 and 1 inclusive.

So: for a blackbody, both reflection and transmission (by definition) are 0, so absorption = 1 (all)

For an opaque body, transmission = 0, so reflection and absorption sum to 1.

For a transparent body, reflection = 0, so absorption and transmission sum to 1.

Some real world examples:

An apparent “red” balloon is at ambient temperature (i.e. on a typical day on Earth). Therefore its specific natural EMR according to Fig 4 above, is in the IR range and not visible to us. It looks “red” because it reflects the visible red waves that it receives from the Sun and partially or fully absorbs the shorter (blue) visible wavelengths.

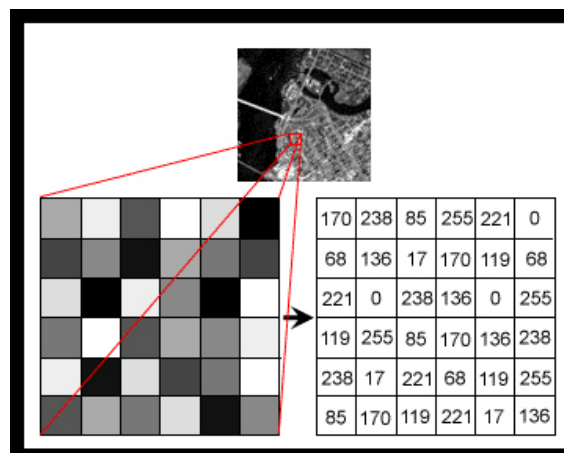
A “white” balloon reflects visible EMR across the visible spectrum from “red” to “blue”.

In contrast, a black balloon absorbs all wavelengths of visible EMR and thus we see it in contrast to other neighboring graybodies. (Black is the absence of color)

Hence the justification of the term tending to “Blackbody” i.e. total absorption, no reflection.

## Radiometric resolution

PACO software works upon imagery that is input in computer digital format.



Such an image is composed of a matrix of rows and columns of pixels (picture elements). Each pixel has a brightness value deter-



mined by the EMR recorded at that point in the image.

Radiometric resolution determines how finely such an image can represent or distinguish differences of EMR intensity, and is usually expressed as a number of levels or a number of bits, for example 8 bits or 256 levels (0-255) that is typical of computer image files. The higher the radiometric resolution, the better subtle differences of intensity can be represented, at least in theory. In practice, the effective radiometric resolution is typically limited by the noise level, rather than by the number of bits of representation.

#### References

**R**ather than provide references from text books that will not be easily accessible to the reader it is recommended that the text in bold highlighted above be used in internet searching. For example "googling" Radiometry brings up several excellent references including this one:

<http://fp.optics.arizona.edu/Palmer/rpfaq/rpfaq.htm>

**Editor note: The source of this document is <http://ipaco.xooit.com/t64-The-radiometric-domain-facts-without-too-many-formulae.htm>**

## Part 2: Back to McMinnville-From Imagery Analysis to Interpretation

**T**he final IPACO report on McMinnville showed that, in both images, there was a strong return of a probable suspension thread at angles of 10.29 and 11.21 degrees from the vertical respectively, these observations supporting the overall conclusion of :

"The low values of the tilt angles between the suspension thread and the verticals of both McMinnville pictures are quite compatible with the presence of a soft wind on the site, and with the hypothesis of a rather light suspended object."

For the moment at least, that is probably about as far as we go in the imagery analysis per se. However, the thread observation allows some further hypotheses to be established when considered in the context of other findings in the report and some basic aerodynamics .

**LOCAL WIND.** Local topography has effects on surface wind conditions that can be quite marked. For example, it is not uncommon to have two wind socks on an airfield pointing in very different directions simultaneously. Objects such as trees and buildings produce local wind effects very different from those indicated in the vectors of the overall meteorology. In this instance the object is suspended very close to several buildings. Thus the direction of the local wind can be reasonably expected to differ from the recorded motion of the regional air mass.

**SOME OBJECT SHAPE IMPLICATIONS.** The object can be seen to be circular in shape with a convex upper surface approximating a somewhat truncated shallow dome, thus presenting a cambered profile. Such a shape is identified aerodynamically as an axisymmetrical aerofoil. The characteristics of such a "Flying Saucer" are unstable in free flight, with the Centre of Pressure being well forward of the Centre of Gravity, typically causing such an object to tend to accelerate in positive pitch resulting in a "back flip" if left to its own devices in forward flight. One full sized example was the 18ft diameter Avro Canada "Avrocar". Here the Centre of Pressure (or aerodynamic centre) was found to be at 28 per cent of the root chord (i.e. along the axis of symmetry pointing into the airflow) and "therefore had a negative static margin and was both statically and dynamically unstable in aerodynamic flight", as stated, for example, in Air International June 1974 pp.300. N.B. A frisbee is a different case, since its mass has angular momentum; also helicopter and gyro-plane rotor "discs" are different systems entirely. Nevertheless, the suspended object appears as an airfoil shape and almost certainly therefore shares characteristics with typical airfoils. Some apparent asymmetry regarding the protrusion on the top of the disc has led to speculation that the actual suspension point might not be central. Indeed, a displacement of only a few percent of the radius would cause a significant tilt to the disc.

**STALLING.** An airfoil "stalls" when the angle that it is presenting to the relative airflow (Angle of Attack – AoA or alpha) exceeds about 15 degrees. At around 15 degrees the normal laminar flow of air over the wing breaks away, becoming turbulent, whilst lift rapidly decreases. However, unless designed otherwise, this collapse normally starts one wing tip first. The developing loss of lift causes this end of the wing to drop, incidentally increasing alpha locally and accelerating the situation. The centre of pressure having now moved away to the other side of the centre line of the C of G, accelerates the roll rate. Overall drag also moves toward the falling wing tip bringing in a yawing moment – difficult to detect visually with a "saucer". If uncorrected in a normal aircraft this leads to an incipient, then developed "spin". Total drag goes on increasing as alpha further increases beyond 15 degrees.

THE APPARENT BEHAVIOUR OF THE MACMINNVILLE SUSPENDED OBJECT

Alpha. Mensuration performed in IPACO on the angle subtended by the disc's axis of symmetry to the vertical on both images comes out as: Direct measurements on the pictures gave the following results:

$$C1 = 19^\circ$$

$$C2 = 17^\circ$$

These angles are of course the same as those of the angle of the disc to the horizontal and thus, logically to the local airflow (i.e. alpha). Furthermore, assuming from the suspension thread measurements that the predominant wind vector is coming from the left in each image, the disc is showing a positive alpha to the relative airflow at values of  $19^\circ$  and  $17^\circ$  respectively. As such a disc would be expected to increase its alpha with respect to the relative airflow this direct measurement supports the presumption of local airflow from right to left across the image and further supports the case for the model behaving aerodynamically as a suspended model axisymmetrical wing or "flying saucer".

In addition, since drag also increases with alpha, one would expect that the displacement of any suspension thread from the vertical would also move towards the right of the image as alpha increased.

In this case:  $C1 \text{ alpha} = 19^\circ$  and the angle of the thread from vertical =  $11.21^\circ$  to the right

And:  $C2 \text{ alpha} = 17^\circ$  and the angle of the thread from vertical =  $10.29^\circ$  to the right

Therefore both of these values are also apparently changing qualitatively in accordance with the suspended model airfoil construct.

**Suspension Point.** The precise suspension point location is unknown. However it is reasonable to assume that its effective suspension point is towards the top of the dome, if not possibly even higher up on the odd shaped dorsal protuberance. Two factors come out of this assumption:

Firstly, the disc cannot pitch up much beyond 90 degrees relative to the thread as it would be constrained by direct contact with the thread at around 11 degrees from the vertical: this would equate to not exceeding around 80 degrees alpha.

Secondly, as the disc pitches up for established aerodynamic reasons, thus rotating clockwise as viewed in the image, this rotation would be countered by an increasing anti-clockwise moment -attributed to the relatively increasing moment arm between the top suspension point and the centre of gravity of the disc. It is not unreasonable to expect these two opposing forces to cancel out at some point, leaving the disc hunting about some intermediary alpha value. This might be around the values exhibited by the disc, but without knowing wind velocity, disc mass, c of g and its distance from the effective suspension point, it could not be quantified. However, the observed behaviour of the disc in pitch is arguably not inconsistent with the hypothesis of it being a small object suspended on a tether.

In both images the disc is manifestly in a stalled state (alpha measurement being  $> 15 \text{ deg.}$ ) on the end of the suspension thread.

As explained above, the stalled state of an airfoil typically generates a strong roll in the direction of the first wing tip to stall. This of course, in an axisymmetrical airfoil will be at an edge of the disc orthogonal to the relative airflow. As the disc rolls, so the resultant lift vector will tend also to produce a translation of the disc in the direction of the roll. Reference to the McMinnville imagery indeed shows in MM1 what may be the object in the process of rolling, at a directly measured 21.2 degrees away from the camera when imaged: more than would be expected by just a simple swinging motion in and out of the image plane. However as the axisymmetrical airfoil swings away the relative airflow vector moves towards the direction of the translation. This vector now tends to pick up the falling wing tip as the swing develops, This supposition is supported by the fact that when the object is calculated photogrammetrically to be further away from the camera in MM2, there is a measured rotation of 3.62 degrees back towards the camera. This mensurated object rolling (or banking) and associated swaying can be envisaged as being somewhat akin to how a kite sometimes hunts from side to side if it is rigged at too high an angle of attack and starts tip stalling. Arguably the rate of this movement is thus likely to be more dependent on aerodynamics rather than assumed pendulum mechanics.

**Suspension thread.** The presence of a suspension thread is statistically established as strongly evident and common to both images. As has been described, the static and dynamic instability of the suspended disc in a light breeze will have various acceleration effects which might leave some evidence in other parts of the overall suspension system. It is possible that the suspension thread itself might undergo flexion, in which case there might well be a degree of point scatter around the statistically very significant negative peaks displayed by the thread detection process. Examination of these peak shapes indicates that such a result might well be contained within the area under the summation curve.

The Power Line. IPACO were at pains to point out that the observations made" do not constitute a scientific proof, but at least an interesting oddity. "

The power line in the area over the "UFO" gave the appearance when compared with the later LIFE image of being somewhat lower at the time of the Trent photography. The lines are however visibly kinked and distorted ( they could also be indicating possible "bounce" between the two Trent images) mitigating against any useful catenary based analysis, beyond finally noting "In both cases, the lower power line appears lower in Trent's pictures than in LIFE's picture, over an area centered above the UFO, which inevitably leads to think that this might have been the result of the model's weight..."

In summary therefore, examination of the mensuration results obtained by IPACO was stated (in part) as "The clear result of this study was that the McMinnville UFO was a model hanging from a thread".

To this can now, arguably with some justification, be added, " which appeared to display the aerodynamic properties which such a suspended disc might reasonably be expected to exhibit, under both directly measured and derived parameters."

Note: 1 Evaluate: More - Less

**Editor note: This posting can be found at: <http://ipaco.xooit.com/t65-BACK-TO-MCMINNVILLE-FROM-IMAGERY-ANALYSIS-TO-INTERPRETATION.htm>**

Commentary: I presented these two articles to preserve them as they were written. I am of the opinion that the IPACO team has made some excellent points to consider in their report and the report should not be dismissed simply because certain UFO proponents like to label it a "debunker" report. That being said, I do not feel qualified to comment on some of the items described here and I have no knowledge, other than what was written in the report, of how the tests/software was used. I did supply some of my string tests images I had published in SUNlite 5-3 and 5-4 to the team for evaluation. I also did have some private communications with some of the team. That was the limit of my involvement with IPACO. For those interested in debating the points of this article and the report, I suggest they contact the IPACO team or join their forum/group to exchange ideas.



# SEPTEMBER 21, 1961: CASE CLOSED

In SUNlite 5-5, I proposed the explanation for a prominent case found in [The UFO evidence](#) that had occurred on September 21, 1961. On that date, two aircraft and a ship in the Pacific had seen a UFO arc across the sky. After pointing out the errors by NICAP in plotting the aircraft and ship positions, I then proposed that a Soviet R-7 missile test was the source of the UFO sighting. I was fairly confident but some UFO proponents found the explanation far from convincing. As a result, I had to present how the facts of the case appeared to indicate the rocket launch was the most likely explanation in SUNlite 5-6. I also challenged various UFO proponents to provide evidence (in this case, a launch time) to falsify this explanation. I never received any information to indicate that anybody had done this but I have recently received information that confirmed this explanation.

## Confirmation

In SUNlite 5-6, I took issue with some UFOlogists who felt that the explanation of this UFO sighting being a Soviet missile test to be nothing more than typical debunker nonsense. Now, thanks to Ted Molczan and Johnathan McDowell, I think that any questions regarding the explanation for the September 21, 1961 Pacific sighting have been answered.

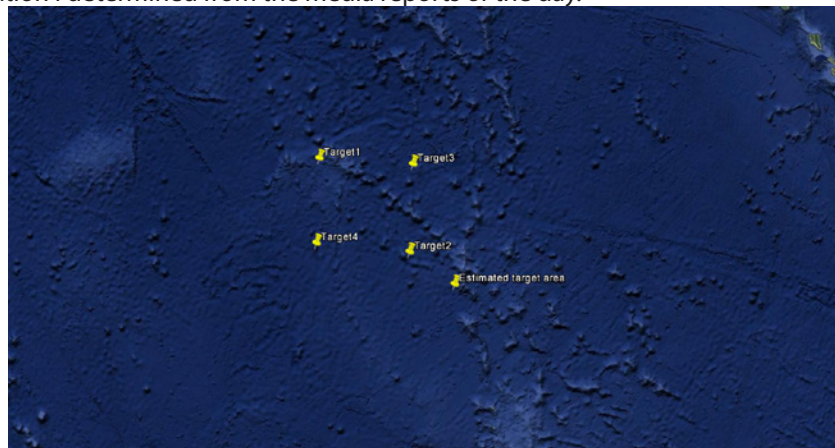
In a recent e-mail, Ted pointed out to me that Johnathan McDowell lists the actual launch time for this missile as being 1630Z<sup>1</sup>. I had estimated the launch time as 1630-1650Z. Somehow, I missed this bit of information the first time around. This launch time indicates that this rocket was launched at the right time but did it have the right trajectory?

Ted Molczan decided to make a FOIA request for a report by the title of "Soviet launch vehicle tests in the Pacific Ocean" by W. Hrubiak dated 30 December 1965.<sup>2</sup> This report confirms that there was a missile launch test on September 21, 1960 and that its impact point was at a location defined by the following boundaries:

*North latitude - 10 deg 20', 9 deg 10', 11 deg 30', 8 deg 5'*

*West longitude - 170 deg 30', 166 deg 45', 167 deg 55', 169 deg 20'*

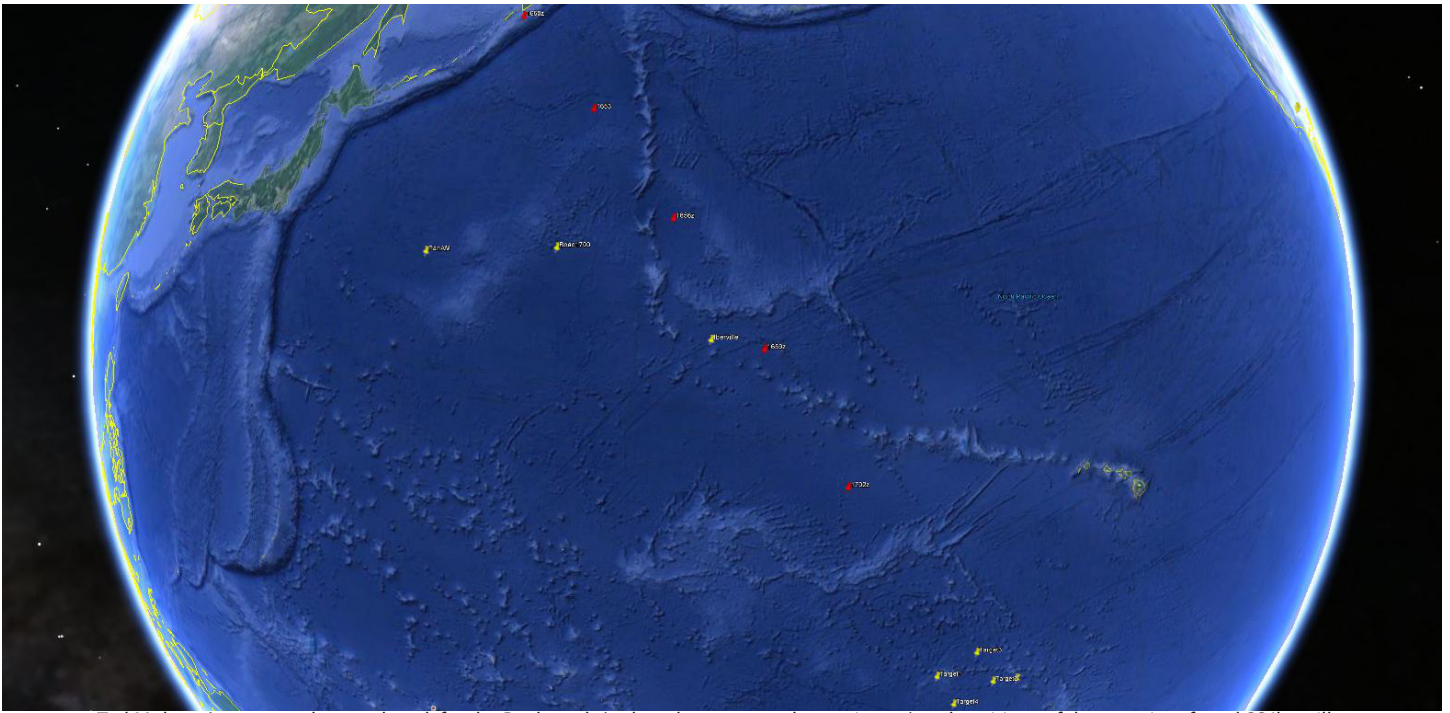
This is not far from the location I determined from the media reports of the day.



Based on the information in the report and McDowell's data, Ted Molczan had enough information to compute a probable ephemeris for the missile launch. The altitudes for every three minutes starting at 1650Z were:

Time	Altitude (mi)	Altitude (km)
1650Z	737.9	1187.5
1653Z	691.6	1113.1
1656Z	604	972
1659Z	475.3	765
1702Z	307.2	494.4

The altitudes are important to note because high altitudes indicate how far away the missile could have been and still be observed. In my SUNlite 5-6 article, I estimated the minimum altitudes as 400 miles overhead and 200 miles when near the horizon. As one



Ted Molczan's computed ground track for the R-7 launch (red marks are every three minutes) and positions of the two aircraft and SS Iberville.

can see, those estimates were a bit low.

The ground track is very interesting when compared to what the observers reported (see above) Ted made the following comments regarding his computed trajectory and the reports filed by the aircraft and SS Iberville:

### 1. Pan American Airways 878

*The crew reported that at 17:00 UTC "the object appeared about 10 degrees over the horizon and well east of the aircraft". The ephemeris reveals that the R-7A missile descended through 10 deg elevation seconds after 16:59 UTC, near azimuth 95 deg. The agreement is excellent.*

*The departing azimuth given by the ephemeris, ~120 deg, is in reasonable agreement with the crew's report in the PBB case file, "The complete phenomenon moving ESE with a bearing of about 100 degrees." ESE is 112.5 deg, so definitely in the ballpark.*

### 2. BOAC 582

*According to the NICAP report, the crew reported "Suddenly we saw this bright ring in the sky, about 50 deg up." They also reported that it was travelling in the same direction as the plane, and that it "went over the horizon in seven minutes."*

*The plane's bearing was 83 deg magnetic, 84.4 deg true. The ephemeris shows that the object overtook the plane on its port side. The report lacks details, but it is reasonable to guess that the sighting began no earlier than the time when the object had reached a point 90 deg from the bearing, on the port side, or azimuth 354 deg. That occurred near 16:52 UTC, when the object was at 40 deg elevation above the horizon (about 37 deg above local horizontal).*

*The ephemeris shows that the missile continued to climb in elevation until shortly before 16:55 UTC, when it reached its maximum elevation, 54.1 deg above the horizon (~51 deg above local horizontal). At that point it was near azimuth 45 deg. The ephemeris elevation is in excellent agreement with the reported elevation of the object.*

*The ephemeris shows that the missile passed below the visible horizon at about 17:02:45 UTC. Referring to the above information, it could easily have been in view for the reported 7 minutes.*

### 3. S.S. Iberville

Quote of the notice to mariners report from your SUNLite report:

<<<< At 1700 G.M.T. on September 21, 1961, while in lat. 31° 30' N., long. 175° 30' E., a few minutes before morning twilight, a white opaque mass about twice the size of a full moon appeared in the northwest at an elevation of about 20°. It continued to climb toward

*the zenith and at about an elevation of 40°, the mass opened gradually to appear as a huge halo with a satellite in the center having very nearly the brightness of a first magnitude star. By the time it reached the zenith, it had more than doubled in size reaching its maximum at the zenith and then diminishing as it proceeded to the southeast. As it diminished it continued to decrease in size but did not appear to shrink into a corona as it had appeared but rather faded out completely at an elevation of approximately 20°. The entire mass was in view for approximately 8 to 10 minutes. >>>>*

*The ephemeris shows that the approaching missile climbed above 20 deg elevation near 16:52:15 UTC, at azimuth 331 deg. That is closer to NNW than NW, but in the ballpark.*

*The departing missile descended below 20 deg elevation near 17:01:35 UTC, at azimuth 135 deg. The ephemeris estimates the duration above 20 deg as 9m20s, in excellent agreement with the reported 8 to 10 minutes.*

*The object's azimuth as it departed, 135 deg, was almost exactly SE, as reported.<sup>3</sup>*

I see no reason to question Ted's calculations and the coincidence of the launch time with the time of observations of the aircraft and vessel are just too much to dismiss with a simple UFOlogical wave of the hand. It is interesting to note that NICAP, in their October 1961 UFO Investigator, had concluded that it was NOT an ICBM launch.<sup>4</sup> One wonders why NICAP could not consider this possibility especially when it was announced by TASS that such a test was done.

## **SOLVED**

**T**his sighting WAS caused by a Soviet missile test just as Project Blue Book had concluded but NICAP failed to properly evaluate. I consider this case closed.

### Notes and references

1. McDowell, Johnathan. Johnathan's space report. Available WWW: <http://www.planet4589.org/space/lvdb/lis/S.lis>
2. Hrubciak, W. Soviet launch vehicle tests in the Pacific Ocean. Aerospace Technology Division. 30 December 1965. Available WWW: <http://www.dtic.mil/get-tr-doc/pdf?AD=AD0626845>
3. Molczan, Ted. E-mails to the author. 9 December 2014.
4. "Two jet airliners encounter UFO flying disc". UFO Investigator. NICAP. October 1961. P. 1-2 Available WWW: [http://www.ufodocarchive.org/NICAP/UFO\\_Investigator/014%20OCT%201961.pdf](http://www.ufodocarchive.org/NICAP/UFO_Investigator/014%20OCT%201961.pdf)



## May 24, 1954

The UFO evidence lists this case as follows:

*May 24, 1954--Dayton, Ohio. Photo officer and scanner on RB-29 saw and photographed circular UFO below plane. [III]'*

When one examines Section III, we read the following:

*Brilliant circular UFO sped below plane at est. 600 mph, photographed by crew. Photograph never made public<sup>[47,]2</sup>*

Footnote #47 cites Edward Ruppelt's book, "Report on Unidentified Flying Objects". In that book, Ruppelt describes the case as follows:

*About 11:00A.M. on May 24, 1954, an RB-29 equipped with some new aerial cameras took off from Wright Field, one of the two airfields that make up Wright-Patterson AFB, and headed toward the Air Force's photographic test range in Indiana. At exactly twelve noon they were at 16,000 feet, flying west, about 15 miles northwest of Dayton. A major, a photo officer, was in the nose seat of the '29. All of the gun sights and the bombsight in the nose had been taken out, so it was like sitting in a large picture window—except you just can't get this kind of a view anyplace else. The major was enjoying it. He was leaning forward, looking down, when he saw an extremely bright circular-shaped object under and a little behind the airplane. It was so bright that it seemed to have a mirror finish. He couldn't tell how far below him it was but he was sure that it wasn't any higher than 6,000 feet above the ground, and it was traveling fast, faster than the B-29. It took only about six seconds to cross a section of land, which meant that it was going about 600 miles an hour.*

*The major called the crew and told them about the UFO, but neither the pilot nor the copilot could see it because it was now directly under the B-29. The pilot was just in the process of telling him that he was crazy when one of the scanners in an aft blister called in; he and the other scanner could also see the UFO.*

*Being a photo ship, the RB-29 had cameras—loaded cameras—so the logical thing to do would be to take a picture, but during a UFO sighting logic sometimes gets shoved into the background. In this case, however, it didn't, and the major reached down, punched the button on the intervalometer, and the big vertical camera in the aft section of the airplane clicked off a photo before the UFO sped away.*

*The photo showed a circular-shaped blob of light exactly as the major had described it to the RB-29 crew. It didn't show any details of the UFO because the UFO was too bright; it was completely overexposed on the negative. The circular shape wasn't sharp either; it had fuzzy edges, but this could have been due to two things: its extreme brightness, or the fact that it was high, close to the RB-29, and out of focus. There was no way of telling exactly how high it was but if it were at 6,000 feet, as the major estimated, it would have been about 125 feet in diameter.*

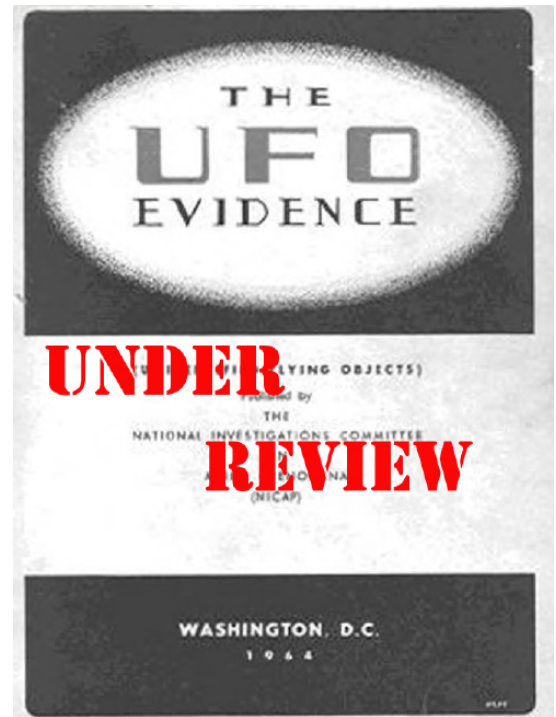
*Working with people from the photo lab at Wright-Patterson, Captain Hardin from Project Blue Book carried out one of the most complete investigations in UFO history. They checked aircraft flights, rephotographed the area from high and low altitude to see if they could pick up something on the ground that could have been reflecting light, and made a minute ground search of the area. They found absolutely nothing that could explain the round blob of light, and the incident went down as an unknown.*

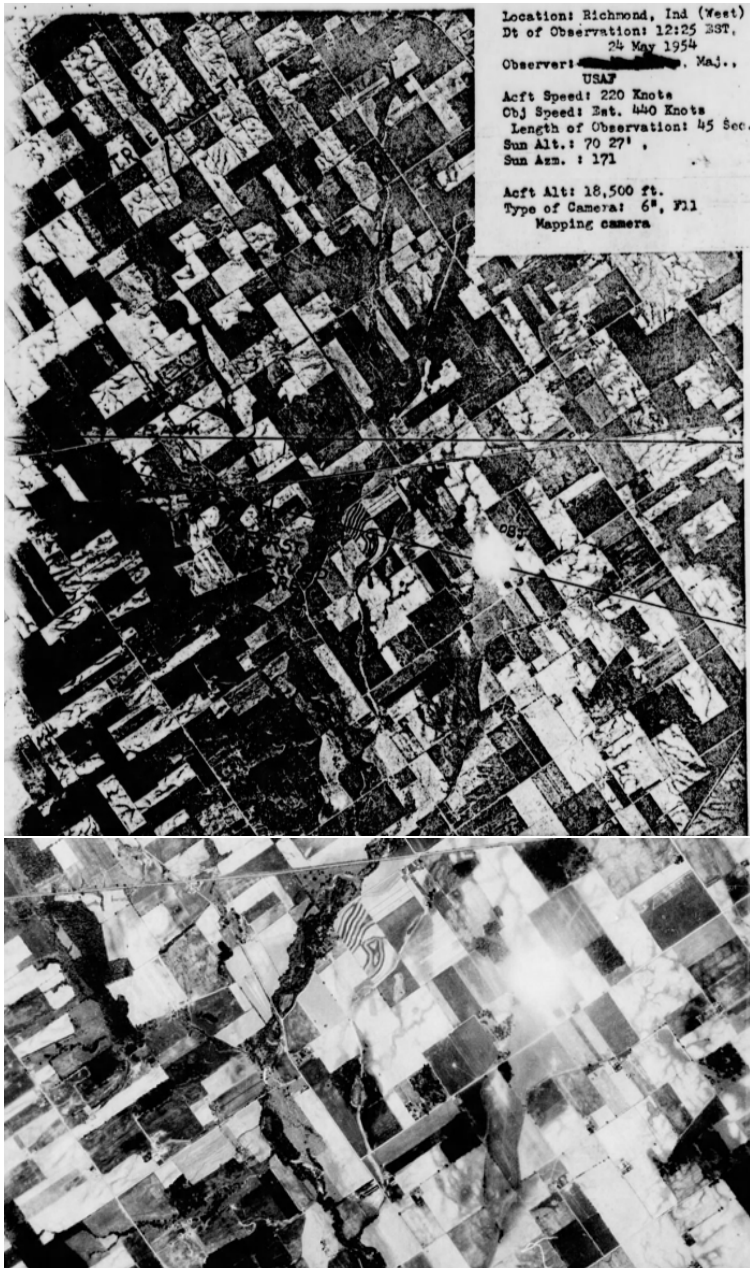
*Like all good "Unknown" UFO reports, there are as many opinions as to what the bright blob of light could have been as there are people who've seen the photo. "Some kind of light phenomenon" is the frequent opinion of those who don't believe. They point out that there is no shadow of any kind of a circular object showing on the ground—no shadow, nothing "solid." But if you care to take the time you can show that if the object, assuming that this is what it was, was above 4,000 feet the shadow would fall out of the picture.*

*Then all you get is a blank look from the light phenomenon theorists.*

*With the sighting from the RB-29 and the photograph, all of the other UFO reports that Blue Book has collected and all of those that came out of the European Flap, the big question—the key question—is: What have the last two years of UFO activity brought out? Have there been any important developments?<sup>3</sup>*

There seems to be plenty of information about this case and it is apparent that Blue Book had investigated the case. Would they have a copy of the photograph in their files?





## Blue Book's report

Blue Book did investigate this case<sup>4</sup> and had a copy of the photograph in their files<sup>5</sup>. However, the photograph seemed less impressive than what Ruppelt described. In fact, Ruppelt's description missed some important points and contained some errors. For instance, the photograph was apparently taken by a B-17 and not an RB-29. This indicates that Ruppelt was working with second hand information and not primary sources. This introduced potential errors. Most important is how Blue Book classified this case shortly after seeing the photographs.

As Ruppelt states, there was an investigation by experts. However, contrary to what he reported, all the experts agreed that what was visible in the photographs was a reflection of light off of ice crystals below the airplane. This was the assumption as early as June 2, 1954, less than a month after the event:

*The data was submitted to a panel of scientists and specialists, which included astronomers, meteorologists, and a physicist. It was concluded that the sighting was a very rare aerial phenomena caused by the reflection of the sun's rays upon an ice-crystal platelet formation.*<sup>6</sup>

Because Ruppelt felt this had been classified as an "unknown", NICAP classified it as such.

## Solved

There is little doubt that what was photographed was probably a sub sun and not some unknown craft from "someplace else". The case should be considered adequately explained and not "evidence" for UFOs being alien spacecraft.

## Notes and references

1. Hall, Richard M. (Ed.). The UFO evidence. The National Committee on Aerial Phenomena (NICAP). New York: Barnes and Noble. 1997. P. 134.
2. *ibid.* P. 22
3. Ruppelt, Edward. The Report on Unidentified Flying Objects. New York: Doubleday 1956. P. 239-240
4. Project Blue Book - UFO investigations". Fold 3 web site. Available WWW:<http://www.fold3.com/image/6781913/>
5. *ibid.* <http://www.fold3.com/image/6781919/>
6. *ibid.* <http://www.fold3.com/image/6781937/>



# 701 club

## Case 2315: January 1 1953

Don Berliner describes this case as:

*Jan. 1, 1953; Craig, Montana. 8:45 p.m. Witnesses: Warner Anderson and two women. A silver, saucer-shaped object with a red glowing bottom, flew low over a river and then climbed fast in a horizontal attitude. Ten second sighting.<sup>1</sup>*

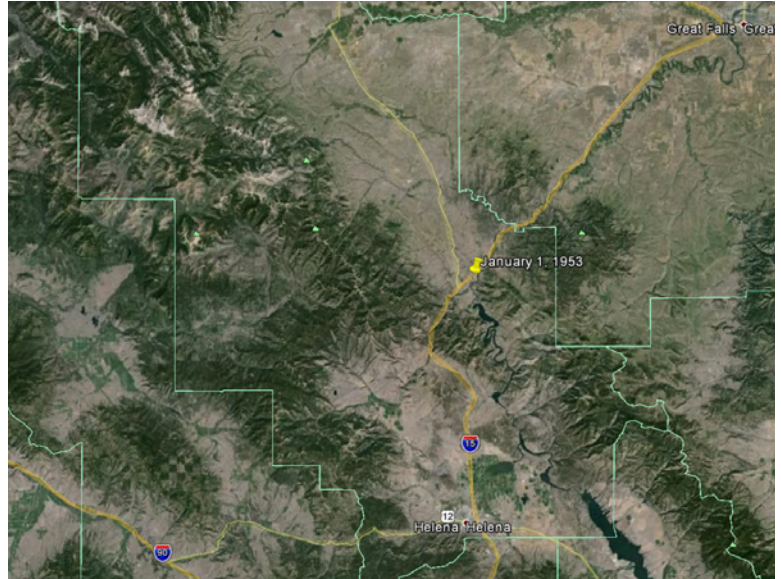
There seems to be little information about this case in UFO files and the ten second sighting is not that impressive. A trip to the Blue Book files did not reveal much more information than what is found in Berliner's summary.

### The Blue Book file

The location of the sighting was in a remote area between Wolf Creek and Craig Montana. The witnesses were in their vehicle driving towards the southwest. The nearest major population center, Helena, Montana, was about 30 miles distant. The image to the right shows how the area appeared in 2014. Sixty years ago, it was even more remote.

A husband, his wife, and their 13-year old daughter were in the automobile. According to the report, the daughter had drawn a sketch of what she saw but it was not in the file. The male witness was a manager with some experience as an aircraft spotter during World War II, which made him "reliable". There were also three witness statements but they all contained the same exact story.

The witnesses described the object as "two soup bowls put together". It was only visible for 10 seconds and traveled from SW to NE before disappearing. There was also mention of seeing portholes.<sup>2</sup>



### Confusing report with possible solution

There are some issues with the file that have me confused. The three identical copies of the report that were signed by each of the witnesses made it appear that the report was already typed up and put in front of the witnesses to sign. This prevented the witnesses from giving additional information that might be helpful in resolving the case. Missing from these affidavits was the one part of the file that seems to be a mistake in how the investigator reported the incident. That being, that the primary witness managed to get out of the car to observe the object's trajectory. Since the vehicle was apparently in motion at the start of the sighting, it seems unlikely that the witness could have stopped the car and then gotten out within 10 seconds.

It seems that what the witness reported was some sort of object that went from southwest to northeast in ten seconds at a high angular speed. The most likely source for this sighting is a fireball or bright meteor. It might have been fragmenting, which gave the impression of "portholes" just like the imagery found in events like Zond IV.

### Conclusions

I don't blame Blue Book for not being able to classify this case. However, I think the label of "unknown/unidentified" is a bit much since the case really lacks details to evaluate properly. We can not positively identify this UFO because of the remote location, from where it was observed. However, examining the description given by the witnesses indicates it is very similar to other UFO reports involving bright meteors. I would classify this as a "possible meteor" and remove it from the "unidentified" category.

#### Notes and references

1. Berliner, Don. "The Bluebook Unknowns". NICAP Available WWW: <http://www.nicap.org/bluebook/unknowns.htm>
2. Project Blue Book - UFO investigations". Fold 3 web site. Available WWW: <http://www.fold3.com/image/9543309/>



# UFOs on the tube

## UFO conspiracies: UFO swarm

The first part of the program was an evaluation of the Arizona UFOs of March 13, 1997. The presentation started with amateur photographer/astronomer Gerry Church, who was on a hillside that night photographing comet Hale-Bopp. He saw the formation of lights come from the NW and proceed southeast. Another individual, by the name of Gary (who fears to lose his job if he does not remain anonymous), states he was in his car with his wife. They saw the formation and he thought it might be jets but then realized jets don't fly in formation at night. He did not see any navigation lights and there was no sound. These lights also disappeared into the southeast. It is important to note that both these witnesses only describe a formation of lights and did not describe a massive triangle that was reported by some of the witnesses, who received a lot of media attention.

We were then treated to the champion of the Phoenix lights, Dr. Lynne Kitei. She states that she saw the lights over the hills as the "triangle formation" retreated towards the southeast. From what I recall, her videos are of the 10PM event and not the 8PM event. Kitei would later state she is open to any explanation but that seems to be a false statement as several explanations have been presented and she refuses to accept them. The program also had discussions about Emma Barwood, who claims she was criticized and made fun of because she wanted to discuss it at the city council meeting. She implies it was an effort to "silence her". Politicians being ridiculed is nothing new and had she done her homework, she might have discovered what caused the lights that were reported. The program also replayed Governor Symington's little show in June of 1997 as well as a more recent statement where he states that he also saw the event. That claim was addressed in SUNlite 5-3 and found to be less than credible.

James McGaha was allowed to state there were two separate events that night, which had two different explanations. The flare explanation for the 10PM event is accepted by most people. However, the 8PM event is what has some people still begging for an answer. McGaha pointed out that the V-formation of lights followed a standard air route and behaved just like a formation of aircraft. He revealed that these were probably A-10 aircraft on their way to Tucson and, at 15,000 feet and standard cruising speeds, would have been difficult for witnesses to hear.

The next part of the program addressed the May 19, 1986, "night of the UFOs" in Brazil. Apparently, radar had detected a fleet of UFOs that were present for most of the night. The Brazilian Air Force "scrambled" jets to intercept but the pilots appeared to have problems locating these targets even though they were relatively close. As a result, the pilots started chasing various lights until they ran low on fuel. A.J. Gavaerd would read a section of the report, which stated that the UFOs were under intelligent control.

I was not convinced by the "ball lightning" explanation even before they mentioned that the weather was clear. I liked Dr. Susan Clancy's discussion about how pilots could be prone to perceptual distortion and bias. If the pilots were expecting unusual targets, they would eventually find them. Missing from the explanations were two that I thought should have been considered/mentioned. The first is astronomical objects for the source of some of the lights. Mars was near opposition and was magnitude -1 in the east and could have been one of the lights, described as orange or red by the pilots, that was chased. As for the radar contacts, I wonder if these were just clear air echoes or temperature inversions that produced the radar targets. The fact that the pilots were told to search for these targets and they did not see them makes one wonder if the targets were due to anomalous propagation conditions.

The last section of the program presented the Cash-Landrum case. I believe readers are aware of the history of the case but there were certain parts of the story that are worth recounting. Nick Pope was in this program stating he believed that they were exposed to radiation from a nuclear powered drone of some kind. This ridiculous theory was shown to be less than compelling when Chris Pocock stated that such tests are not made in populated areas like Houston. They are usually made over remote areas away from prying eyes. Meanwhile, Bryan McClelland suggested Cash and Landrum suffered from radiation poisoning. Once again, a real expert was brought in to state this was not the case. Jim Thurston, a medical radiation specialist, stated that the symptoms indicate a high radiation dose that was 2-4X the lethal dose. He suggested a chemical agent as an alternative source for the injuries. Robert Bartholomew pointed out that the witnesses are not telling us what they actually saw but how they remembered the event. He also suggested that the symptoms may have been psychosomatic. The skeptical explanation presented here was a superior mirage of petrochemical plants burn-off flames. This is an interesting theory but I am not so sure it works very well or will be accepted. The program tended to gloss over the helicopter fleet part of the story. That seems to be an exaggeration, which implies some of the other parts of the story are possibly exaggerations/inaccurate.

This production was better than most UFO programs. I felt they could have done better with the skeptical arguments but at least they presented them. I also think they should have just focused on one case instead of three. .

**I have stopped my "Buy it, borrow it, or bin it" column as a regular item. There are so many UFO books that I find less than appealing and, since I purchase them myself, I see no reason to review them since I will probably give them a "bin it" classification. When I do receive/buy a book that is worth noting (either good or bad), I intend to write a review.**