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Incident #71 -- Las Vegas, Nevada -- 8 or 9 October 1947.
(Supersedes interim report of 2/1./49)

In everything except the course flown, the description given here answers to that of a fireball. The course indicated in this incident, however, appears almost fatal to such a hypothesis. No fireball on record, to this investigator's knowledge, has been known to turn back on itself. Daytime fireballs have been observed, however, that were invisible save for a marked white cloudlike trail.

Most fireballs pursue essentially straight courses, and, in fact, apparent deviations are often caused by illusions of perspective and of a spherical sky. Real deviations are caused by effects of the meteor's encounter with the atmosphere. To execute a curved trajectory would require highly extraordinary circumstances indeed, and a meteoric explanation for this incident must be regarded as most improbable.

It is more likely that some sort of aircraft was under observation.

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Incident #72 -- Alaska -- 1947 (exact date not known)

From the scanty information available, it appears improbable that this object was astronomical, unless the report represents a highly garbled and subjective account of a daylight meteor. (The time of the sighting is not given, but it is assumed from the description of the incident that it occurred during daylight hours.)

It should be noted as a matter of general record that some of the reports received at observatories of recognized fireball falls are so highly colored and garbled that if the astronomer did not have independent evidence of the identity of the object, it would be impossible to determine from these reports.

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Incident #75 -- near Twin Falls, Idaho -- 13 August 1947

There is clearly nothing astronomical in this incident. Apparently it must be classed with the other bona fide disc sightings.

Two points stand out, however: the "sky blue" color, and the fact that the trees "spun around on top as if they were in a vacuum." Could this, then, have been a rapidly travelling atmospheric eddy?

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Incident #74 -- cancelled -- see #68

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Incident #76 -- Salmon Dam, Idaho -- 13 August 1947

There does not appear to be anything astronomical about this incident.

Although sighted on the same day as the sky-blue canyon saucer (incident #75), the objects described here seem to have little or no similarity to the former.

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Incident #75 -- Boston, Massachusetts -- 4 August 1947

There is nothing in the evidence given here to suggest that the object sighted was astronomical.

The description suggests rather that the object may have been a highly distorted reflection image of the sun on a balloon or aircraft. The "deep gold" color ascribed to the object tends to indicate this interpretation.

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Incident #77 -- South Brooksville, Maine -- 3 July 1947

There is nothing to suggest an astronomical origin of the objects cited in this unusually well-reported incident. Inasmuch as the sightings were made by an "astronomer" (although this investigator has never heard of him), one can presume that any astronomical implications would have been noted. The observer's question "Have any meteorites been reported?" is puzzling, because he should have been able to rule out that possibility himself. The estimated speed is all that would suggest meteors, and the absence of smoke trails and the general tenor of the description seems to rule out the objects' having been daylight meteors.

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Incident #78 -- Grand Canyon, Arizona -- 30 June 1947

While it seems more probable that the objects sighted in this incident were freely-falling, man-made instruments, perhaps from bursted instrument balloons, the possibility of their being freely-falling meteorites is not completely ruled out. When the mass of an in-coming meteorite is of the proper order of magnitude, the meteor can come in on a non-vertical path, become a bright bolide, or fireball, and have its horizontal speed component reduced essentially to zero. It then falls to earth as a non-luminous, freely-falling body.

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Incident #80 -- Arlington, Virginia -- 7 July 1947

There is nothing in the description of this incident that contradicts an explanation of the object as a slow-moving, bright meteor. Slow-moving meteors are generally observed before midnight.

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Incident #79 -- Richmond, Virginia -- April 1947

There is no astronomical explanation for this incident, which, however, deserves considerable attention, because of the experience of the observers and the fact that the observation was made through a theodolite and that comparison could be made with a pilot balloon. The observers had, therefore, a good estimate of altitude, of relative size, and of speed -- much more reliable than those given in most reports.

This investigator would like to recommend that these and other pilot observers be quizzed as to other possible, unreported sightings.

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Incident #82 -- Oklahoma City, Oklahoma -- between 17-21 May 1947

at first glance it does not appear that this incident has an astronomical explanation, but there are several portions of the description that can fit into such a picture, particularly if allowance is made for subjective reporting. The speed and manner of flight tally with that to be expected from an early-evening bolide. The observer states that the object was "round out disclike" and then again says that it was ten times longer than thick. It appears to this investigator that this sort of impression could be given by a bolide, the persistence of vision accounting for the reported elongated appearance.

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Incident #81 -- Wickham Field -- 7 July 1947

Clearly there is nothing astronomical in this incident.

It would appear that the object sighted was an instrument-carrying balloon.

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Incident #85 -- between Boise & Meridian, Idaho -- 9 July 1947

There appears to be a time discrepancy in this incident: the summary report states that the object was in view 10 to 30 seconds, yet indicates that the observer had time to call a weather station to inquire about balloon releases, and also to expose 10 seconds of 8 mm. film.

In any event, however, besides the fact that no smoke trail was indicated, tactics of the object preclude the possibility of its having been astronomical; meteors do not execute "slow rolls" or climb upward.

A better estimate of speed is needed. The possibility remains that the object may have been an unsymmetrically-painted balloon.

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Incident #84 -- near Lakeland, Florida -- 7 July 1947

There appears to be no astronomical explanation for this incident: upward trajectory and "plastic appearance," if accurately reported, do not lend themselves to such an explanation. No trail is mentioned.

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Incident #85 -- cancelled -- see #29

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Incident #86. -- Hollywood, California -- 6 July 1947

From the limited data available, there appears to be no astronomical explanation for this incident.

Rolling motion and saucer shape relate the incident to many others, which, however, did not exhibit the ray phenomenon.

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Incident #87 -- Germany -- date not given

As this incident is reported, it is very unlikely that any astronomical interpretation can be offered. The description is probably of a low order of reliability, however, and it is not beyond reason that a spiral smoke trail ("first thought it was a cloud") from a meteor was observed. Unfortunately, no definite conclusion can be drawn.

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Incident #33 -- Hackensack, New Jersey -- 3 August 1947

It seems clear that no astronomical interpretation can be given to this incident. ^

Information is so meager that little else can be said. If the object observed was only 200 yards away, it would seem that witnesses could have furnished much more detailed information.

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Incident #89 -- 100 mi. W of Kansas City, Missouri -- 6 July 1947

There is no direct astronomical explanation for this incident.

The striking feature of the incident is that the "very bright" object travelled in the same direction and at the same speed as the observer did, and that it appeared at 11 o'clock position at his left, or approximately opposite to the position of the sun at the time.

It cannot be proved, of course, but it is probable that the witness saw a direct reflection of the sun on some continuous object -- thin clouds, ice crystals, or the like. (Had the object appeared on his right, then this explanation would be untenable.) Its disappearance can be explained logically also, for turning altered the observer's angular relationship to the reflector.

It is further noted that an apparent inconsistency exists in the report. The observer first stated that the object appeared to be the top of a water tank "low and to his left"; after checking his position he stated that the object was at 11,000 feet. The inconsistency in altitude throws some suspicion on the observation. If the object was low, then a running reflection along a river or railroad track would be a promising explanation.

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Incident #90 -- between Las Cruces, New Mexico & White Sands V-2
firing grounds -- 29 June 1947

The information given here is insufficient for any definite conclusion to be drawn, but it is not impossible that the object observed was meteoric. The estimated time in sight is quite long, however, and, if a meteor, the object should have had a pronounced vapor trail. The "solar specular reflection which seemed to change in intensity" could, of course, have been light from the meteor itself, blended with daylight.

Once again, it is unfortunate that more detailed observations were not made.

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Incident #92 -- Manitou Springs, Colorado -- 19 May 1947

There is no astronomical explanation for this incident; the reversal of direction of flight and the maneuvers executed by the object preclude this.

The speed is not stated with any exactness, but if it was not too great, the object might have been a balloon, or aircraft seen under unusual conditions. Otherwise, there appears to be no plausible explanation.

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Incident #91 - Montgomery, Alabama -- 28 June 1947

No astronomical object could possibly behave in the manner described in this incident.

A small lighted balloon at the mercy of changeable winds aloft might offer a possible explanation.

(The stated position of the moon at the time has been checked and found to be correct.)

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Incident #93 -- Hartford, Connecticut -- 11 January 1943

Despite the absence of a trail and of sound, identification of this object as a fireball at the very end of its trajectory seems possible. It is described as "shooting toward earth at 45°," as resembling a "shooting star," and as having a very high velocity.

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Incident #94 -- 42° 9.3' N, 114° 22.2' W -- 30 December 1947

This incident and incidents #95, 96, and 97, which describe the same object, clearly refer to a thoroughly authenticated fireball. These sightings can be dismissed with finality by the following quotation from Popular Astronomy, October, 1948:

Fireball of 1947 -- Dec. 30
Nancy S. Weber

On this date at 7:30 P. M. PST a brilliant fireball appeared travelling westward over southern Oregon. ... Prof. J. Hugh Pruett gathered numerous reports from observers in Oregon, California, and Nevada, and from these made an appropriate solution for the path. He sent both his solution and all the 47 reports to the Flower Observatory where another solution was independently made. Ours agreed closely in all respects with that of Pruett except for the heights.

The meteor was most generally reported to be bluish-green in color. It appeared to explode twice, lighting up the countryside to close observers.

The sound phenomena were limited to 6 out of the 47 observers.

From the height at which the meteor exploded it is doubtful whether any fragments reached the ground.

It is clear from the general agreement with this of evidence given in incidents #94-97 inclusive that this fireball was the object being described.

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Incident #95 -- Rosedale, California -- 30 December 1947

The description given here refers to an authenticated fireball. See report on incident #94 for details.

It is likely that the fire observed on the ground by viewers of this incident had no connection with the fireball, but it is not out of the question that a fragment of the bolide did land and cause a brush fire.

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Incident #96 -- near Lovelock, Nevada -- 30 December 1947

The explosion seen in this incident was undoubtedly that of the fireball discussed in detail in the report on incident #94.



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Incident #97 -- between Madford, Ore., and Mt. Shasta, Calif. -- 30 Dec. 1947

The flash or explosion referred to here agrees also in time and location (no other details are given) with that of the fireball described in detail in the report on incident #94.

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Incident #93 -- Houston, Texas -- 2 November 1947

The information given here indicates strongly that the object observed was a fireball. There is nothing to suggest that it was not. As far as "falling into a nearby field" is concerned, that is perhaps the best-attested illusion with respect to these phenomena. Very frequently a fireball is reported to have fallen in a "nearby field" all along its track across two or three states.

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Incident #99 -- Finland -- 3 January 1948

Information given here is insufficient to establish even vague identification.

The object seen could have been a fireball, although the length of time of observation seems unduly long. Perhaps this is subject to considerable error?

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Incident #100 -- Finland -- 5 January 1948

Information given here is insufficient to establish any sort of identification. There is nothing in the scanty report of the incident, however, that could not be explained as a meteoric phenomenon.

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Incident #101 -- Morcatur, Kansas -- 18 February 1948

This now-celebrated case of an unusual fireball has been adequately reported in astronomical literature; (for details, see Sky and Telescope, April, 1948, page 164, and October, 1948, page 293). Positive identification has been made by the recovery of fragments. The origin of this object is, therefore, definitely astronomical, and the incident need not be considered further.

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Incident #102 -- air near Green River, Utah -- 18 February 1948

It seems entirely probable that the object observed in this incident and in #103 was the Morcatur meteorite seen at an earlier part of its trajectory.

The direction of flight is stated as "southeast of Liron, Colorado." If this means that the object was heading southeast from Liron, it could not have been the Morcatur fireball, since the direction of flight of that object was northeast; but if the statement merely means that the object was seen in the vicinity southeast of Liron, the location is consistent with the trajectory of that famous meteorite.

The time stated is approximate, and need not be given too much concern. Actually, of course, the sightings here would have had to be made almost simultaneously with those in Kansas. If the time had been reported as 1600 LST instead of 1500 (a typographical error, by any possibility?), then, allowing for the difference of one hour in time zones, the sightings would have been appropriately simultaneous.

In any event, whether this was the same or another object is not important. The description given -- particularly the statement "huge, multicolored ball of fire and dense cloud of smoke" -- answers closely to that of a fireball.

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Incident #103 -- air near Green River, Utah -- 18 February 1948

It seems probable that the object observed here was the Horactur meteorite seen at an earlier part of its trajectory. See report on incident #102 for discussion.

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Incident #104 -- Smyrna, Tennessee -- 7 March 1948

The object sighted here was undoubtedly the planet Venus. The stated position checks exactly (within allowable observational error) with the computed position of Venus. Description of color, speed, and setting time also all check closely.

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Incident #105 -- Belmont, North Carolina -- 8 March 1948

The speed of 600 MPH, the lack of an exhaust trail, and the reported "exactly horizontal course" make it extremely improbable that the object seen in this incident was a meteor. The "steady reflection which did not flicker" also argues against that possibility. Since the observer was a technical man, it does not seem likely that his observations can be considered subjective enough to fit them into an astronomical hypothesis.

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Incident #106-- Bakersfield, California -- 5 March 1943

While this report taken alone, with allowances made for subjective reporting, could be considered as applying to a disintegrating meteorite, the occurrence of at least three very similar incidents (see # 107, 108, 109) at the same location, over a time interval of a few days, is sufficient to make this hypothesis completely untenable.

The description applies more closely to the "star shell" (a projectile which after disintegration emits a parachute to bring instruments safely to the ground), with which this investigator was familiar during the war, than to anything else.

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Incident #107 -- bakersfield, California -- 8 March 1948

It is very unlikely that the objects observed here were of astronomical origin. See report on incident #106.

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Incident #109 -- Bakersfield, California -- 9 March 1948

It is extremely unlikely that the object cited in this incident was of astronomical origin. See report on incident #106.

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Incident #108-- Bakersfield, California -- 8 March 1948

It is extremely unlikely that this object was of astronomical origin. See report on incident #106.

Although the hour of observation is not stated in the witness's report of incident #107, it is possible, judging by the information which is given, that #107 and #108 refer to the same object or objects.

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Incident #110 -- Baltimore, Maryland -- 23 March 1948

There appears to be nothing whatever astronomical about this incident, and, in view of the limited nature of the information given, nothing further can be said.

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