PROJECT 10073 RECORD CARD

1. DATE	2. LOCATION	12. CONCLUSIONS
29 May 61	Stanley, Idaho	☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon
3. DATE-TIME GROUP Local 1445 GMT 2145Z	4. TYPE OF OBSERVATION ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar	☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft
5. PHOTOS ☐ Yes ☒ No	6. SOURCE Civilian	☐ Was Astronomical ☐ Probably Astronomical ☐ Possibly Astronomical
7. LENGTH OF OBSERVATION 10 min	8. NUMBER OF OBJECTS 1	9. COURSE Stationary
		☒ Other Denticular cloud ☐ Insufficient Data for Evaluation ☐ Unknown

10. BRIEF SUMMARY OF SIGHTING Shiny objt, like a very lustrous pearl. Clouds moved in front of it and behind it.

11. COMMENTS Objt has characteristics of lenticular cloud. Due to location, position relative to mountains and wind direction there is no reason to believe that this was anything other than a lenticular cloud. Type cloud does not move with wind but holds a fixed position relative to mountains.

ATIC FORM 329 (REV 26 SEP 52)

OFFICIAL FILE COPY
4E

AFCIN-4E/Major Friend/vw/69216

16 JUN 1961

UFO Sighting ([redacted])

Hq USAF
SAFOI-3c (Major Coleman)
Washington 25, D. C.

Attached is a copy of a letter from Mr. [redacted] reporting the sighting of a UFO. The information in Mr. [redacted] letter is insufficient to allow a valid conclusion. Request you forward two copies of ATIC Form 164 dated February 1960 (UFO Questionnaire) to Mr. [redacted] to be completed by him and another witness. The completed forms should be forwarded directly to ATIC.

PHILIP G. EVANS / 16 June 61
Colonel, USAF
Deputy for Science
and Components

1 Atch
Ltr fm Mr. [redacted] dtd 3 Jun 61,
thermo-fax cy.

COORDINATION: AFCIN-4E Robert J. Friend Major DATE 16 June '61
Major Robert J. Friend

[redacted]
Idaho Falls, Idaho
June 7, 1951

Commanding Officer
Air Development Center (AFSC)
Wright-Patterson AFB, Ohio

Sir:

I have observed in the recent past what was to me and others an unidentifiable flying object. If you will send me the proper forms for reporting this, you could then either clear it or give it such amount of security as you would wish.

To my knowledge this sighting has not been given any publicity nor will it until reported and evaluated.

Very truly yours,

[redacted]

U.S. AIR FORCE TECHNICAL INFORMATION SHEET

This questionnaire has been prepared so that you can give the U.S. Air Force as much information as possible concerning the unidentified aerial phenomenon that you have observed. Please try to answer as many questions as you possibly can. The information that you give will be used for research purposes, and will be regarded as confidential material. Your name will not be used in connection with any statements, conclusions, or publications without your permission. We request this personal information so that, if it is deemed necessary, we may contact you for further details.

1. When did you see the object?

29 (Day) May (Month) 1961 (Year)

2. Time of day: 2 (Hour) 45 (Minutes)

(Circle One): ~~A.M.~~ or (P.M.)

3. Time Zone: (Circle One): a. Eastern
b. Central
(c. Mountain)
d. Pacific
e. Other _____

(Circle One): a. Daylight Saving
(b. Standard)

4. Where were you when you saw the object?

Red Fish Lake Lodge (Nearest Postal Address) Stanley (City or Town) Idaho (State or Country)

Additional remarks: Near Fishhook Lake, base Mt. Thompson

5. How long was object in sight? _____ (Hours) 10 (Minutes) _____ (Seconds)

5.1 How was time in sight determined?

a. (Certain)
b. Fairly certain
c. Not very sure
d. Just a guess

6. What was the condition of the sky?

DAY	NIGHT
a. (Bright)	a. Bright
b. (Cloudy)	b. Cloudy

7. IF you saw the object during DAYLIGHT, where was the SUN located as you looked at the object?

(Circle One): a. In front of you
b. In back of you
c. To your right
d. (To your left) high
e. Overhead
f. Don't remember

ATIC FORM FEB 60 164 This form supersedes ATIC 164, 13 Oct 54.

8. IF you saw the object at NIGHT, what did you notice concerning the STARS and MOON?

8.1 STARS *(Circle One)*:

a. None
b. A few
c. Many
d. Don't remember

8.2 MOON *(Circle One)*:

a. Bright moonlight
b. Dull moonlight
c. No moonlight — pitch dark
d. Don't remember

9. The object appeared:

(Circle One): a. As a light b. Shiny c. Dark d. Don't remember

dull

10. If it appeared as a light, was it brighter than the brightest stars?

11. Did the object:

(Circle One for each question)

a. Appear to stand still at any time?	(Yes)	No	Don't Know
b. Suddenly speed up and rush away at any time?	Yes	(No)	Don't Know
c. Break up into parts or explode?	Yes	(No)	Don't Know
d. Give off smoke?	Yes	(No)	Don't Know
e. Change brightness?	Yes	(No)	Don't Know
f. Change shape?	Yes	(No)	Don't Know
g. Flash or flicker?	Yes	(No)	Don't Know
h. Disappear and reappear ?	Yes	(No)	Don't Know

12. Did the object move behind something at any time, particularly a cloud?

(Circle One): (Yes) No Don't Know. IF you answered YES, then tell what it moved behind: Cloud

13. Did the object move in front of something at any time, particularly a cloud?

(Circle One): (Yes) No Don't Know. IF you answered YES, then tell what in front of: clouds

14. Did the object appear: *(Circle One)*: (a. Solid) b. Transparent c. Vapor d. Don't Know

15. Did you observe the object through any of the following?

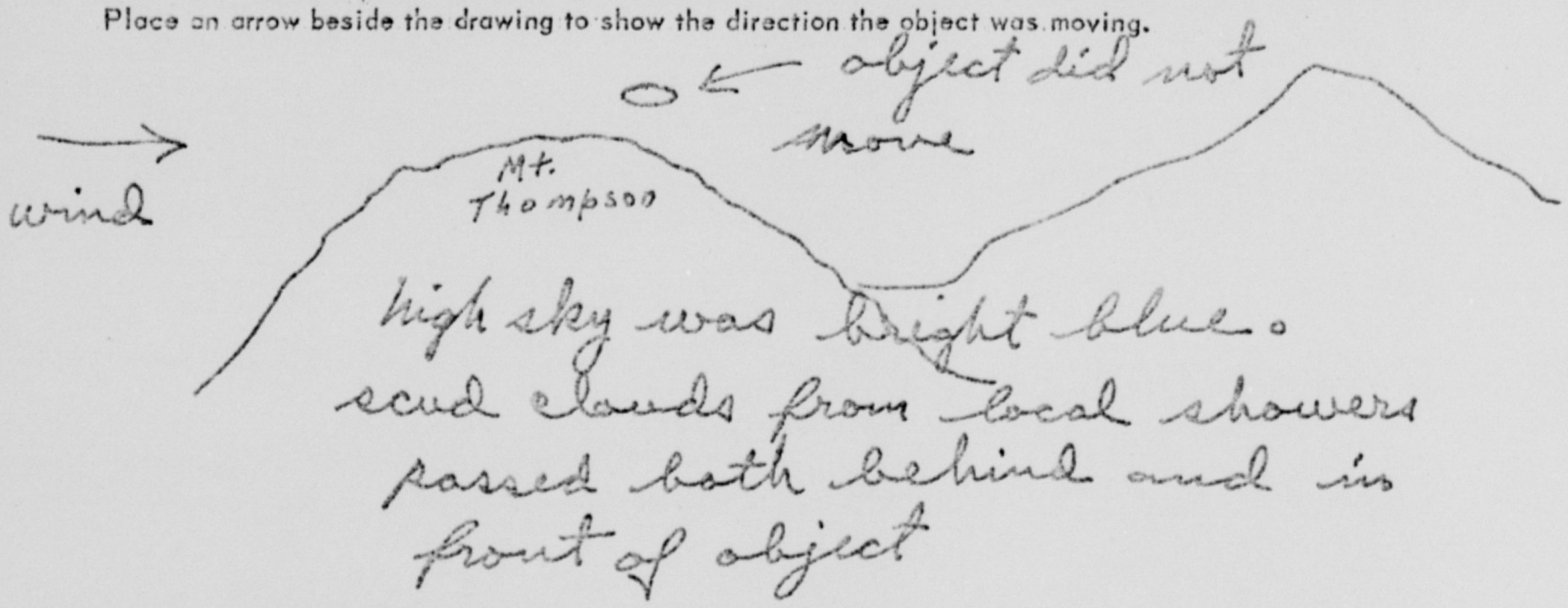
a. Eyeglasses	(Yes)	No	e. Binoculars	(Yes)	No
b. Sun glasses	Yes	No	f. Telescope	Yes	No
c. Windshield	Yes	No	g. Theodolite	Yes	No
d. Window glass	Yes	No	h. Other _____		

16. Tell in a few words the following things about the object.

a. Sound none

b. Color steel gray

17. Draw a picture that will show the shape of the object or objects. Label and include in your sketch any details of the object that you saw such as wings, protrusions, etc., and especially exhaust trails or vapor trails. Place an arrow beside the drawing to show the direction the object was moving.



18. The edges of the object were:

(Circle One): a. Fuzzy or blurred
b. Like a bright star
c. Sharply outlined
d. Don't remember
e. Other _____

19. IF there was MORE THAN ONE object, then how many were there? one only

Draw a picture of how they were arranged, and put an arrow to show the direction that they were traveling.

20. Draw a picture that will show the motion that the object or objects made. Place an "A" at the beginning of the path, a "B" at the end of the path, and show any changes in direction during the course.

did not move

21. How large did the object appear to you as compared to an object with which you are familiar?

½ to ⅔ size of full moon

22. We wish to know the angular size. Hold a match stick at arm's length in line with a known object and note how much of the object is covered by the head of the match. If you had performed this experiment at the time of the sighting, how much of the object would have been covered by the match head?

about half

23. Did the object disappear while you were watching it? If so, how? a cloud passed in front of it. after a few minutes (3') the cloud passed and object was gone.

24. In order that you can give as clear a picture as possible of what you saw, describe in your own words a common object or objects which, when placed up in the sky, would give the same appearance as the object which you saw.

somewhat similar to the daytime moon.
object was horizontaly compressed.
major axis about 1½ minor axis.

25. Where were you located when you saw the object? *(Circle One)*:

a. Inside a building
b. In a car
c. Outdoors
d. In an airplane (type)
e. At sea
f. Other_____

26. Were you *(Circle One)*

a. In the business section of a city?
b. In the residential section of a city?
c. In open countryside?
d. Near an airfield?
e. Flying over a city?
f. Flying over open country?
g. Other_____

27. What were you doing at the time you saw the object, and how did you happen to notice it?

Resting. We were looking for easy routes up Mt. Thompson with binoculars in preperation for taking climbing club up it.

28. IF you were MOVING IN AN AUTOMOBILE or other vehicle at the time, then complete the following questions:

28.1 What direction were you moving? *(Circle One)*

a. North
b. Northeast
c. East
d. Southeast
e. South
f. Southwest
g. West
h. Northwest

28.2 How fast were you moving?_____miles per hour.

28.3 Did you stop at any time while you were looking at the object?

(Circle One) Yes No

29. What direction were you looking when you first saw the object? *(Circle One)*

a. North
b. Northeast
c. East
d. Southeast
e. South
f. Southwest
g. West
h. Northwest
i. Overhead

30. What direction were you looking when you last saw the object? *(Circle One)*

a. North
b. Northeast
c. East
d. Southeast
e. South
f. Southwest
g. West
h. Northwest
i. Overhead

31. If you are familiar with bearing terms (angular direction), try to estimate the number of degrees the object was from true North (thru east) and also the number of degrees it was upward from the horizon (elevation).

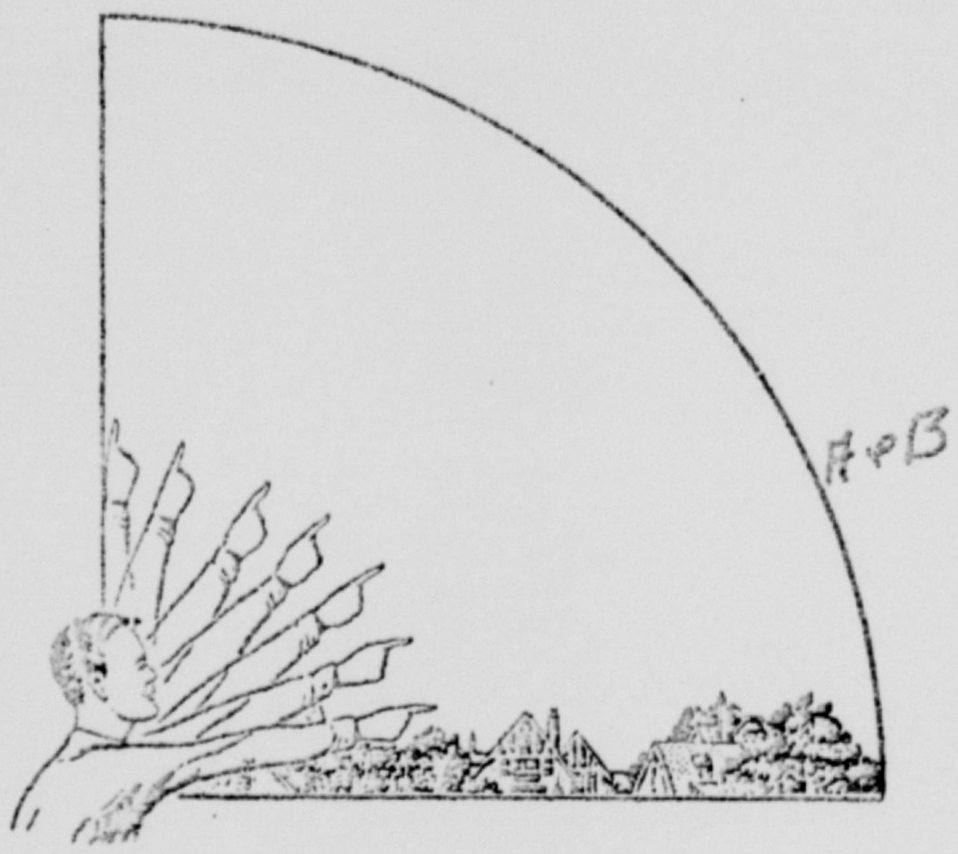
31.1 When it first appeared:

a. From true North ~260 degrees.
b. From horizon ~20 degrees.

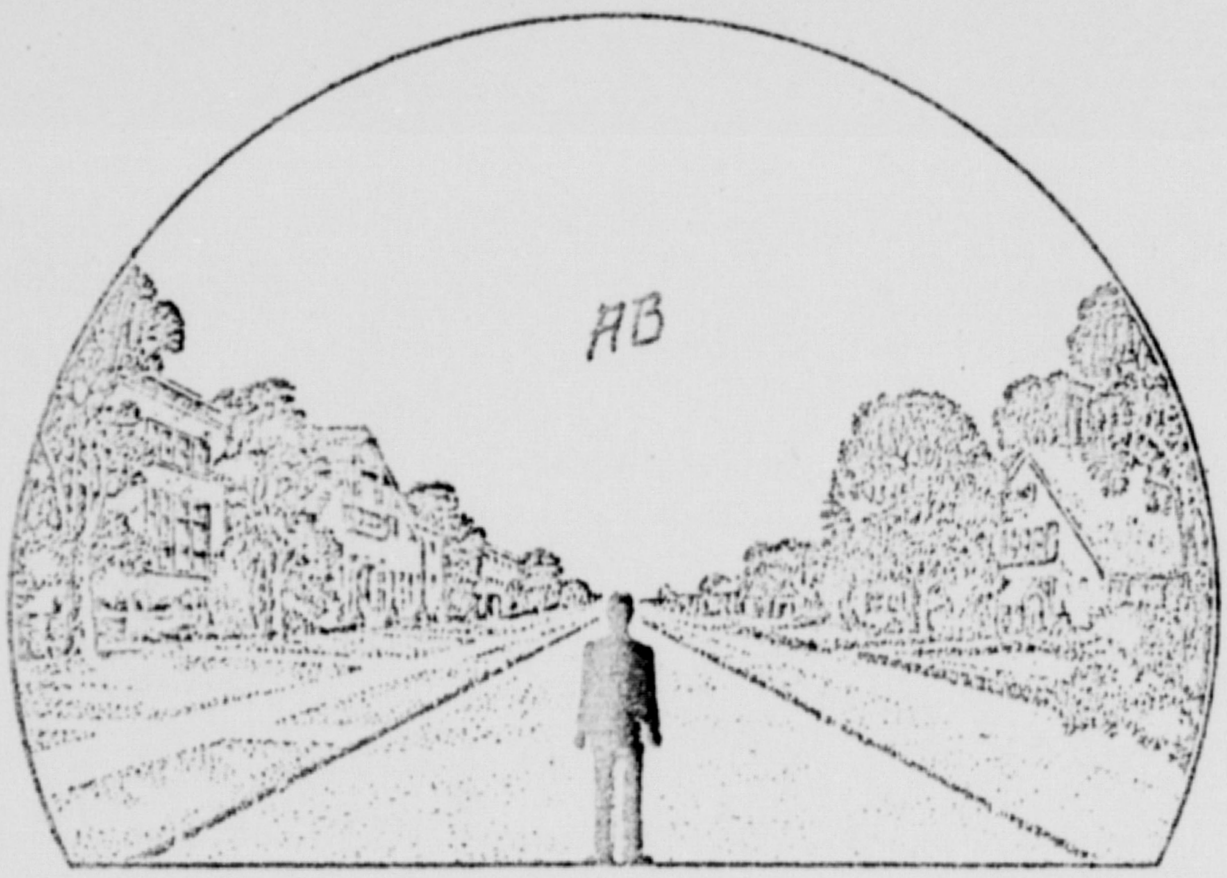
31.2 When it disappeared:

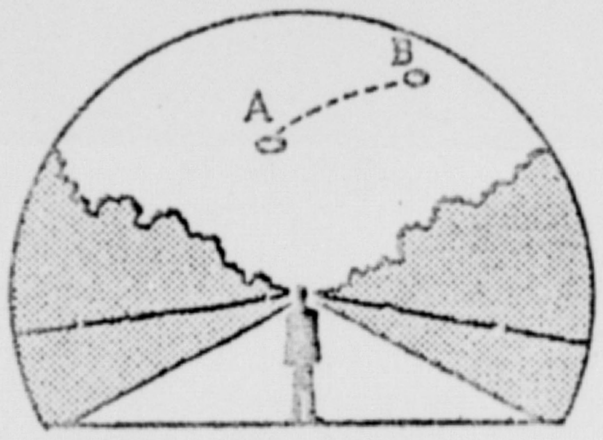
a. From true North same degrees.
b. From horizon _____degrees.

32. In the following sketch, imagine that you are at the point shown. Place an "A" on the curved line to show how high the object was above the horizon (skyline) when you *first* saw it. Place a "B" on the *same* curved line to show how high the object was above the horizon (skyline) when you *last* saw it.



33. In the following larger sketch place an "A" at the position the object was when you *first* saw it, and a "B" at its position when you *last* saw it. Refer to smaller sketch as an example of how to complete the larger sketch.





34. What were the weather conditions at the time you saw the object?

CLOUDS (Circle One)

a. Clear sky
b. Hazy
c. Scattered clouds
d. Thick or heavy clouds

WEATHER (Circle One)

a. Dry occasionally
b. Fog, mist, or light rain
c. Moderate or heavy rain
d. Snow
e. Don't remember

35. When and to whom did you report that you had seen the object? no one. was not sure if information would be classified.

_____ Day _____ Month _____ Year

36. Was anyone else with you at the time you saw the object?

(Circle One) Yes No

Mr. [redacted] was taking a picture and did not see object.

36.1 IF you answered YES, did they see the object too?

(Circle One) Yes No

36.2 Please list their names and addresses:

Mr. & Mrs. [redacted] Idaho Falls, Ida.

They are sending in second questionnire.

37. Was this the first time that you had seen an object or objects like this?

(Circle One) Yes No

37.1 IF you answered NO, then when, where, and under what circumstances did you see other ones?

38. In your opinion what do you think the object was and what might have caused it?

We were unable to identify it with any object seen in previous experience.

39. Do you think you can estimate the speed of the object? object was very stationary

(Circle One) (Yes) No

IF you answered YES, then what speed would you estimate? _____

40. Do you think you can estimate how far away from you the object was?

(Circle One) (Yes?) No farther than one mile
less than 3 miles

IF you answered YES, then how far away would you say it was? It was in the cloud area around the center top

41. Please give the following information about yourself:

NAME [redacted] (Last Name) [redacted] (First Name) [redacted] (Middle Name)

ADDRESS [redacted] (Street) Idaho Falls, Idaho (City, Zone, State)

TELEPHONE NUMBER [redacted]

Age 42 Sex male

Indicate any additional information about yourself, including any education, which might be pertinent.

7th AF, WW II, radio oper, mech, gunner B24 asiatic Pacific.
ASN 39615473
MS Biology, Merchant Marine experience
considered qualified observer both Air Force and Merchant Marine.

42. Date you completed this questionnaire: 26 (Day) June (Month) 1961 (Year)

U.S. AIR FORCE TECHNICAL INFORMATION SHEET

(SUMMARY DATA)

In order that your information may be filed and coded as accurately as possible, please use the following space to write out a short description of the event that you observed. You may repeat information that you have already given in the questionnaire, and add any further comments, statements, or sketches that you believe are important. Try to present the details of the observation in the order in which they occurred. Additional pages of the same size paper may be attached if they are needed.

NAME [redacted]
(Please Print)

SIGNATURE [redacted]

DATE June 26, 1961

(Do Not Write in This Space)
CODE:

We were on a reconnaissance up Fishook Creek to locate a likely route up Mt. Thompson, Sawtooth Primitive Area, near Stanley, Idaho. We stopped to rest and inspect the mountain with binoculars. The high sky was clear blue. Small clouds and occasional sprinkles of rain were blowing by the mtn tops. We saw the object and all looked at it with binoculars. The edges were sharp but no features. It appeared a steel gray horizontally compressed spheroid estimated about 50 ft. diam. Small clouds passed by in front and behind it. After about ten minutes, a larger cloud passed in front of it. When it had passed after several minutes the object was gone. Sky at that minute was clear. Object seemed too large to be anything within my experience.

see next sheet.

What it was not. (my opinion)

Moon - no features could be seen even with binoculars. It was evenly and horizontally compressed, major axis about 1½ minor axis.

Large ballon - these appear longer in vertical axis rather than horizontal.

Small ballon - much too large. I have seen many of these. Distance was too far.

Star or moon - Much too large for planet. I have seen these in day time. Object did not move lower in sky or 'set'. After a few minutes behind cloud, sky was clear. There was not time enough for moon to set during occlusion.

U.S. AIR FORCE TECHNICAL INFORMATION SHEET

This questionnaire has been prepared so that you can give the U.S. Air Force as much information as possible concerning the unidentified aerial phenomenon that you have observed. Please try to answer as many questions as you possibly can. The information that you give will be used for research purposes, and will be regarded as confidential material. Your name will *not* be used in connection with any statements, conclusions, or publications without your permission. We request this personal information so that, if it is deemed necessary, we may contact you for further details.

1. When did you see the object?

29 (Day) MAY (Month) 1961 (Year)

2. Time of day: 1400 (Hour) 45 (Minutes)

(Circle One): A.M. or P.M.

3. Time Zone:

(Circle One): a. Eastern
b. Central
c. Mountain
d. Pacific
e. Other _____

(Circle One): a. Daylight Saving
b. Standard

4. Where were you when you saw the object?

[redacted] (Nearest Postal Address) [redacted] (City or Town) [redacted] (State or Country)

Additional remarks: 10 Estuck Creek Canyon about 7 miles Thompson Pass

5. How long was object in sight? _____ (Hours) 10 (Minutes) _____ (Seconds)

5.1 How was time in sight determined?

a. Certain
b. Fairly certain
c. Not very sure
d. Just a guess

6. What was the condition of the sky?

DAY
a. Bright
b. Cloudy fairly

NIGHT
a. Bright
b. Cloudy

7. IF you saw the object during DAYLIGHT, where was the SUN located as you looked at the object?

(Circle One): a. In front of you
b. In back of you
c. To your right
d. To your left
e. Overhead
f. Don't remember

ATIC FORM FEB 60 164 This form supersedes ATIC 164, 13 Oct 54.

8. IF you saw the object at NIGHT, what did you notice concerning the STARS and MOON?

8.1 STARS *(Circle One)*:

a. None
b. A few
c. Many
d. Don't remember

8.2 MOON *(Circle One)*:

a. Bright moonlight
b. Dull moonlight
c. No moonlight — pitch dark
d. Don't remember

9. The object appeared:

(Circle One): a. As a light (b. Shiny) c. Dark d. Don't remember

10. If it appeared as a light, was it brighter than the brightest stars?

11. Did the object: *(Circle One for each question)*

a. Appear to stand still at any time?	(Yes)	No	Don't Know
b. Suddenly speed up and rush away at any time?	Yes	(No)	Don't Know
c. Break up into parts or explode?	Yes	(No)	Don't Know
d. Give off smoke?	Yes	(No)	Don't Know
e. Change brightness?	Yes	(No)	Don't Know
f. Change shape?	Yes	(No)	Don't Know
g. Flash or flicker?	Yes	(No)	Don't Know
h. Disappear and reappear ?	Yes	(No)	Don't Know

12. Did the object move behind something at any time, particularly a cloud?

(Circle One): (Yes) No Don't Know. IF you answered YES, then tell what it moved behind: CLOUDS MOVED IN FRONT OF IT EACH TIME FROM TIME TO TIME

13. Did the object move in front of something at any time, particularly a cloud?

(Circle One): (Yes) No Don't Know. IF you answered YES, then tell what in front of: CLOUDS PASSED BEHIND IT.

14. Did the object appear: *(Circle One)*: (a. Solid) b. Transparent c. Vapor d. Don't Know

15. Did you observe the object through any of the following?

a. Eyeglasses	Yes	(No)	(e. Binoculars)	(Yes)	No
b. Sun glasses	Yes	(No)	f. Telescope	Yes	(No)
c. Windshield	Yes	(No)	g. Theodolite	Yes	(No)
d. Window glass	Yes	(No)	h. Other _____		

16. Tell in a few words the following things about the object.

a. Sound No Sound

b. Color Like a very Lustrous Pearl

17. Draw a picture that will show the shape of the object or objects. Label and include in your sketch any details of the object that you saw such as wings, protrusions, etc., and especially exhaust trails or vapor trails. Place an arrow beside the drawing to show the direction the object was moving.

Stationary

18. The edges of the object were:

(Circle One): a. Fuzzy or blurred
b. Like a bright star
c. Sharply outlined
d. Don't remember
e. Other _____

19. IF there was MORE THAN ONE object, then how many were there? _____
Draw a picture of how they were arranged, and put an arrow to show the direction that they were traveling.

20. Draw a picture that will show the motion that the object or objects made. Place an "A" at the beginning of the path, a "B" at the end of the path, and show any changes in direction during the course.

AS NOTED

21. How large did the object appear to you as compared to an object with which you are familiar?

50 TO 75 FEET IN DIA.

22. We wish to know the angular size. Hold a match stick at arm's length in line with a known object and note how much of the object is covered by the head of the match. If you had performed this experiment at the time of the sighting, how much of the object would have been covered by the match head?

ALL

23. Did the object disappear while you were watching it? If so, how?

YES CLOUD MOVED IN FRONT OF IT & AFTER IT HAD PASSED THE OBJECT WAS GONE.

24. In order that you can give as clear a picture as possible of what you saw, describe in your own words a common object or objects which, when placed up in the sky, would give the same appearance as the object which you saw.

A PEARL, SLIGHTLY FLATTENED.

25. Where were you located when you saw the object? *(Circle One)*:

a. Inside a building
b. In a car
c. Outdoors
d. In an airplane (type)
e. At sea
f. Other _____

26. Were you *(Circle One)*

a. In the business section of a city?
b. In the residential section of a city?
c. In open countryside?
d. Near an airfield?
e. Flying over a city?
f. Flying over open country?
g. Other Mt. Top Mountains

27. What were you doing at the time you saw the object, and how did you happen to notice it?

HIKING AND TAKING PICTURES. SAW A BLUE C-140 ON FIRST THROUGH A PAIR OF BINOCULARS.

28. IF you were MOVING IN AN AUTOMOBILE or other vehicle at the time, then complete the following questions:

28.1 What direction were you moving? *(Circle One)*

a. North
b. Northeast
c. East
d. Southeast
e. South
f. Southwest
g. West
h. Northwest

28.2 How fast were you moving? _____ miles per hour.

28.3 Did you stop at any time while you were looking at the object?
(Circle One) Yes No

29. What direction were you looking when you first saw the object? *(Circle One)*

a. North
b. Northeast
c. East
d. Southeast
e. South
f. Southwest
g. West
h. Northwest
i. Overhead

30. What direction were you looking when you last saw the object? *(Circle One)*

a. North
b. Northeast
c. East
d. Southeast
e. South
f. Southwest
g. West
h. Northwest
i. Overhead

31. If you are familiar with bearing terms (angular direction), try to estimate the number of degrees the object was from true North (thru east) and also the number of degrees it was upward from the horizon (elevation).

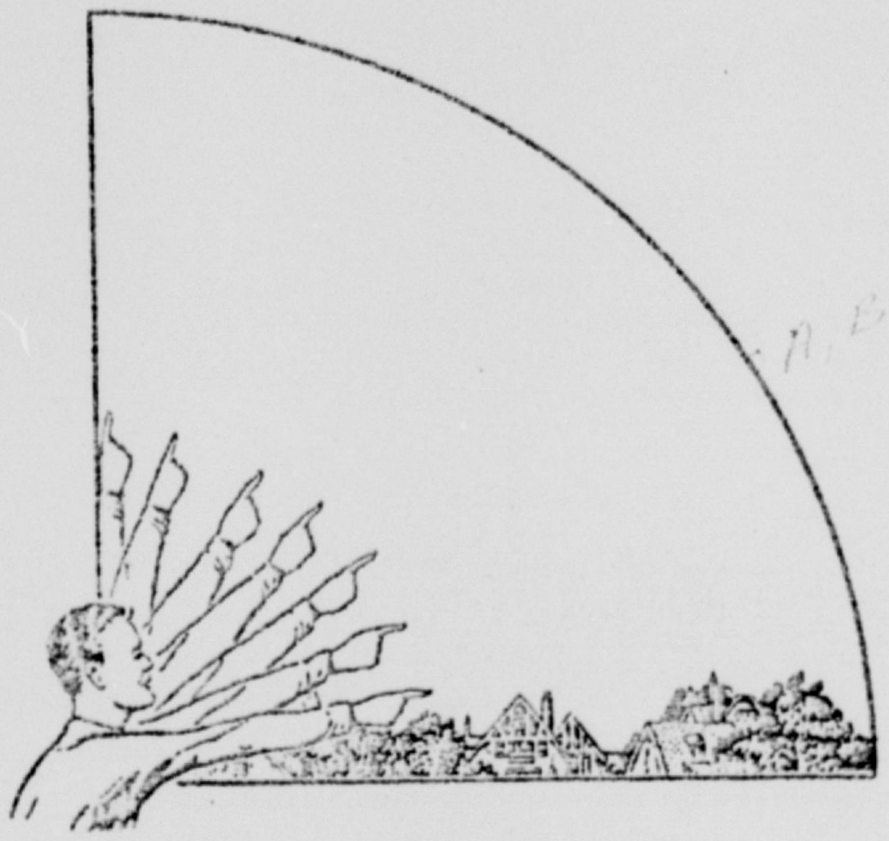
31.1 When it first appeared:

a. From true North _____ degrees.
b. From horizon _____ degrees.

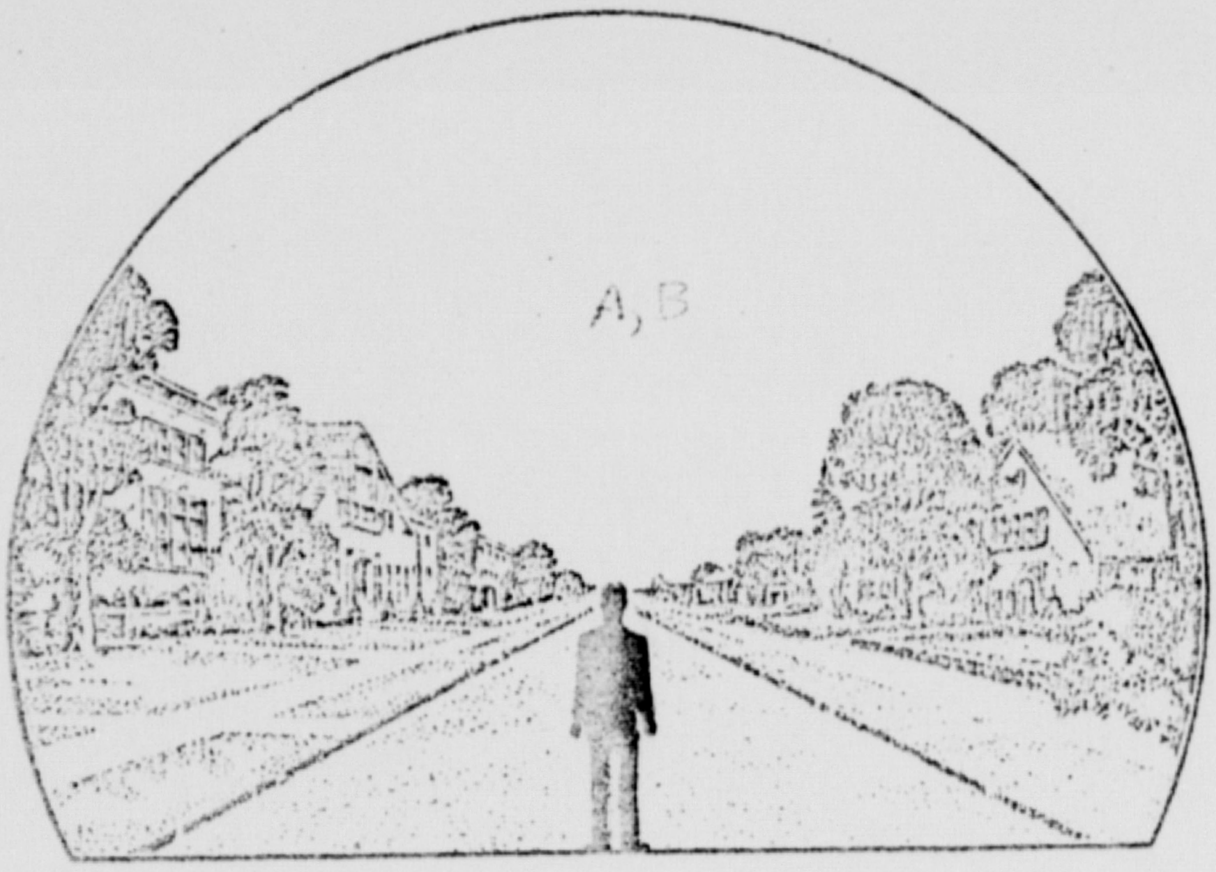
31.2 When it disappeared:

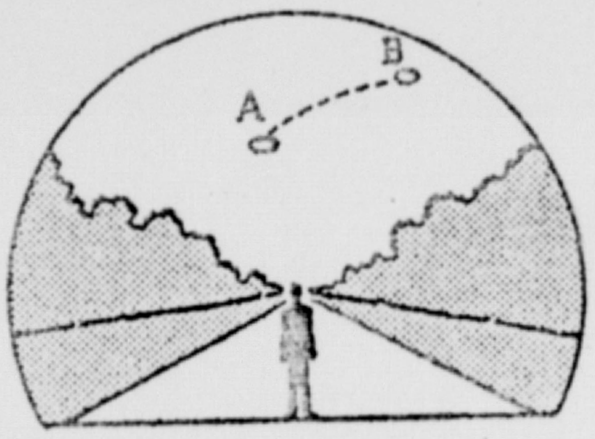
a. From true North _____ degrees.
b. From horizon _____ degrees.

32. In the following sketch, imagine that you are at the point shown. Place an "A" on the curved line to show how high the object was above the horizon (skyline) when you *first* saw it. Place a "B" on the *same* curved line to show how high the object was above the horizon (skyline) when you *last* saw it.



33. In the following larger sketch place an "A" at the position the object was when you *first* saw it, and a "B" at its position when you *last* saw it. Refer to smaller sketch as an example of how to complete the larger sketch.





34. What were the weather conditions at the time you saw the object?

CLOUDS (*Circle One*)

a. Clear sky
b. Hazy
c. Scattered clouds
d. Thick or heavy clouds

WEATHER (*Circle One*)

a. Dry
b. Fog, mist, or light rain
c. Moderate or heavy rain
d. Snow
e. Don't remember

35. When and to whom did you report that you had seen the object?

_____ Day _____ Month _____ Year

36. Was anyone else with you at the time you saw the object?

(*Circle One*) Yes No

36.1 IF you answered YES, did they see the object too?

(*Circle One*) Yes No

36.2 Please list their names and addresses:

[redacted] Idaho Falls, Idaho

37. Was this the first time that you had seen an object or objects like this?

(*Circle One*) Yes No

37.1 IF you answered NO, then when, where, and under what circumstances did you see other ones?

38. In your opinion what do you think the object was and what might have caused it?

Due to the fact that clouds moved in front of and to the rear of the object, I would not think it was a reflection.

39. Do you think you can estimate the speed of the object?

(Circle One) (Yes) No

IF you answered YES, then what speed would you estimate? Zero

40. Do you think you can estimate how far away from you the object was?

(Circle One) (Yes) No

IF you answered YES, then how far away would you say it was? ½ miles at most

41. Please give the following information about yourself:

NAME [redacted] (Last Name) [redacted] (First Name) [redacted] (Middle Name)

ADDRESS [redacted] Dona Ana (City) (Zone) New (State)

TELEPHONE NUMBER [redacted]

Age 29 Sex M

Indicate any additional information about yourself, including any education, which might be pertinent.

B.S. Degree in Mechanical Engineering
Employed in R & D. at N.M.S.U., Las Cruces, New Mexico

42. Date you completed this questionnaire: July 10, 1961
(Day) (Month) (Year)

U.S. AIR FORCE TECHNICAL INFORMATION SHEET

(SUMMARY DATA)

In order that your information may be filed and coded as accurately as possible, please use the following space to write out a short description of the event that you observed. You may repeat information that you have already given in the questionnaire, and add any further comments, statements, or sketches that you believe are important. Try to present the details of the observation in the order in which they occurred. Additional pages of the same size paper may be attached if they are needed.

NAME [redacted]
(Please Print)

SIGNATURE [redacted]

DATE July 6, 1961

(Do Not Write in This Space)

CODE:

ASTRONOMY

Mars Only Planet Now Visible

Three first magnitude stars are conspicuous in the south during May evenings. Mars is nearly 100,000,000 miles farther away than at Christmas, James Stokley reports.

➤ ALTHOUGH THE EVENING skies of May are devoid of brilliant planets, a number of bright stars are visible, as shown on the accompanying maps. These depict the skies as they look about 10:00 p.m., your own kind of standard time, at the beginning of May, an hour earlier at the middle of the month and two hours earlier at the end. (Add one hour for daylight saving time.)

The only planet indicated is Mars, halfway up in the west, in the constellation of Cancer, the crab. Last Christmas Mars approached to within 56,000,000 miles of earth. In the first half of May it will be about a hundred million miles farther, so it has faded greatly. It is now about equal to a bright star of the second magnitude.

Conspicuous among the stars now visible in the evening are three shining in the south, all of first magnitude. High in the southwest, in Leo, the lion, is Regulus, which is at the end of the handle (directed downward) of a smaller figure known as the sickle. The blade of the sickle is supposed to mark the lion's head, as he was depicted on the old star maps. To the left is a second magnitude star called Denebola, which marks the end of the tail.

Beginning under Denebola and extending toward the east is a group of stars that form the constellation of Virgo, the virgin. Among them is first magnitude Spica. And above the left-hand end of this group you will find Bootes, the herdsman, with brilliant Arcturus, also first magnitude.

Antares Now Low in Sky

Close to the horizon, in the southeast, part of Scorpius, the scorpion, is shown. In it is the star Antares, which is usually also of first magnitude. Here, however, it is so low in the sky that its light has to pass through a great thickness of the earth's atmosphere. Thus it is shown with the third magnitude symbol. By July, however, it will be higher in the southern sky, and the whole constellation will be seen to better advantage.

Turning to the west, a few of the typical winter constellations, appearing for the last time, are visible. In the constellation of Gemini, the twins, you find Pollux (first magnitude) and Castor (second). To the left is Canis Minor, the lesser dog with Procyon; while Capella is to the right, in Auriga, the charioteer.

In the northeast shines bright Vega, in Lyra, the lyre. Below it is Cygnus, the swan, only part of which is visible. But in this part is the star Deneb, another bright orb that is dimmed by reason of low altitude. These groups will climb higher into the sky, and become more prominent, during summer evenings.

The "big dipper," which is part of Ursa Major, the great bear, is now in its best evening position of the year—high in the north. Below, in the direction indicated by the pointers (two stars in the dipper's bowl) is Polaris, the pole star, which we always see in the north. It is part of the little dipper and this in turn is part of Ursa Minor, the lesser bear.

About midnight in May, two more planets rise in the east. First comes Saturn, which is about equal to a first magnitude star; then Jupiter, which is about twelve times as bright. Both are in Capricornus, the sea-goat.

Mercury on May 1 will be behind the sun, but by the 31st it will have swung to its farthest east of the sun. Then it will set about an hour and three quarters after sunset. For a few days, around this time, you may be able to see it low in the west, before the sky becomes entirely dark.

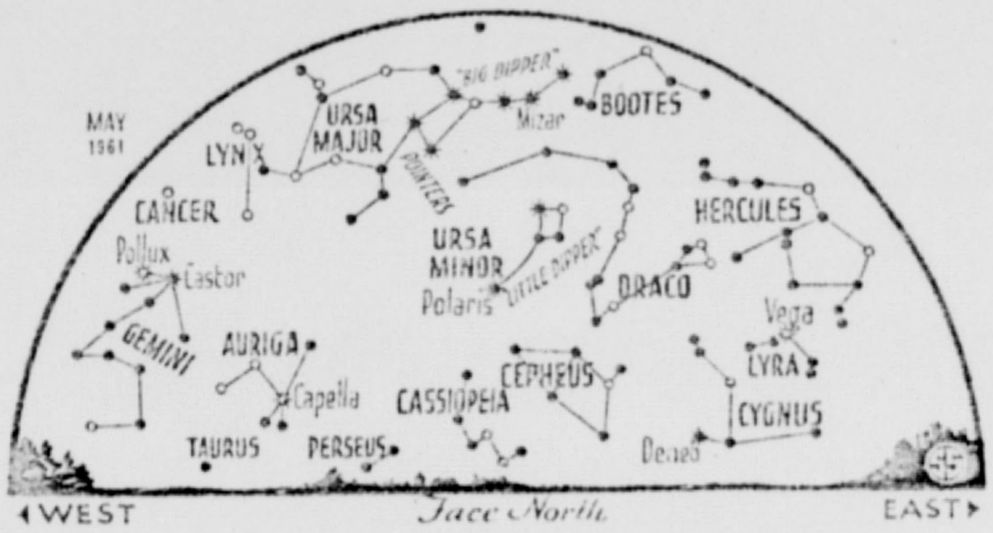
In May Venus rises about one and one-half to two hours before sunrise, so you can see it in the morning twilight. On the 16th, a few days before the Soviet space probe is expected to pass close by it, the planet will have greatest brilliance. Then it will be at minus 4.2 on the astronomical magnitude scale. This will be about 7.6 times brighter than Jupiter. Venus will be so bright that you can even see it in the sky after the sun has risen.

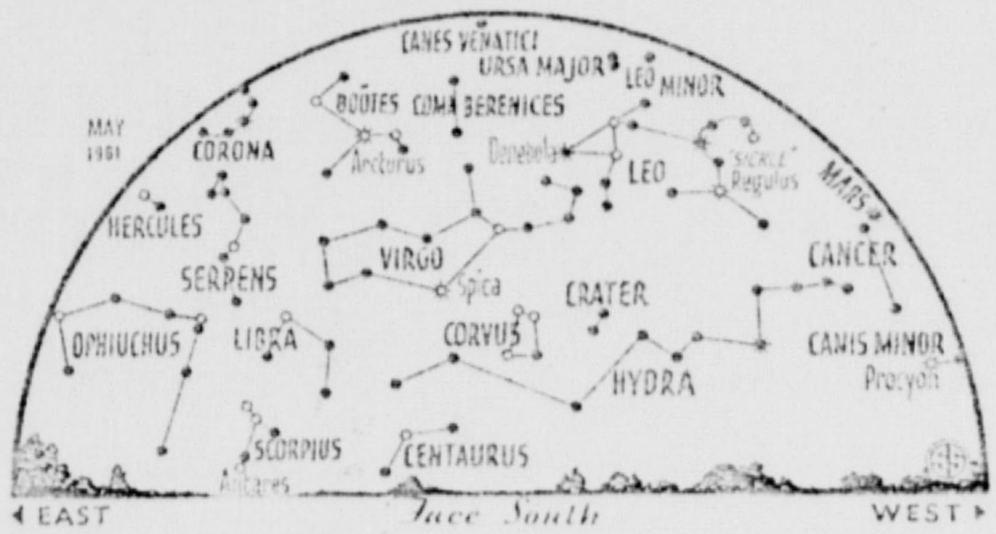
With space probes revealing more and more about the solar system and its members, astronomers are looking forward to finding answers to some of the puzzles concerning Mars. Unlike Venus, which is constantly covered with clouds, the surface of Mars can be seen. Astronomers have tended, quite naturally, to interpret what they saw in terms of what they knew to occur on earth.

When they observed white areas to appear around the poles of Mars during the winter, and to vanish when summer came, they assumed they were deposits of ice and snow. The green areas that appeared nearer the Martian equator in spring, only to turn brown in autumn, were interpreted as areas of some sort of vegetation. That is the way vegetation of earth would look from Venus, for example.

Astronomers have seen yellow clouds over Mars, occasionally hiding the surface completely. These, it was thought, were sand and dust storms, blown up by strong winds.

But there are objections to these ideas. The atmosphere of Mars seems to be very thin, a little more dense than that of the earth above Mt. Everest. Air so thin could hardly hold so much dust, or sand. And studies of the light of Mars, analyzed through the spectroscope, have failed to reveal the presence of either water vapor or oxygen in the atmosphere. Both substances





☆ ✱ ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

SCIENCE FIELDS

DENTISTRY

Mayflower Genealogy Shows Poor Teeth Legacy

➤ AT LEAST TWO FAMILIES with Mayflower ancestry are not proud of their dental inheritance.

The defect they have inherited causes a brown opalescent appearance of the teeth. The disorder, called dentinogenesis imperfecta, softens the dentin, the substance immediately under tooth enamel. It is an inherited disease.

The two families with the dental disease were both descended from persons who came over on the Mayflower, Dr. Sidney B. Finn of the University of Alabama School of Dentistry, Birmingham, reported to a symposium on genetics related to dental health at the National Institute of Dental Research, Bethesda, Md.

It is entirely plausible, he said, that the families are related, since it would not be likely that two families with this defect would be on the historic ship.

In a survey of 96,000 children in Michigan, Dr. Finn reported, one in every 8,000 was found to have the disorder. It has been traced back hundreds of years in various families.

Although the tooth enamel is usually of a normal thickness, it fractures easily. The crowns wear easily and are frequently seen level with the gum line.

In spite of the softness of the dentin and the fact that the teeth often have small roots, jacket crown restorations have been retained in at least one case for 16 years.

The American Dental Association sponsored the symposium, which was the first to be held on dental genetics.

• Science News Letter, 79:249 April 22, 1961

MEDICINE

Hope Seen for Skid Row Chronic Alcoholics

➤ THERE IS HOPE for the skid row alcoholic.

Studies of some 40 chronic alcoholics who had been treated and then followed up by workers in the Temple University Alcoholism Project in Philadelphia were reported by Dr. Victor J. LoCicero, director of the project, sponsored by the department of psychiatry in the Temple University Medical Center.

The findings should be interpreted with caution because of the small number of patients who could be followed up, Dr. LoCicero told the National Council on Alcoholism meeting in Washington. But improvement was seen in some patients.

Patients who had been treated by group psychotherapy showed better control of drinking, and their tendency to relapse was 25% lower than among those untreated. Some of them had left skid row and were renting on a longer-time basis. There was less use of free housing and transient quarters. Greater interest in marriage and family living, in organizations and religious affiliations were seen, and some of the treated patients were actually employed.

"One individual repaid some of the money loaned him," Dr. LoCicero said. "This was the first time in his life that he had repaid a debt. . . . Another participant remained sober and held a job for six months, after 20 years of chronic intoxication and inability to hold a job for more than a few days at a time."

Female group therapists get better responses than male therapists in attendance at meetings following discharge of prisoners, Dr. LoCicero reported.

• Science News Letter, 79:249 April 22, 1961

MEDICINE

No Lower Limit For Radiation Damage

➤ THERE IS NO lower limit to the amount of radiation that will cause damage to mice.

The problem of how much radiation is harmful to humans is still being investigated, Dr. William L. Russell of Oak Ridge National Laboratory, Oak Ridge, Tenn., reported. He told a symposium on dental genetics in Washington, D. C., that the effects of radiation exposures on mice showed no difference in mutation rates when dosages were equal over varying periods of time.

In his experiments with mice, Dr. Russell found that a dosage rate of 300 roentgens at 90 hours per week caused mutation rates equal to a dosage of 10 roentgens per week during 30 weeks.

During fluoroscopic examinations of humans, the dose rate to the gonads (sex organs) is probably not higher than 48 roentgens per hour, Dr. Russell said. He said the "genetic risk from such exposure would be somewhat lower than had been estimated on the basis of high dose rates."

Dr. James V. Neel of the University of Michigan Medical School said the next advances in dental genetics would come from a study of tooth structure.

"A tooth is not a plug of ivory sitting in our mouths," he explained. "It is active metabolically."

Inherited dental abnormalities will "play the same useful role that the inborn errors of metabolism do for medicine," Dr. Neel told the symposium, sponsored by the American Dental Association and supported by a grant from the National Institute of Dental Research.

Dr. Neel said that the possible effects of the genes are completely overshadowed by the effects of poor diet and poor dental hygiene. It is extremely difficult for the geneticist to determine what role inherited factors play in dental decay because of these nongenetic factors. He included among nongenetic factors "a diet rich in sugars and refined foods." He said changing dietary patterns make long-term studies difficult.

• Science News Letter, 79:249 April 22, 1961

MEDICINE

Use Steroids Cautiously, Pediatricians Warned

➤ HAZARDS as well as benefits result when corticosteroid drugs are prescribed for children's ailments, Dr. Thomas A. Good of the University of Maryland School of Medicine, Baltimore, cautioned in Washington.

Treatment with these drugs is indicated, Dr. Good told the meeting of the American Academy of Pediatrics, in such diseases as lymphatic leukemia, juvenile rheumatoid arthritis, progressive systemic sclerosis, meningeal tuberculosis, nephrosis and serious chest diseases, intractable asthma and sarcoidosis.

In most of the inflammatory diseases in which corticocosteroids are used, an initial large dosage is required, but the dosage is then tapered to achieve the lowest maintenance required.

If there are side effects of major importance such as high blood pressure, inflammation of the blood vessels, mental disturbances, convulsions, peripheral neuritis, ulcers, fractures and diabetes, serious consideration should be given to stopping the steroid treatment.

Minor side effects can be controlled by simple measures such as diet, antacids, or tranquilizers, Dr. Good said.

Discontinuation of steroid therapy must be managed carefully. Rapid "weaning" should be avoided, as patients may actually appear to be addicted to a steroid.

• Science News Letter, 79:249 April 22, 1961

PHYSICS

Origin of Oceans Seen Related to Solar Wind

➤ THE OCEANS of the earth were formed when particles of hydrogen traveling from the sun changed to water when they reached the earth.

Hydrogen ions riding on a so-called solar wind combine with oxygen of the earth, forming droplets of water, Dr. C. M. de Turville of Bristol, England, reports in the British scientific journal Nature, 190:156, 1961. This process which has been occurring for billions of years, is still continuing.

Dr. de Turville says that if the total amount of hydrogen ions bombarding the earth throughout history was converted to water, the result would be an amount equivalent to the present volume of water stored by the oceans. Although some of the hydrogen particles are captured by the earth's magnetic field, the volume of water formed would still be approximately that found in the oceans.

About one and a half tons of hydrogen particles plummet to earth each second, the scientist estimates. The solar wind, which carries the particles, continually sweeps in from the sun at millions of miles an hour. The wind was measured recently for the first time when a U. S. rocket, laden with special instruments, was shot into space.

• Science News Letter, 79:249 April 22, 1961

L. Sprague de Camp—*Doubleday*, 290 p., $4.50. Tells of 32 American inventors who, between 1830 and World War I, in their own small laboratories accomplished feats that revolutionized our way of life.

Iceland Summer: Adventures of a Bird Painter—George Miksch Sutton—*Univ. of Okla. Press*, 253 p., illus. by author, $5.95. Ornithologists's story of adventures and observations while painting northern birdlife.

Interim Aerospace Terminology Reference—Dept. of the Air Force—*OTS*, 75 p., paper, $2. Definitions of terms, from "ablating materials" to "Zuni" rocket.

An International Peace Corps: The Promise and Problems—Samuel P. Hayes—*Public Affairs Institute*, 96 p., paper, $1. Social scientist's study and recommendations for aims, organization and administration of the Peace Corps.

The Lightning Book—Peter E. Viemeister—*Doubleday*, 316 p., illus., $4.50. Provides the general reader with a broad understanding of the more significant aspects of lightning.

The Magic of Rays—Johannes Dogigli, transl. from German by Charles Fullman—*Knopf*, 264 p., photographs, $5.75. Describes how different rays may be produced and tells non-scientific reader what practical applications are made of each group of rays.

Modern Indoor Gardening: Including Window Boxes—G. F. Gardiner—*Macmillan*, 150 p., photographs, $4.50. Gives details on care of plants suitable for indoor cultivation.

National Security in the Nuclear Age: Basic Facts and Theories—Gordon B. Turner and Richard D. Challener, Eds.—*Praeger*, 293 p., $6. Essays, both historical and theoretical, dealing basicaly with the "limited war" aspects of military preparedness.

The Nature of Violent Storms—Louis J. Battan—*Doubleday*, 158 p., illus., paper, 95¢. Explains the physics of weather in terms of thunderstorms, tornadoes, hurricanes and cyclones. PSSC series for young adults.

Physics for Engineers and Scientists—Richard G. Fowler and Donald I. Meyer—*Allyn*, 2nd ed., 553 p., illus., $9.25. Introductory course, presenting formal calculus manipulations wherever needed.

Plutonia—Vladimir Obruchev, transl. from Russian by Fainna Solasko—*Criterion Bks.*, 253 p., illus. by G. Nikolsky, $3.95. Russian Academician-geologist's version of Jules Verne's "Journey to the Center of the Earth," science fiction designed to interest young people in the science of geology.

Principles of Electricity and Magnetism—Emerson M. Pugh and Emerson W. Pugh—*Addison-Wesley*, 430 p., illus., $9.50. Designed for two-semester course, using advanced mathematical methods.

Rockets, Missiles and Space Travel—Willy Ley—*Viking*, rev. ed., 556 p., illus., $6.75. Appendixes include material up to 1960.

Science in Space—L. V. Berkner and Hugh Odishaw, Eds.—*McGraw*, 458 p., illus., $7. Thorough coverage by outstanding authorities, analyzing the achievements and new scientific opportunities offered by space science. Directed to research workers, but also of interest to the general reader concerned about the national space effort.

Sequential Decoding—John M. Wozencraft and Barney Reiffen—*M.I.T. Press*, 73 p., $3.75. Monograph considers the electrical communication problem of coding from a probabilistic point of view.

Sources of Information and Unusual Services—Raphael Alexander, Ed.—*Informational Directory Co.*, 6th ed., 84 p., paper, $2.95.

would have to be there, if there is ice and snow, or vegetation.

In a report to the Astronomical Society of the Pacific, three astronomers of the Georgetown University Observatory, Washington, D. C., Drs. C. C. and H. K. Kiess, and S. Karrer, suggest a new interpretation of the Martian features They attribute the effects to oxides of nitrogen—combinations of that element with oxygen

Originally, perhaps, the atmosphere did contain oxygen and water vapor, along with nitrogen, in a composition much like our atmosphere. But the water has all been decomposed by the action of light, or has entered into combination with minerals on the surface. The oxygen combined chemically with other surface elements, as well as with nitrogen in the atmosphere. Thus would have formed the oxides of nitrogen, of which there are a number.

Several of these, the scientists propose, could exist in the atmosphere of Mars. One of these is nitrogen tetroxide, made of molecules consisting of two atoms of nitrogen and four of oxygen (N_2O_4).

When it becomes cold enough around the poles, according to their theory, the nitrogen tetroxide would deposit on the ground in solid form, in which it is chalky-white. As the temperature rises, it sublimes, that is, it goes directly to a gaseous phase without becoming a liquid. Then as the gaseous nitrogen tetroxide, probably combined with nitrogen dioxide (NO_2), moves towards the other pole, it changes the color of mineral deposits along the way, producing the blues and greens that are observed. Later these would revert back to their former brownish hues.

"From our viewpoint," the Georgetown scientists report, "the yellow clouds are masses of nitrogen dioxide (NO_2) gas of greater than normal concentration, formed whenever local or area-wide warming occurs on the surface or in the lower atmosphere of the planet. The transparent nitrogen tetroxide will dissociate into the dioxide with its characteristic yellow color. Color saturation will depend on the concentration of the NO_2 molecules. When the temperature falls, the NO_2 molecules will again recombine to form N_2O_4 gas, and the yellow veil will disappear."

If such an explanation is correct, they point out, "it will be necessary to abandon all ideas of Mars as an abode of life." The mixture of nitrogen dioxide and tetroxide, they note, "in small amounts is noxious to plants, and in larger amounts to animals. Near our urban centers, it is one of the pollutants causing damage to vegetation."

Celestial Time Table for May

May	EST	
1	6:00 p.m.	Mercury behind sun
6	7:00 a.m.	Moon passes Saturn
	7:00 p.m.	Moon nearest, distance 229,600 miles
11	11:00 a.m.	Moon passes Venus
14	11:55 a.m.	New moon
15	5:00 p.m.	Moon passes Mercury
16	3:00 p.m.	Venus at greatest brilliancy
20	1:00 p.m.	Moon passes Mars
22	11:19 a.m.	Moon in first quarter
29	11:38 p.m.	Full moon
31	11:00 p.m.	Mercury farthest east of sun

Subtract one hour for CST, two hours for MST, and three hours for PST.

No Case (Information Only)
Source: NICAP

19 May 1961
Long Beach, California

May 19: Long Beach, Calif. — Reports of twelve shiny objects observed maneuvering erratically over the area following two loud "skyquakes" (aerial explosions), and are under investigation by the Los Angeles NICAP Subcommittee (LANS). The thunderous explosions, never explained, occurred about 3:00 p.m. At 3:50 p.m. the UFOs were sighted maneuvering with an odd flutter-ing motion high in the eastern sky. At 4:30 witnesses saw three jets sweep into the area in formation, and the UFOs disappeared. A few minutes later six of the objects reappeared and continued to mill around for another fifteen minutes before fading from sight.

May 21: North Shore, L.I. -- Charles L. Newman, former airman, along with his father and brother sighted a bright-lighted UFO about 10:45 p.m. The object moved from NW to SE, stopped and lost altitude, then assumed an easterly course.

May 22: Clinton, Iowa -- Two cigar-shaped UFOs with bright halos of white light were spotted moving from W to E about 8:00 p.m. (CDT) by Bruce D. Henderson, of Fulton, Ill. The sun was on the western horizon at the time. The UFOs passed from high overhead to behind trees on the eastern horizon in about 30 seconds. No wings or other protuberances were visible and the objects made no noise.

MAY 22, 1961 PARAISO DEL TUY, VENEZUELA (LORENZEN P 249) 20+ WITNESSES

AT 10 A.M. ON MONDAY, MAY 22, 1961, AN OVOID ALUMINUM COLORED OBJECT FLEW SILENTLY OVER THE ROLLING HILLS OF SANTA TERESA DEL TUY, SIXTY KILOMETERS FROM CARACAS, AND LANDED ON A HILL NEAR THE SITE OF EARTH-MOVING OPERATIONS IN THE PARAISO DEL TUY AREA. THE OBJECT WAS SEEN BY MORE THAN TWENTY PEOPLE, AMONG THEM ENGINEERS, TOPOGRAPHERS AND A POLICE OFFICER. THEY SAID IT WOVE A PATH IN AND OUT OF THE HILLS, DODGING TREES AND FLYING AT A LOW SPEED. IT STOPPED IN THE AIR OVER A STRETCH OF *GAMELOTE* GRASS. ONE OF THE OBSERVERS, DR. [redacted], LEAPED INTO HIS JEEP AND FOLLOWED THE PATH OF THE OBJECT, CATCHING UP WITH IT JUST IN TIME TO SEE IT DUCK BEHIND A HILLOCK. AS HE REACHED A BEND IN THE ROAD HE SAW THE OBJECT TAKING OFF TO VANISH AGAIN BEHIND SOME HILLS FARTHER IN THE DISTANCE. ON REACHING THE SPOT LATER, HE WAS SURPRISED TO FIND THAT THE TALL GAMELOTE GRASS WAS FLATTENED TOWARD THE GROUND IN A ROUGHLY CIRCULAR AREA ABOUT SIXTY FEET IN DIAMETER. ANSWERS TO INQUIRES BY [redacted], APRO'S VENEZUELAN REPRESENTATIVE, INDICATED THAT THREE SIMILAR OBJECTS HAD BEEN OBSERVED TRAVERSING THE SAME ROUTE THE DAY BEFORE. VICARIO DANTE, RESIDENT TOPOGRAPHER AND EX-LIEUTENANT IN THE ITALIAN ANTI-AIRCRAFT CORPS, ALSO SAW THE OBJECT. HE TOLD GANTEAUME THAT IT WAS NEITHER PLANE, HELICOPTER, BALLOON, ROCKET NOR OTHER KNOWN FLYING MACHINE, AND SEEMED TO BE MOVING IN A SORT OF WHITE CLOUD WITH FUZZY EDGES.

GANTEAUME INVESTIGATED AND FOUND THE FLATTENED GRASS. HE PHOTOGRAPHED THE AREA, AND FURTHER EXAMINATION SHOWED THAT THE ROOTS OF THE GRASS APPEARED TO BE BURNED.

May 23: Monett, Mo. -- Two unidentified objects which moved in unison were seen about 11:00 p.m. by Robert Willard, drug-store clerk, and another witness, Samuel Evans. The leading object appeared as an indistinct source of light, followed by a blinding light. Two smaller lights were visible on each object. The UFOs approached the town from the west, swept toward the north, doubled back [illegible] over the town. Total time of observation: 30 minutes.