PROJECT 10073 RECORD CARD

1. DATE	2. LOCATION		12.	CONCLUSIONS
8 Feb 61	Dayton, Ohio		0	Was Balloon Probably Balloon
3. DATE-TIME GROUP Local 2130 GMT 090230Z 5. PHOTOS U Yes D No	4. TYPE OF OBSERVATIO D Ground-Visual Air-Visual 6. SOURCE Civilian	N D Ground-Rodor D Air-Intercept Rodor		Possibly Balloon Was Aircraft Probably Aircraft Possibly Aircraft Was Astronomical ALDEBARAN Probably Astronomical Possibly Astronomical
7. LENGTH OF OBSERVATION 30 Min.	8. NUMBER OF OBJECTS	9. COURSE Stationary	000	Other Insufficient Date for Evaluation Unknown
appearance of a large spotling About 3 times size of an auto Appeared 90° fm true N, 60° f	bright objt with ght. No motion. omobile headlight. fm horizon.	11. COMMENTS If rep objt was probab Aldebaran. Ther made to newspap prior to this s and reported el same objt as in	ort ly e w ers igh eva th	ed elevation is right first magnitude star as a number of calls and other agencies ting, however due to tin tion they were not is report. Planet Mars



167 m +

was observed in SW almost overhead by analyst and it was very bright and red. There was a number of bright stars in SW at this time. Aldebaran was to W and about position reported by witness.

ATIC FORM 329 (REV 26 SEP 52)



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	PRUJECI 100/3 RECORD CARD	
1. DATE	2. LOCATION	12. CONCLUSIONS
14 Feb 61	Dayton, Ohio	D Was Bolloon D Probably Bolloon
3. DATE-TIME GROUP	4. TYPE OF OBSERVATION	a Possibly Balloon
.Local2030	B Ground-Visual D Ground-Rod	lar D Was Aircraft D Probably Aircraft
GMT150130Z	O Air-Visual O Air-Intercer	pt Roder D Possibly Aircraft
5. PHOTOS	6. SOURCE	D Was Astronomical VENUS D Probably Astronomical D Possibly Astronomical
I No	Civilian	
7. LENGTH OF OBSERVATION	8. NUMBER OF OBJECTS 9. COURSE	Other Insufficient Date for Evaluation Unknown
Over30 Min.	1 1 Station	ary
10. BRIEF SUMMARY OF SIGHTING Rou appeared about same as a ser than a star. It was 1 N, 30° fm horizon.	nd, white light which 11. COMMENTS(star, but seemed clo- like a sta which is which is was in post therefore	Objt was described to look ar, only closer. Planet Venus very bright this time of year sition reported for objt. It is concluded that objt was

BALL WERE IN AN

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DD

probably planet Venus.

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the set

And the second second

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ATIC FORM 329 (REV 26 SEP 52)

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304-51





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 iso that, if it is deemed necessary, we may contact you for further details.

2. Time of day: 2100 Hour (Circle One): A.M. 1. When did you see the object? Minutes A.M. or (P.M. Uuy Montu rear .3. Time Zone: (Circle One): d. Eastern) (Circle One): a. Daylight Saving b. Central b. Standard c. Mountain d. Pacific e. Other 4. Where were were the second states and the second Bat Bearing a Neurest Postal Address City/or Town State or Country Additional remarks: -5. How long was object in sight? Hours Minutes Seconds 5.1 How was time in sight determined? First observed 2030 -still present at 2100 a. Certain c. Not very sure b. Fairly certain d. Just a guess 6. What was the condition of the sky? DAY NIGHT





11. Did the object:	(Circle One f	or 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

(Circle One): it moved behind:___

Yes No

ES

Don't Know.

IF you answered YES, then tell what

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



Yes

Don't Know.

IF you answered YES, then tell what





16. Tell in a few words the following things about the object. a. Sound _____ none_ b. Color _ IN hite

Page 3

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.

No motion - round - like a



Page 4 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. None 21. How large did the object appear to you as compared to an object with which you are familiar? Bigger Then a star 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?

No

don't know

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

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 star but reemed closer



Page 5 Where were you located when you saw the object? 25. 26. Were you (Circle One) (Circle One): a. In the business section of a city? b. In the residential section of a city? a. Inside a building b. In a car c. In open countryside? c. Outdoors d. Near an airfield? d. In an airplane (type) e. Flying over a city? e. At sea f. Flying over open country? f. Other g. Other 27. What were you doing at the time you saw the object, and how did you happen to notice it? Jung from can to house

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 c. East e. South g. West b. Northeast d. Southeast f. Southwest 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) West o. North c. East e. South Northwest b. Northeast d. Southeast f. Southwest i. Overhead 30. What direction were you looking when you last saw the object? (Circle One) g. West a. North c. East e. South h. Northwest **b.** Northeast d. Southeast f. Southwest 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_270 degrees. b. From horizon 79 degrees.

. . .

31.2 When it disappeared:

- a. From true North degrees.
- b. From horizon_ degraes.



		· Page 8
39. Do you think you can estimate the speed of the	object?	
(Circle One) Yes No		
IF you answered YES, then what speed would yo	ou estimate? NOT MOUNG	
40. Do you think you can estimate how far away from	n you the object was?	
(Circle One) Yes No	Looks G	ose
IF you answered YES, then how far away would	you say it was?	
41. Please give the following information about you	rself:	
NAME Last Name	First Name	Middle Name
		Aun
ADDRESSStreet	City	Zone CHIO

Age 14 Sex 11

. . . .

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

7TH GRADE STUDENT

42. Date you completed this questionnaire:

Day

Month

* * * * * *

Year

Form completed on basis of telephone replies To questions asked by capt P. C. Crewford. at 2115 hours I was unable to recet any object in The shy such as described by the observes philangeral. 45 La

PROJECT 10073 RECORD CARD

1. DATE 15 Feb 61	2. LOCATION Dayton, Ohio	12. CONCLUSIONS Was Balloon Probably Balloon
3. DATE-TIME GROUP Local 1925 GMT 1600452	4. TYPE OF OBSERVATION B Ground-Visual Ground-Rodar Air-Visual Air-Intercept Ro	D Possibly Bolloon D Was Aircraft D Probably Aircraft D Possibly Aircraft D Possibly Aircraft
5. PHOTOS D Yes D No	6. SOURCE Civilian	 Was Astronomical Probably Astronomical Possibly Astronomical
7. LENGTH OF OBSERVATION Several minutes	8. NUMBER OF OBJECTS 9. COURSE	D Insufficient Date for Evaluation Unknown
10. BRIEF SUMMARY OF SIGHTING Shiny appeared as a light. Seen of Venus. Was at least as brig size as Venus. Appeared ver center with slight green ti	y objt which crossing in front of ght and about same ry bright, white at int looking off cen- to NE bear of	is possible that objt satellite Echo I. Both t objt was about as bright nus and that it was moving ut this conclusion.

sun rays.

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ATIC FORM 329 (REV 26 SEP 52)

AEROSPACE TECHNICAL INTELLIGENCE CENTER UNITED STATES AIR FORCE WRIGHT-PATTERSON AIR FORCE BASE OHIO

ATTN OF: AFCIN-4X2

SUBJECT: Extract from Duty Officers' Report

CONTRACTOR OF

23 Feb 61

TO: AFCIN-4E2 Attn: Maj Friend

> The following, extracted from Capt Fisher's report dated 21 Feb 61, is quoted for your information:

1700 hours, received phone call from a Mr. Contact of a CR 44410, wanting to know what action we were taking on a UFO sighting he had made and reported last Wednesday. Called Maj Friend, who asked me to call Sgt Bolieu. Sgt Bolieu said

he would call Mr. Yates. I called and back and told him Bolieu would call.

Thuchail MICHAEL J. STROFF, JR. Major, USAF AFCIN-4X2

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 iso that, if it is deemed necessary, we may contact you for further details.

2. Time of day: Hour (Circle One): A 30 1. When did you see the object? Minutes Feb A.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?	DAYIDE 24	OHIO State or Country
Additional remarks:		
5. How long was object: in sight?	<u> </u>	<u>O</u> Seconds
5.1 How was time in sight determined?		
 Certain Fairly certain 	c. Not very sure d. Just a guess	
6. What was the condition of the sky?		1
DAY a. Bright	NIGHT	

.

. .

1.0

	b. Cloudy	b. Cloudy	
7. IF you saw	the object during DAYLIGHT, whe	re was the SUN located as you looked at the	object?
(Circle C)ne): a. In front of you b. In back of you c. To your right	d. To your left e. Overhead f. Don't remember	
TIC FEB 60 164	This form supersedes ATIC 164, 13 (let 54.	
			·
M. I.			
Martin and and and and and and and and and an			

Report received 1935 hrs 15 Feb 61 In Cast Stiffer ATIC DO 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.

Minutes

1. When did you see the object? ICinala Dank AM

	Day Month Year		(circie One	17: A.M.	or r.m.
.3.	Time Zone: (Circle One): a. Eastern b. Central c. Mountain d. Pacific e. Other		(Circle One): a. Daylight b. Standard	Saving
4.	Where were you when you saw the object? Additional remarks:	Danz	Town	Olio State or	Country
5. H	How long was object in sight? 5.1 How was time in sight determined?	Hours	Several Minutes	Seconds	
	a. Certain b. Fairly certain [.]	G	Not very sure Just a guess		
6.	What was the condition of the sky? DAY		NIGHT		

b. In back	k of you			
		e.	Overhead	
c. 10 you	ur right	f.	Don't remember	
RM 164 This		- 54		
b 60 104 Inis form super	sedes ALIC 104, 15 UC	a 34.		
B 60 164 This form super	sedes ATIC 164, 13 Oc	at 54.		

10. If it appeared as a light, was it brighter than the brighter stars? then Venue. Abject appeared as bright or brighter than Venue. Object paid to be moving more abouty than a settlet would. (?) 11. Did the object: (Circle One for each question) a. Appear to stand still at any time? NO Yes No/ Don't Know b. Suddenly speed up and rush away at any time? NO Yes No Don't Know No c. Break up into parts or explode? Yes Don't Know No d. Give off smoke? Yes Don't Know e. Change brightness? No Yes Don't Know f. Change shape? No Yes Don't Know g. Flash or flicker? No Yes 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 Don't Know. No IF you answered YES, then tell what it moved behind: 13. Did the object move in front of something at any time, particularly a cloud? (Circle One): Yes Don't Know. IF you answered YES, then tell what No in front of: It did carso in fromt of Venue.

14.	Did t	he object appear:	(Circle One):	(a.)s	Solid	b. Transparent	c. Vapor	d. Don't Know
15.	Did y	ou observe the obj	ect through any	of the foll	owing?			
	a.	Eyeglasses	Yes	No	e.	Binoculars	Yes	No
	ь.	Sun glasses	Yes	No	f.	Telescope	Yes	No
	c.	Windshield	Yes	No	g.	Theodolite	Yes	No
	d.	Window glass	Yes	No	h.	Other		

Page 3 16. Tell in a few words the following things about the object. a. Sound hour Green Tint Rooking off center, The edges were yellow timt and 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. -had the appearance of pin rays, sellon Guin 18. The edges of the object were: (Circle One): a Fuzzy or blurred e. Other b, Like a bright star c. Sharply outlined d. Don't remember 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. R:

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. AFTE SW - NE Bolt many and the second second 21. How large did the object appear to you as compared to an object with which you are familiar? Was as large or larger Than Venus 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?

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Page 4

Station white find finally ATIC. He did not neturn outeide 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 for additional rightings his son first spotted the ste moted that his son first spotted the object and brought it to his attention.

Page 5

25. Where were you located when you saw the object? (Circle One):	26. Were you (Circle One)
	a. In the business section of a city?
a. Inside a building	b. In the residential section of a city?
b. In a car	c. In open countryside?
c. Outdoors	d. Near an airfield?
d. In an airplane (type)	e. Flying over a city?
e. At sea	f. Flying over open country?
f. Other	g. Other

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

28.	IF you we	ere MOVING IN A	N AUTOMOBILE	or other vehicle at the	time, then complete th	ne following question
•	28.1 W	hat direction were	you moving? (Ci	icle One)		
	a.	North	c. East		South	g. West
	ь.	Northeast	d. Sout	heast f.	Southwest	h. Northwest
	28.2 H	ow fast were you.	moving?	miles per	hour.	
	28.3 Di	d you stop at any	time while you w	ere looking at the obj	ect?	
		(Circle One)	Yes	No		
29.	What dire	ction were you lo	oking when you fir	st saw the object? ((Circle One)	
					9	. West
	a. North		c. East	e. Sou	th h	. Northwest
	b. Northe	ast .	d. Southeast	f. Sout	thwest (j.	Overhead
30.	What direc	ction were you lo	oking when you las	st saw the object? (C	ircle One)	
					. 9	. West
	a. North		c. East	e. Sout	th h	Northwest
	1) 11		1			

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. 10 b. From horizon degrees.

31.2 When it disappeared:

a. From true North degrees.

b. From horizon degrees.

(Circle One) Yes No

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

(Circle One) (Yes)

۰.

No

SON

36.2 Please list their names and addresses:

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?

. . . . Page 8 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? 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?_ 41. Please give the following information about yourself: NAME_ Lest No First Nem Middle Nem DAVION 0410 ADDRESS_ Street Zone City State

TELEPHONE NUMBER

Sex M Age.

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

-

1. -

-20

a state

1.000

12......

42. Date you completed this questionnaire:

Day

Month

Year

Please by to answer as many questions as you possibly can. The information that you give will be used for research purposes. Your name will not be used in connection with any statements, conclusions, or publications without your permission. We request this personal information so

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

II. Did the object:	(Cire	(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, partic (Circle One): Yes No Don't Kno it moved behind:	w. If	F you answere	d YES, then tell what		

UFO form continued

20. Do you think you can estimate the speed of the object? It to and Moving Molectly (Circle One) Yes No it to and Moving Molectly

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

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

Yes

(No?

IF you answered YES, then how far away would you say it was?__

22. Where were you located when you saw the object?

(Circle One)

23. Were you (Circle One)

Page 4

a. Inside a building b. In a car c. Outdoors d. In an airplane (type) e. At sea f. Other	tas inte	a. In the b. b. In the r c. In open d. Near a e. Flying a f. Flying a g. Other_	 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 		
4. IF you were MOVING IN 24.1 What direction were	AN AUTOMOBILE or of you moving? (Circle On	her vehicle at the time, the	a. West	lowing questions:	
b. Northeast 24.2 How fast were you r	d. Southeast	f. Southwest miles per hour.	h. Northwest		
b. Northeast 24.2 How fast were you r 24.3 Did you stop at any (Circle One)	d. Southeast noving? time while you were look Yes I	f. Southwest miles per hour. ting at the object? No	h. Northwest		
b. Northeast 24.2 How fast were you r 24.3 Did you stop at any (Circle One) 5. Did you observe the objec	d. Southeast noving? time while you were look Yes t through any of the follow	f. Southwest miles per hour. ing at the object? No	h. Northwest		
b. Northeast 24.2 How fast were you r 24.3 Did you stop at any (Circle One) 5. Did you observe the objec a. Eyeglasses	d. Southeast noving? time while you were look Yes I through any of the follow Yes No	f. Southwest miles per hour. ing at the object? No wing? e. Binoculars	h. Northwest	N	
b. Northeast 24.2 How fast were you r 24.3 Did you stop at any (Circle One) 5. Did you observe the objec a. Eyeglasses b. Sun glasses	d. Southeast noving?	f. Southwest miles per hour. ing at the object? No wing? e. Binoculars f. Telescope	h. Northwest Yes Yes	NO ON	
b. Northeast 24.2 How fast were you i 24.3 Did you stop at any (Circle One) 5. Did you observe the objec a. Eyeglasses b. Sun glasses c. Windshield	d. Southeast noving?	f. Southwest miles per hour. ing at the object? No wing? e. Binoculars f. Telescope g. Theodolite	h. Northwest Yes Yes		

26. 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 ob-

Official U.S. Air Force

Page 5

27. 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. Place an "A" on the compass when you first saw it. Place a "B" on the compass when you first saw it. Place a "B" on the compass when you first saw it. Place a "B" on the compass when you first saw it. Place a "B" on the compass when you last saw the object.

90°

75°

28. 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. Didnhot Change direction 29. 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. leaf one object

UFO form continued

30. Have you ever seen this, or a similar object before. If so give date or dates and location.

in the light of the set of the se

31. Was anyone else with you at the time you saw the object? (Circle One)

31.1 IF you answered YES, did they see the object too? (Circle One)

31.2 Please list their names and addresses:

MA

Pont Remember who they were

A DECKS

(Yes)

ter

No

No

Page 6

32. Please give the following information about yourself: NAME ADDRESS Zone City State SEX Arala AGE 25 TELEPHONE NUMBER Mon

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

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

Official U.S. Air Force

Month

19/21

Year

Page 7

34. Date you completed this questionnaire:

35. Information which you feel pertinent and which is not adequately covered in the specific points of the questionnaire or a narrative explanation of your sighting.

Day

diffe shipe there was no went

AEROSPACE TECHNICAL INTELLIGENCE CENTER UNITED STATES AIR FORCE WRIGHT-PATTERSON AIR FORCE BASE OHIO

ATTH OF: AFCIN-4X2

the week 1

SUBJECT: Extract from Duty Officers' Report

TO: AFCIN-4E2 (Maj Friend)

The following, extracted from Capt McCabe's Report dated 4 Feb 61, is quoted for your information:

0700 hours, USAF Command Post reported Sgt. Noon base ops Andrews saw a flashing light, size of pea, W to E, 1300 Z. Reported for info and not a UFO.

JOHN C. McNEILL Captain, USAF AFCIN-4X2

UFO form continued

Page 8

SCIENCE NEWS LETTER for January 28, 1961

Mars and Venus Still Prominent

February's brilliant night sky features the constellations of Orion, Taurus, Auriga, Canis Minor and Leo, as well as the planets Venus and Mars, James Stokley reports.

➤ STILL INCREASING in brilliance, Venus is now brighter than any other planet, or any star, in the evening sky. You can see it in the west soon after the sun has descended below the horizon, and long before the end of twilight. In fact, it is now so bright that you can even see it in broad daylight—if you know just where to look.

58

ASTRONOMY

Even though it is now about a month past the time of its greatest brilliance, Mars is still prominent on February evenings. It is in the constellation of Gemini, the twins, high in the south as shown on the accompanying maps. These show the skies as they look about 10 p.m., your own kind of standard time, on Feb. 1; about 9 p.m. at the middle of February; and at 8 p.m. as it comes to an end. On the astronomer's scale of brightness, Venus has a magnitude of minus 4.2 on Feb. 15. That of Mars is minus 0.1, which makes it about a fortieth as bright as Venus. Only one star is as bright: Sirius, the dog star, in Canis Major, the great dog. Sirius exceeds Mars by more than three and a half times.

an area. It is because they are visible in the evening at this time of year that the winter skies are so magnificent. The added presence of Mars now makes them even more so.

Climbing into view in the east is another first magnitude star, Regulus. It stands in the figure of Leo, the lion.

In the northeastern sky is Ursa Major, the great bear, of which the familiar great dipper is part. The two stars in the bowl of the dipper called the pointers show the way to Polaris, the pole star, which is always in the north. This is in Ursa Minor, the lesser bear. To the left is Cepheus, the king, and Cassiopeia, the queen. The latter consists of stars arranged to form a letter M, on one side. And above and to the left of Cassiopeia is Perseus, the mythological hero, with the star called Algol. This is a famous variable star. Every 2.86 days this star dims in light as the brighter orb is eclipsed by a darker star that revolves around it. Twice each year the moon comes between the sun and earth, producing a solar eclipse. When this happens, the tip of the moon's conical shadow may sweep across the earth, along a path a hundred or so miles wide and several thousand miles long. In this

"path of totality" the moon completely hides the sun's globe and the surrounding corona comes into view for a few minutes. When this happens, astronomers can make many observations possible at no other time.

The eclipse track often passes over distant parts of the world, or over large areas of ocean in which there are but a few scattered islands. Many eclipse expeditions have been organized, at great trouble and expense, to get to the places where the eclipse can be seen. Sometimes all these efforts are frustrated by clouds in front of the sun during the crucial minutes.

Eclipse Comes to Astronomers

Since an eclipse path may reach any part of the earth, occasionally it may happen to go over a well-populated region, even one with many permanent observatories. Then the astronomers do not have to go to the eclipse-it comes to them. This will happen on Feb. 15, when the sun will be hidden for millions of people in southern and castern Europe. The path of totality starts in the Bay of Biscay as the sun is rising. Then it sweeps over southern France, Italy, Yugoslavia, Rumania, Bulgaria and the U.S.S.R. It ends as the sun is setting in northern Siberia, near the Taimyr Peninsula. At the beginning of the path, in the Bay of Biscay, it is 130 miles wide, and at the middle the width is 164 miles.

Mercury Seen Above Horizon

Because Mercury, the innermost planet, is so close to the sun, it is seldom seen. But on Feb. 6 it will be farthest east of the sun, and so will remain above the horizon for a little while after sunset. Thus, for a few evenings about this time you will be able to see it low in the southwest in the gathering dusk. By the time the sky is dark, Mercury will have set; we can never see it in the nighttime sky.

Higher than Sirius, and a little to the right, stands the notable constellation of Orion, the warrior. The three stars in a row, which form his belt, will help you recognize it. Above the belt is Betelgeuse and below is Rigel; both of these stars are first magnitude.

Still higher and farther right you will see Taurus, the bull. A V-shaped group of stars, called the Hyades, outline the bull's face. Among these is ruddy Aldebaran, which marks his eye. Directly overhead, at the times for which our maps are drawn, stands Auriga, the charioteer. In it is the bright star called Capella, shown on the northern sky map. Below it, to the south, is Mars, in Gemini, the twins. In this same constellation is the first magnitude star Pollux. And below the Gemini is Canis Minor, the lesser dog, with Procyon.

In no other region of the sky are so many brilliant stars concentrated in so small

DE FIELDS

GEOPHYSICS Earth's Dust Cloud Came From Moon

➤ THE DUST CLOUD that encircles the earth several thousand miles out in space is formed of dust scattered from the moon when it is hit by meteorites, a United States scientist has suggested.

Dr. Fred L. Whipple of Harvard College Observatory, director of the Smithsonian Astrophysical Observatory, Cambridge, Mass., says that space experiments should "readily" show whether or not his theory of a lunar origin for the dust cloud is correct.

The existence of a high concentration of interplanetary dust orbiting the earth has been indicated recently from information gathered by rocket, satellite and space probe vehicles having instruments that detect the sounds the dust particles make when hitting the vehicle's surface. Of four possible explanations for the origin of the dust cloud, Dr. Whipple bebelieves that the lunar theory is the most "tenable." From this theory, a generally eastward motion of the particles in the dust cloud is predicted. This motion could be detected from space experiments, he reports in Nature, 189:127, 1961. Compared to the density of true interplanetary space, the concentration of dust particles in the cloud surrounding the earth is perhaps 100,000 times as high, Dr. Whipple says.

SCIENCE NEWS LETTER for January 28, 1961

At present, the baboon is required to keep track of no more than five beeps at one time. He may have to think a little harder in the future, however. Although his trainer, Dr. Jack Findley, assistant professor of psychology, is reluctant to state that his pupil can actually count, he hopes to teach Cowboy to add.

This may be done by turning on two different colors of lights at the same time and teaching the animal that he must stop the sounds only after the sum total of the beeps produced by each individual light has passed.

When the baboon has learned the more complicated task, Dr. Findley plans to give him mild stimulants, such as dexadrine and caffeine, to study their effects on performance, and to develop a technique applicable to the testing of newer drugs.

Science News Letter, 79:57 January 28, 1961

BIOLOGY

Living Insects Found On Antarctic Plateau

➤ A FEW DOZEN hardy insects and mites have been found 6,000 feet above sea level in the Mt. Gran area at the head of Mackay Glacier about 90 miles from McMurdo Sound, Antarctica. Keith A. J. Wise, a New Zealander working under a National Science Foundation grant for the Bernice P. Bishop Museum of Honolulu, came across the arthropods at what is believed to be the highest altitude at which insect life has been encountered on Antarctica. While he was on a field trip, Mr. Wise found approximately two dozen collembola or springtails, a type of primitive wingless insects, under loose rocks on a surface of the plateau that was free of snow. In the same general location he also found about a dozen free-living nonparasitic mites. Both insects and mites are arthropods, belonging to the phylum arthropoda. But mites are not insects, having four rather than three pairs of legs in the mature stage. The springtails found by Mr. Wise were all white, whereas specimens he had previously encountered at Hallett Station, about 300 miles farther north, were all black. Both black and white varieties were found at Mt. Suess.

BIOCHEMISTRY

Unique Plasma Fraction Checks Copper Poisoning

a Maria

➤ CERULOPLASMIN, a blue copperprotein found in the blood, may be the factor that protects the human body against the hazards of copper poisoning.

Activities ranging from working with copper to drinking beer and eating oysters, both of which have a high copper content, place the average person in danger of copper poisoning, Drs. Irmin Sternlieb and I. Herbert Scheinberg of Albert Einstein College of Medicine at Yeshiva University reported in New York.

The level of the copper-bound protein in blood is highest in adults in late pregnancy. It reaches a lower peak in old age. It is also at a high level in disease conditions such as heart-muscle damage caused by insufficient blood flow, overactivity of the thyroid gland, tumor of lymph glands, infections and after sex hormones are given.

No one knows why the ceruloplasmin level rises under these circumstances, the investigators reported at a New York Academy of Sciences conference. But the fact that the level falls in patients with poor protein balance may mean that a protein deficiency is involved. Studies of patients with Wilson's disease suggest that ceruloplasmin plays a part in warding off copper poison, they said. If this is true, this plasma fraction is the only one with such powers, for all others known protect against bacterial and viral disease.

Science News Letter, 79:57 January 28, 1961

PSYCHOLOGY

Young Baboon Can Count, May Learn to Add

➤ A YOUNG BABOON named Cowboy is making history at the University of Maryland's psychopharmacology laboratory, College Park, Md. He can count—at least when he is hungry.

Cowboy has been taught to push a button that turns on a light. The color of the light—orange, red, green, blue or white determines how many beep tones, coming from a sound box hooked to the light switches, he must let pass before he pushes a second button that stops the sound and

Science News Letter, 79:57 January 28, 1961

TECHNOLOGY

Reinforced Asphalt Omits Steel Wire Fabric Science News Letter, 79:57 January 28, 1961

World Affairs Role Urged for Colleges

AMERICAN UNIVERSITIES and colleges must play a more active role in world affairs. Their help is urgently needed to contribute to the nation's understanding in international matters and to assist in the educational systems of the rapidly developing countries of Asia, Africa and Latin America.

A report issued in New York by a toplevel committee from Government, industry and universities, called upon American institutions of higher learning to show new leadership and initiative in meeting their expanding responsibilities as centers of learning and service. The report also urged greater support to the universities from the Federal Government, state governments, industries and private foundations.

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releases a food pellet. Feder

If he pushes the second button before enough beeps have sounded or after too many, for the particular light color, he gets no food. Each beep lasts for two seconds, but the time between them varies. This keeps the baboon from merely marking total time before pushing the second button.

Cowboy now has the system down pat. He eats as he chooses and gets all the food he wants by pushing the proper buttons about 200 to 300 times a day. Usually, about 50 button pushes in one session release enough food for a meal. ➤ REINFORCED ASPHALTIC concrete resurfacing of a mile and a half of cracked highway has been completed for test purposes by New York State. Steel wire fabric used for reinforcement was deliberately omitted from some of the 40-footlong slabs in the stretch of test highway. A new continuous strip photographic process recorded the condition of the highway before repair. A similar photographic record will be taken in several years so that a side-by-side comparison may be made to check the steel fabric's effectiveness in reducing cracks.

• Science News Letter, 79:57 January 28, 1961

One important recommendation was the establishment of a new organization that would coordinate all the educational planning and development in world affairs.

The report, "The University and World Affairs," was prepared by the Committee on the University and World Affairs. Included were Dean Rusk, then President of the Rockefeller Foundation: Arthur S. Flemming, then Secretary of Health, Education and Welfare; and Senator J. W. Fulbright of Arkansas.

Science News Letter, 79:57 January 28, 1961

1 State Care

In southern Russia, at Rostov-on-Don and Stalingrad, the eclipse occurs around the middle of the day. The sun will then be about 27 degrees above the horizon and it will be hidden for two minutes 45 seconds. Farther west, in France and Italy, the sun will be lower, and the total eclipse will last about two minutes.

The path crosses the Riviera and persons wintering there will have an unusual spectacle to watch on the morning of the 15th. Watching the sun, with adequate protection for the eyes, they will see the dark disc of the moon slowly creep across the sun's face.

Then will come totality, the corona will flash into view, and the brighter stars, and Venus, will be visible. Then a sliver of the sun's disc will again appear, slowly widening as the moon moves away, and the eclipse ends. Over all of Europe, northern Africa and much of Asia, there will be a partial eclipse, with the moon hiding only part of the sun. The nearer a person is to

the path of totality, the greater will be the area of the sun that is covered.

Fortunately for the astronomers, there are many observatories along the path. Near Ancona, Italy, is the Arcetri Observatory, equipped with special instruments for solar observations. At St. Michel, in southern France, is the Haute Provence Observatory, with a 76-inch reflector that is the largest telescope in Europe.

There is another large observatory on Mt. Gros, near Nice. Russian astronomers will be able to watch the eclipse from their large observatory at Simeis in the Crimea. With at least a dozen observatories along the path, this should be one of the best observed of all eclipses. If the weather is good, these observations should lead to many important new scientific data.

Celestial Time Table for February

EST. Feb. 3:42 a.m. Algol (variable star in Perseus) at minimum brightness 7:00 a.m. Mercury farthest east of sun, 6 visible low in west after sunset for a few days about this date 12:31 a.m. Algol at minimum 11:50 p.m. Moon in last quarter Algol at minimum 9:20 p.m. Uranus nearest earth, distance I2 noon 12 1,614,000,000 miles 1:00 a.m. Moon passes Jupiter (visible 13

			low in east before sunrise)
		2:00 a.m.	Moon passes Satura
Ş.	14	6:00 a.m.	Moon nearest, distance 222,600 . miles
	15	3:11 a.m.	New moon; eclipse of sun visible in Europe, Africa and Asia
	18	10:00 a.m.	Jupiter passes Saturn
	21	7:00 p.m.	Mercury passes between earth and sun
	22	3:35 a.m.	Moon in first quarter
	24	12 noon	Moon passes Mars
	• 25	I2 noon	Pluto nearest earth; distance 3.028,000,000 miles
	26	4:00 p.m.	Moon farthest; distance 252,- 200 miles
	27	2:16 a.m.	Algol at minimum
	S	ubtract one	hour for CST, two hours for
	MST	r, and three	for PST.
		• Science N	ews Letter, 79:58 January 28, 1961

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321 p., \$6. Presents new material about progress in nutrition, including comparisons of food habits of Alaska, Latin America, China and India, relating nutritional progress to social and historical factors which aid or impede its growth.

O J. R. C. Mark &

INTERNATIONAL EDUCATION IN PHYSICS: Proceedings of the International Conference on Physics Education, Unesco House, Paris, 1960 —Sanborn C. Brown and Norman Clarke, Eds. —Wiley, 191 p., \$4.50. A world view of physics education, of examinations, selection of students, laboratory work, training of teachers, physics for non-physicists, use of television, and teaching of mathematics.

LABORATORY MANUAL IN PRINCIPLES OF BIOLOGY AS ILLUSTRATED BY ANIMALS—Howard J. Stains—Burgess, 127 p., illus., paper, \$2.50. Provides material for four hours of laboratory work per week.

LINEAR SYSTEMS ANALYSIS: An Introduction to the Analysis of Discrete-Parameter Time-Invariant Linear Systems—Paul E. Pfeiffer— McGraw, 538 p., \$12.50. Provides fundamentals of theory as applied to passive linear circuits, linear servomechanisms and mechanical vibrating

systems.

MECHANICAL WAVEGUIDES: The Propagation of Acoustics and Ultrasonic Waves in Fluids and Solids with Boundaries—Martin Redwood— Pergamon, 300 p., \$9. Introduction to the properties of guided waves, with survey of the more important recent research.

THE MICROSCOPE AND How TO USE IT-Georg Stehli-Sterling, 160 p., illus., \$3.95. A methodical, fully illustrated guide to discovering new worlds by microscopic examination.

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OLD FATHER: The Story Teller-Pablita Velarde-King, Dale Stuart, 67 p., illus. by author, \$7.95. Tribal legends written and handsomely illustrated by Pueblo Indian artist.

RADIATION RESEARCH IN THE LIFE SCIENCES: Current Projects in the United States and Throughout the World—Committee on Govcrnment Operations, U. S. Senate—GPO, 175 p., paper, 55¢. Information on the magnitude, organization and distribution of current research programs, fully indexed.

RELIGION & SCIENCE-Bertrand Russell-Oxford Univ. Press, 256 p., paper, \$1.25. First published in 1935.

REPRESENTATIVE CHORDATES: A Manual of Comparative Anatomy—Charles K. Weichert— McGraw, 2nd ed., 218 p., illus., \$4.25. Designed for use as a laboratory manual in onesemester courses in comparative anatomy of the vertebrates.

A REVISION OF CEDRELA (MELIACEAE)-C. Earle Smith, Jr.—Chicago Natural Hist. Mus., 46 p., illus., 14 plates, paper, \$1.75. Treats only the American species of Spanish cedar.

SCIENCE IS FUN. SCIENCE IS LEARNING. SCIENCE IS EXPLORING.—Wilbur B. Beauchamp— Scott, Foresman & Co., 112 p., 128 p., 168 p., illus., \$2.20, \$2.44, \$2.68. Basic science program for grades 1, 2 and 3, with teachers' editions available.

STUDY ABROAD: New Dimensions in Higher Education, No. 6-Irwin Abrams-GPO, 21

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16. Tell in a few words the following things about the object. o. Sound Only airplanes sounds. b. Color _ Shiny bright offect

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.

like a spotlight

Page 3

16 - 28 FEBRUARY 1961 SIGHTINGS

OBSERVER

LOCATION

DATE

16

~16

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17

20

-20

-21

22

22

-22

~23

-23

21

Union, Maine Saa Angelo, Texas 36.35M 67.45W (Atlantic) Vernon, Texas Humbolt, Saskatuan, Canada San Juan, Puerto Rico 28.151 77.41W (Atlantic) Kalispell, Montana Winnemucca, Mevada Baltimore, Maryland Akron, Ohio Webb AFB, Texas Silver Bay & Gilbert, Minnesota Vandenberg AFB, California 47M 173W (Pacific) Misawa AFB, Japan. Dhahran AFB, Saudi Arabia Oakwood, Ohio Madrid, Spain Tyndall .AFB, Florida 13.45% - 144.50E (Guam) Yuma, Arizona San Bernardino, California Herndon, Virginia Arlington, Virginia Bark River, Michigan Fort Meade, Maryland Portland, Oregon Ft Washakie, Wyoming 52.40M 34.55W (Atlastic) Waverly AFS, Iewa Williston, M rth Daksta Adair AFS, Oregon Honelulu, Hawaii

Military' RADAR Civil Airlines USN Military Military Military Multi Military Military Military

EVALUATION

Astro (METEOR) Insufficient Data Insufficient Data Insufficient Data Satellite (D/K 61 GAMMA 4) Insufficient Data Other (MISSILES) Astro (METEDR) Insufficient Data Satellite (ECHO. I) Insufficient Data Astro (METHOR) Astro (METEOR) Insufficient Data Satellite (ICHO I) Astro (VENUS) Military (PHYSICAL S) Astro (METEOR) Insufficient Data Military (MITEOR) Astro Military Astro (VINUS) Military; Astro (METEOR) Military RADAR Other (RADAR CHAFF) Balloon Military Astro (VENUS) Astro (METEOR) UNIDENTIFIED Other (TEMP INVERSION) Military RADAR Insufficient Data (PHYSICAL S(#) Other (ORNAMENT) USN Satellite Other (EQUIP MALFUNCTION) Military RADAR PHOTO/MR)Astro (VEMUS) Military Astro (MARS) Military Astro (METEOR)

~23 -24 ·26 27 -27 27 -27 27 -27 27 ~27 -28 - 28 -28 -28 -28 -28 DATE St. Co Feb 16

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ADDITIONAL REPORTED SIGHTINGS (NOT CASES)

LOCATION Universe Lakeport, California Belogna, Italy Berlin Heights, Ohio Coarse, Hempstead & Elliagton Field, Texas Washington, D. C. Lakeville, Massachusetts

SOURCE

Science News Ltr Newsclipping (Ltr) Newsclipping

EVALUATION

Newsclipping Meas for Record (Capt Mack) Newsclipping

@ See segarate folder

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. NO MOTON

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

about all of it.

21. How large did the object appear to you as compared to an object with which you are familiar? About 3 the size of on auto mobile headlight

of the sighting, how much of the object would have been covered by the match head?

23. Did the object disappear while you were watching it? If so, how? Never disappear while you were watching it? If so, how? Never disappear while you were watching it?

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 large Spotlight

Page 5

25. Where were you located when you saw the object? 26. Ware you (Circle One) (Circle One): a. In the business section of a city? a. Inside a building (b. In the residential section of a city?) b. In a car c. In open countryside? d. Near an airfield? c. Outdoors d. In an airplane (type) e. Flying over a city? e. At sea f. Flying over open country? f. Other g. Other 27. What were you doing at the time you saw the object, and how did you happen to notice it? washing hands at the sink and just looked

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	c. Ea	st	e. South	g. West	
	b. Northeast	d. So	utheast	f. Southwest	h. Northwest	
*	28.2 How fast were y	ou moving?	miles	per hour.		
•	28.3 Did you stop at	any time while you	were looking at the	object?		
	(Circle On	e) Yes	No			
29.	What direction were you	looking when you	first saw the object	? (Circle One)	(g. West)	
	a. North	c. East	e.	South	h. Northwest	
	b. Northeast	d. Southeast	f.	Southwest	i. Overhead	
30.	What direction were you	looking when you	last saw the object	? (Circle One)		
	a. North	c. East		South	g. West	
*	b. Northeast	d. Southeast	f.	Southwest	i. Overhead	
31.	If you are familiar with from true North (thru eas	bearing terms (angu t) and also the num	lar direction), try t ber of degrees it w	o estimate the num as upward from the	aber of degrees the object was horizon (elevation).	

31.1 When it first appeared:

1'

- a. From true North <u>70</u> degrees. b. From horizon <u>60</u> 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.

Page 6

Page 7 34. What were the weather conditions at the time you saw the object? CLOUDS (Circle One) WEATHER (Circle One) 6. Clear sky a. Dry b. Hazy b. Fog, mist, or light rain c. Scattered clouds c. Moderate or heavy rain d. Thick or heavy clouds 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?

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

(Circle One) (Yes) No

.

36.2 Please list their names and addresses: B.L. Her Husbound - B.L.

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?

NO

Page 8 39. Do you think you can estimate the speed of the object? No (Circle One) Yes MPH 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 IF you answered YES, then how far away would you say it was?_ 41. Please give the following information about yourself: (NONE) NAME_ Middle Name oltio 24 YTON

ATIC SDO R.F. Lunhaf. Capt. USAF