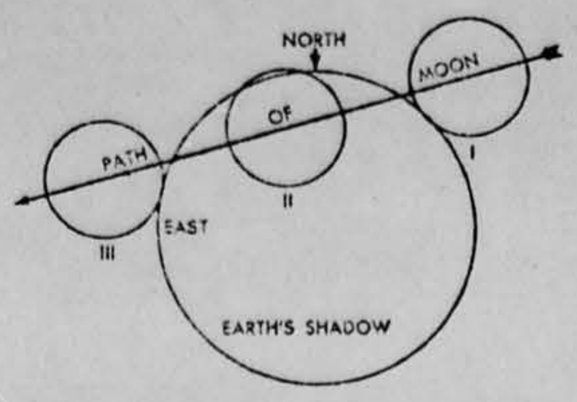
1. DATE - TIME GROUP 9 August 1961 10/0400Z	2. LOCATION Cyprus Gardens, Florida
3. SOURCE Civilian	10. CONCLUSION AIRCRAFT Sighting characteristic of a/c with afterburner. Case submitted in letter almost four years after observation.
4. NUMBER OF OBJECTS One	
5. LENGTH OF OBSERVATION 45-60 Seconds	11. BRIEF SUMMARY AND ANALYSIS Orange star-like object increasing in size. Descending and appearing to come straight at observer. Thought to be a meteor initially. Object turned and headed up, retracing original path until the object disappeared.
6. TYPE OF OBSERVATION Ground-Visual	
7. COURSE Manuvered	
8. PHOTOS ☐ Yes ☒ No	
9. PHYSICAL EVIDENCE ☐ Yes ☒ No	

FORM
FTD SEP 63 0-329 (TDE) Previous editions of this form may be used.

only one for this month. Two weeks earlier, at the time of new moon, that body will come between the earth and the sun, producing a partial solar eclipse. To see it, you will have to be in southern Africa, along the coast of Brazil, in the South Atlantic or Antarctica. Over that general area, the moon will partially hide the sun. Along a belt that is mostly over the ocean there will be what is called an annular eclipse. Around the dark disc of the moon a ring of the sun's surface will be visible.

This happens because the moon will then be at about its greatest distance from the earth and its size, as we see it in the sky, will not be enough to cover the solar disc. A total eclipse of the sun occurs when the moon is closer. Then it covers the sun completely and the sun's outer envelope, the corona, flashes into view.



Partial Eclipse of Moon Aug. 25, 1961

The large circle represents the shadow of the earth, and the small circles—I, II and III—indicate the successive positions of the moon as it passes through the shadow. The three phases shown occur at the following times (all p.m.):

	EST	CST	MST	PST
I Moon starts into shadow	8:36	7:36	6:36	5:36
II Middle of eclipse	10:09	9:09	8:09	7:09
III Moon leaves shadow	11:42	10:42	9:42	8:42

Celestial Time Table for August

Aug.	EST	
3	6:48 a.m.	Moon in last quarter
7	1:00 p.m.	Moon passes Venus
11	5:36 a.m.	New moon, annular eclipse of sun
	noon	Moon farthest, distance 252,600 miles
12	early a.m.	Meteor shower visible, apparently radiating from constellation of Perseus in northeastern sky
19	5:52 a.m.	Moon in first quarter
23	10:00 a.m.	Moon passes Saturn
	6:00 p.m.	Moon passes Jupiter
25	2:00 p.m.	Moon nearest, distance 222,000 miles
	10:14 p.m.	Full moon, Lunar eclipse

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

PROCEEDINGS OF A CONFERENCE ON RESULTS OF THE FIRST U. S. MANNED SUBORBITAL FLIGHT —Introd. by Hugh L. Dryden and Lloyd V. Berkner—*GPO*, 76 p., illus., paper, 50¢. Papers of 1961 Conference of NASA with National Institutes of Health and National Academy of Sciences.

THE SCIENCE OF GENETICS—Charlotte Auerbach—*Harper*, 273 p., illus. by Inge G. Auerbach Linker, $5.95. Written by geneticist for general reader to provide the indispensable knowledge without which the most recent advances in genetics cannot be understood.

THE SCIENTIFIC APPROACH TO CAREER PLANNING—M. C. Cobb, foreword by David A. Shepard—*Lantern Press*, 142 p., $3.95. Shows how the process of inductive inference (result of scientific observation, experiment and reasoning) can be applied to the subject of career planning.

TAKE A NUMBER: New Ideas + Imagination=More Fun—Jeanne Bendick and Marcia Levin—*Whittlesey House*, 63 p., illus. by J. Bendick, $2.50. Amusingly presented, shows grade school youngsters some of the innumerable uses for number concepts and numeration.

TEACH YOURSELF BOTANY—John H. Elliott—*Roy Pubs.*, 214 p., illus., $2.75. Brief outline of the scope of the science known as botany.

TEACH YOURSELF METEOROLOGY—"Aeolus"—*Roy Pubs.*, 2nd ed., 167 p., illus., $2.75. Little book explaining the behavior of the atmosphere without mathematics and outlining principles by which one can predict this behavior from observations.

THE TORCH LIGHTERS: Tomorrow's Teachers of Reading—Mary C. Austin, Dir.; foreword by Francis Keppel—*Harvard Univ. Grad. School of Educ. (Harvard Univ. Press)*, 191 p., paper, $1. This Harvard-Carnegie field study reports on current college preparation of teachers of reading and suggests recommendations for improvement.

TRACE ELEMENTS IN PLANTS—Walter Stiles—*Cambridge Univ. Press*, 3rd ed., 249 p., photographs, $7.50. Emphasis in this updated edition is on trace elements in plants and the effects of their deficiency or excess on grazing animals. Also refers to soil conditions as they relate to availability of trace elements.

TRANSISTORS AND ACTIVE CIRCUITS—John G. Linvill and James F. Gibbons—*McGraw*, 515 p., $14.50. Discusses fundamental problems encountered in active circuits, the physics of semiconductors, two-port network theory, and transistor circuits.

U.S.S.R. LITERATURE ON AIR POLLUTION AND RELATED OCCUPATIONAL DISEASES, Vol. V—B. S. Levine—*USPHS (OTS)*, 219 p., illus., paper, $3.50. Latest survey of Russian literature dealing with air pollution aspects of industrial and public health problems.

WATER TREATMENT FOR INDUSTRIAL AND OTHER USES—Eskel Nordell—*Reinhold*, 2nd ed., 598 p., illus., $12. Practical reference work, brought up-to-date to include latest developments in the technology of water treatment and their application.

WEATHER MODIFICATION: Second Annual Report for Fiscal Year Ended June 30, 1960—National Science Foundation—*GPO*, 22 p., photographs, paper, 15¢. Research highlights and weather modification activities.

Aug 61

No case
Info only

August 10, 1966

Five yrs. old - Unsat. info.

Project Blue Book Information Office
SAFOL
Washington, D.C. 20330

Dear Sir:

About five years ago I saw an object in the sky. The night was very quiet until I heard a humming sound. I looked up and around until I saw a blue-white light. It looked as if it was coming right at me. At that age and now being a chicken all I could think of was to hide. There were some bushes near me so I got behind them. I pulled my bike over me for protection.

When I looked up again it was bright R-D. It seemed to be very large and at a low level. It stayed in one place for a while and them started circleng. Findly it went behind a house (the house was so close to me that it seemed to go behind it). A dog barked and I ran home. I told my family but they told me that it was just me.

Most people would forget something like this but I havn't. And I would like to know if there has ever been such a sighting. I would like to have an answer whenevr you may have time.

I almost forgot to tell you that there is an Air Forse Base close by and General Dynamics. Within the same area there is Bell Helocopter.

I don't believe it was a helocopter because of the lights and the sounds. A helocopter has a whipping sound to it and the object had a humming one.

Sincerely Yours,

[redacted]

gm.

NO CASE
INFO ONLY

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH

AF IN : 14409 (4 Aug 61) A/rbf

SMB C 156

INFO : CIN-17, ARMY-12, NAVY-2, CMC-8, JCS-35, OSD-15, NSA-7, CIA-11, OOP-2, OOP-CP-1, SAFS-3 (104)

ZCZCHQB661ZCEJA668

OO RJEZHQ

DE RBHPH 104A

ZNR

O 041519Z

FM COMHAWSEAFRON

TO RBHPB/CINCPACFLT

INFO RJHPKW/COMDHAWAIRDEFDIV WHEELER AFB

RJWFALB/CINCNORAD ENT AFB COLORADO

RJEZHQ/COFSUSAF WAHSDC

RBEPW/CNO

RBEPW/SECNAV

RUHPFS/CINCUSARPAC

RBHPA/CINCPAC

RJHPKM/PACAF

RJHPKM/PACAF BASECOM HICKAM AFB

NAVY GRNC

BT

UNCLAS

1. FOLLOWING RECEIVED FROM ARTC HONO:

JZCIRVIS REPORT. QUANTAS 775 REPORTED SHIP IN SIGHT 40

MILES NORTH OF CANTON ISLAND AND FLASHING SEARCH LIGHTS

EVERY ONCE IN A WHILE" TIME OF REPORT 041350Z.

2. ORIG. HAS REQUESTED REPORTS FROM NEXT TWO ACFT PASSING THROUGH CONTACT AREA. DUE TO REMOTE LOCATION ANTICIPATE NO

OTHER ACTION.

3. TENATIVE EVALUATION, NO HREAT

BT NOTE : Advance copy to CP & CIN 041255 (4 Aug 61)

OI 3

No Case. (Information Only)

5 August 1961
Mt Hale, Australia

Source: NICAP

Also, in an Aug. 5, 1961 report from Australia, received belatedly at NICAP, twelve silvery disc-like objects flying in pairs were observed by shearers on Mt. Hale Station, Meekatharra. A whitish substance was seen to emanate from the UFOs, form into streamers and fall to the ground. When handled, the substance dissipated and could not be preserved.

SOURCE: Flying Saucer News - Perth

THE SUNDAY TIMES
W.A.'s COMPLETE FAMILY PAPER
56 Pag
...red as the G.P.O., Perth for ...ission by post as a newspaper.
Photos 2
3266
PERTH, WESTERN AUSTRALIA, AUGUST 6, 1961

White substance falls

STATION MEN SEE "FLYING DISCS"

Twelve silvery "white metal flying saucers like the sputnik," trailing a white substance which crumbled before it could be preserved, were sighted flying at about 10,000ft. 75 miles west of Meekatharra yesterday.

Shearers on Mt. Hale station said the objects appeared to be travelling in pairs.

They were able to keep the pairs of objects in sight for about two minutes as they travelled in clear weather at a high speed from north to south.

Shearing contractor Edwin Payne, 37, reported the sightings to Meekatharra police and said that at first he thought he might have been mistaken when he saw the first pair.

He called some of his men over and pointed the objects out to them.

Mr. Payne said the round objects left a "fall-out" of a white substance as they sped through the sky.

It formed into streamer-like trails as it fell. When he and other witnesses picked the substance up it crumbled in their hands and they had no way of preserving it for examination.

"Snowy"

He described it as "a snowy white fine mesh kind of stuff."

Station owner Mr. John Lee Steere also picked up some of the substance.

After reporting the sightings to the police, Mr. Payne returned to the scene to try to find more of the substance.

The sightings, by about six people, were between 8.30 and 9.15 a.m.

Constable A. J. Coyle, of Meekatharra police, said last night he had reported the sightings to the Inspector in Charge of Geraldton Police and the Department of Civil Aviation at Meekatharra.

Courtesy of PERTH SUNDAY TIMES

● A spokesman for the R.A.A.F. Pearce, said last night there were no service aircraft in the area at the time of the reported sightings.

● The Director of the Perth Museum, Dr. W. D. L. Ride, said last night it seemed improbable to him that a substance which was described as being of a fine mesh on the ground could be seen at the height reported.

● An Australian authority on spiders, Dr. Barbara Main, of the Museum, said small spiders just hatched from eggs exuded a white gossamer substance which could be caught up in winds and distributed over a large area.

"But," she said, "this substance is infinitesimally small and could not be seen at that height."

● A spokesman for the Department of Civil Aviation at Meekatharra said the only report the department had on the sightings was that received from the police.

INFO ONLY, NO CASE.

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE

INCOMING

H/eac

3

AF IN : 16181 (6 Aug 61)

INFO : CIN-14, OOP-2, OOP-CP-1, SAFS-3 (21)

SNB B 001

ZCZCHQA089ZCQJA266

***** OO RJEZHQ

DE RJHPKH 6

ZNR

O 070319Z

FM HAW AIR DEF DIV KUNIA ANNEX HAWAII

TO RJHPKM/CINCPACAF HICKAM AFB HAWAII

RBHPQ/COMHAWSEAFRON PEARL HARBOR HAWAII

INFO RJEZHQ/COFS USAF WASHINGTON DC

UFO

RBEPW/CNO WASH DC

RBEPW/SECNAV WASH DC

RJWFALB/CINCNORAD ENT AFB COLORADO

RBHPA/CINCPAC CAMP H M SMITH HAWAII

RUHPFS/CINCUSARPAC FT SHAFTER HAWAII

RBHPB/CINCPACFLT PEARL HARBOR HAWAII

RJAPAZ/COMUSJAPAN FUCHU AS JAPAN

RUAMCR/COMUSKOREA SEOUL KOREA

RUAGFL/COMUSSTDC TAIPEI TAIWAN

RBHPHH/COMHAWSEAFRON KUNIA TUNNEL ANNEX

AF GRNC

BT

/UNCLAS/UFO HADOC-D 348 AT 07/0100Z, CHIEF SEGAN AND THREE WITNESSES SIGHTED LARGE FIREBALL. ORANGE IN COLOR, WITH BLACK TAIL, DISAPPEARED INTO THE SOUTH. SIGHTING TOOK PLACE ON MAKAHA BEACH ON THE ISLAND OF OAHU, STATE OF HAWAII. CHIEF SEGAN CAN BE REACHED AT HONOLULU 492-163. NO EVALUATION AT PRESENT TIME

BT NOTE : Adv cpy del to CIN & OOP-CP 070015R

Boys Sight Maneuvering UFO In 1961

On August 7, 1961 Danny Okrasinski, 12, Route 1, Gresham, Oregon, and James Towell, 12 also of Route 1, camped out in a field near their homes and while looking at the starts sighted a strange light which circled, hovered and started at intervals. They claimed it made several passes over Gresham and appeared to be very large as it came down close to the ground. They had seen it two weeks previously and the August 7 sighting made the second time they observed it.

Apres

Aug. 9, Naples, Me. Pilot S.R. Graham, Pensacola graduate, and three citizens observed bright, fast-moving UFO. Graham told NICAP the object, which slowed, hovered, changed course and accelerated, was "much faster than any aircraft."

Mrs [redacted]t/SAFOICC/72842/24 Jun 65

15 Jun 65

Dear Mrs. [redacted]

This is in reply to your letter requesting information on an aerial observation which you made on 9 August 1961 at Cypress Gardens, Florida.

We have screened the case files for 8, 9, and 10 August 1961 and find that the only report from that area was at 9:00 PM on 8 August 1961, at Cape Canaveral. This sighting was attributed to a meteor.

The description of your sighting is characteristic of other reports which have been positively identified as jet aircraft, using the afterburner. However, I am sure you realize that it is impossible for us to positively identify your sighting due to the great time lapse.

I am enclosing the current report on Project Blue Book, the Air Force project on unidentified flying objects. This report indicates the results of our project to date.

Thank you for reporting your observation to the Air Force. Should you observe any unusual aerial object, a report should be made to the nearest Air Force base as soon as possible.

Sincerely,

JOHN P. SPAULDING
Lt Colonel, USAF
Chief, Civilian Branch

1 Atch
Blue Book Report

Mrs. [redacted]
[redacted]
E. Syracuse, New York

Aug. 9, Madisonville, Ky. Disc-shaped object descended from northeast, circled, then climbed swiftly out of sight.

10 - 31 AUGUST 1961 SIGHTINGS

DATE	LOCATION	OBSERVER	EVALUATION
10	Dayton, Ohio	[redacted]	Astro (JUPITER)
12	Roscoe, New York		Insufficient Data
12	Kansas City, Kansas		UNIDENTIFIED
13	Clayton, Ohio		Aircraft
13	Lake Charles, Louisiana	Military (PHYSICAL S)	Other (PARACHUTE FLARE)
13	Springfield, Massachusetts	Multi Not Rec'd	Satellite
14	Webb AFB, Texas	Military	Astro (METEOR)
14	New York, New York	[redacted] (PHOTO)	Other (POOR PHOTO PROCESSING)
14	Cleveland, Ohio	[redacted]	Balloon
14	Dayton, Ohio	[redacted]	Aircraft
14-16	Inwood, New York	[redacted]	Insufficient Data
15	32.27N 128.02W (Pacific)	Military	Satellite
16	Flushing, New York	[redacted]	Satellite
18	Sante Fe, Argentina	[redacted]	Other (UNRELIABLE REPORT
18	24.53N 150.22W (Pacific)	[redacted]	Other (MISSILE)
23	Cape Canaveral, Florida	Military	Other (MISSILE)
25	Wilmington, Delaware	[redacted]	Balloon
25	Brooklyn, New York	[redacted]	Balloon
27	Osan, Korea	Military	Aircraft
28	Dayton, Ohio	[redacted]	Astro (VENUS)
28	Redondo Beach, California	[redacted]	Insufficient Data
29	Gibson City, Illinois	[redacted]	Aircraft (REFUEL OPR)
29	Fremont, California	[redacted]	Aircraft
30	Naha, Okinawa	Military	Astro (METEOR)
30	Fairborn, Ohio	[redacted]	Satellite
30	Pleasant Garden, North Carolina	[redacted]	Satellite
30	Monroe, Ohio	[redacted]	Aircraft
30	Dayton, Ohio	[redacted]	Aircraft
31	Ashland-Richmond, Virginia	[redacted]	Aircraft (REFULE OPR)

ADDITIONAL REPORTED SIGHTINGS (NOT CASES)

DATE	LOCATION	SOURCE	EVALUATION
Aug	Universe	Science News Ltr	
10	Southwestern United States	American Meteor Society Reports	
12	Hanover, Ontario	Newsclipping	//
14	Chicago, Illinois	Newsclipping	
14	Chatham, Massachusetts	Newsclipping	
17	Stillwater, Minnesota	Newsclipping	
19	Farmington, New Mexico	Newsclipping	
21	Bayview, Idaho	Newsclipping	
25	Amity, Oregon	Newsclipping	
29	Wichita, Kansas	Newsclipping	
30	Evanston, Illinois	Newsclipping	
30	Cincinnati, Ohio	Newsclipping	

HEADQUARTERS
FOREIGN TECHNOLOGY DIVISION
AIR FORCE SYSTEMS COMMAND
UNITED STATES AIR FORCE
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

REPLY TO
ATTN OF: TDEW

SUBJECT: Request for UFO Information, Mrs [redacted] 2 Apr 65

TO: Hq USAF SAFOI-CC (Mrs Hunt)
Wash D C 20330

Reference the attached letter from Mrs [redacted]n requesting information on an observation of hers on Aug 9th, 1961. The following information is provided in order that a reply may be made:

a. We have screened the case files for Aug 8, 9 and 10 of 1961 and find that the only reported observation from the Florida area was at 9pm on 8 Aug 61. This report was from Cape Canaveral and the sighting was attributed to a meteor. The description of your sighting is characteristic of other reports received by us which have been positively identified as jet aircraft with afterburner in operation. I am sure that you relize that it is impossible to attempt identification of it at this late date. The attached brochure indicates the results of our project to date. The Air Force appreciates your reporting of this observation to the Air Force. Should you observe any unusual object a report should be made to the nearest Air Force Base as soon as possible after the sighting.

FOR THE COMMANDER

ERIC T de JONCKHEERE maj.
Colonel, USAF
Deputy for Technology
and Subsystems

1 Atch
a/s

YOU - THE NUCLEUS OF SECURITY!

March 3, 1965.

[redacted]
E. Syracuse, N.Y.

Gentlemen:

During the past 4 years I have been wondering about a most unusual happening. I was visiting Cypress Gardens in Florida with son and a lady friend on or about Aug. 9th 1961. We saw the boating water show ~~on~~ in the pool and when the show was over, about 11 PM, we headed toward the left, to the parking lot. I spotted an orange ting 3/4 the way up from the horizon. As I watched it, it got bigger and bigger. (it was a bright orange fire color). As it came doowngradually, it seemed to be aimed streight at us. I suddenly told my son "It must be a meteor or comet

2/ burning as it enters the earths surface and heading directly at us".

It reached the lowest position of about ⅓ way up from the horizon then to my amazement it made a right turn (as I saw it) gradually. In this position it showed a orangl tail and then it turned back in the exact same direction and headed up at exactly the same angle and continued till it went completely out of sight.

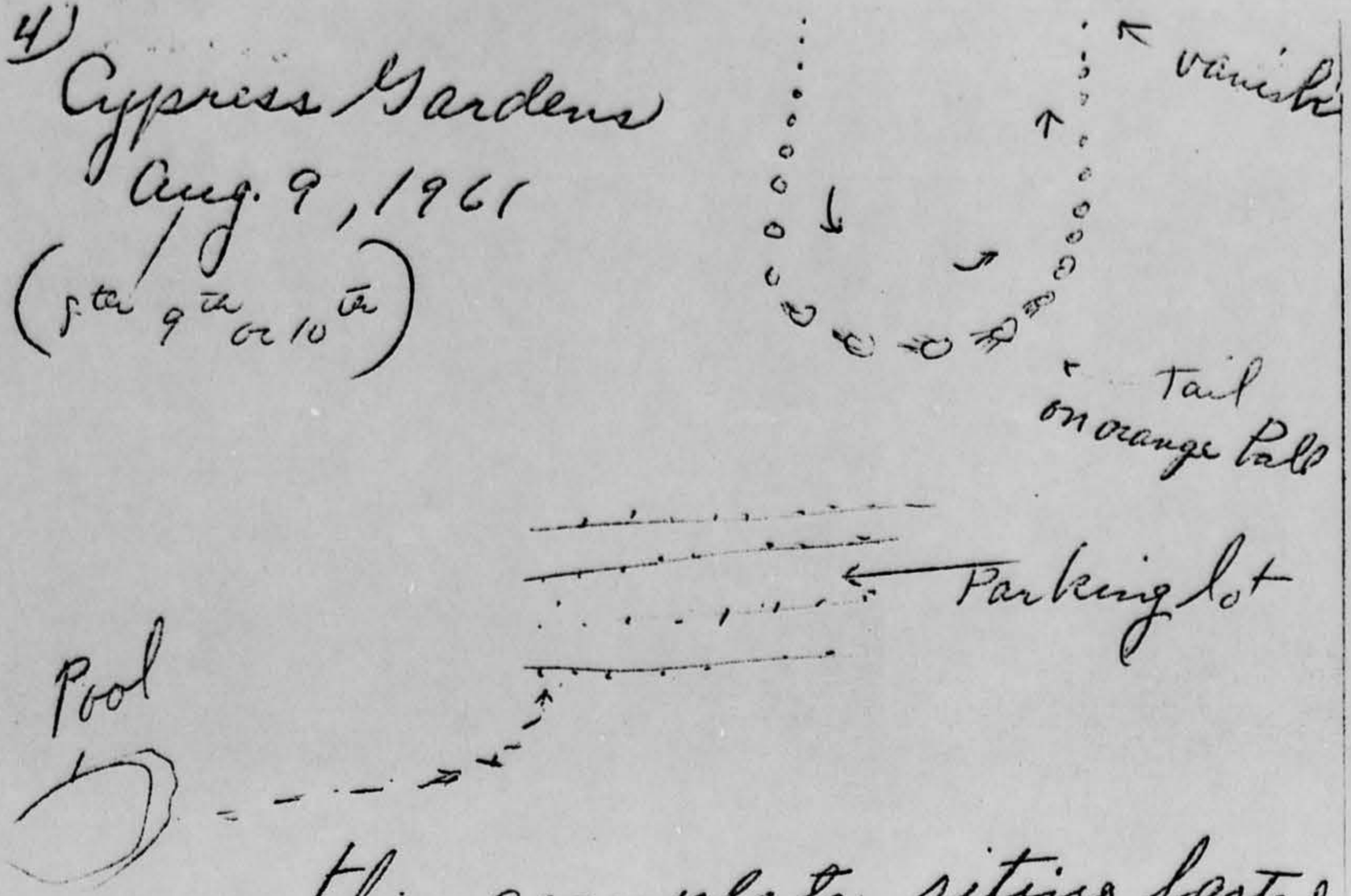
I have no idea of the size of the ball as I could not tell the distance I feel the object could not be a meteor or comet as it came down then went up. A comet would either burn up in the atmosphere or fall to the earth. A rocket from earth would go up then down.

3) My only conclusion is that it must be a U F O. as it certainly appeared to be controlled.

I have inclosed a self addressed envelope and would be very grateful to have your honest opinion on my siting and if other people have written in on seeing this object.

This "thing" has made a deep impression on me and it is still very clear in my mind. I didn't write in before as I had no address to write to, until I saw the article in the Syracuse Herald-Journal. "Air Force report on UFO's.

4) Cypress Gardens
Aug. 9, 1961
(5th 9th or 10th)



this complete siting lasted for a period of about 45 - 60 seconds or a little longer.

Thank you for reading this letter. I am hoping to receive an answer if you can spare the time.

Sincerely,

Mrs. [redacted]

ASTRONOMY

Jupiter, Saturn Shine in August

The planet Jupiter is the brightest object in the sky next to the moon during August. Saturn is as bright as a first magnitude star, James Stokley reports.

➤ TWO BRIGHT PLANETS—Jupiter and Saturn—have joined with the stars normally visible at this time of year to make the evening skies of August especially brilliant.

Both planets, and the stars as well, are shown on the accompanying maps. These depict the skies as they appear about ten p.m. your own kind of standard time (add one hour for daylight saving time) at the first of August, an hour earlier at the middle of the month and two hours earlier as the month comes to an end.

Jupiter has a magnitude of minus 2.3, on the scale used by astronomers for rating the brilliance of celestial objects. Thus is far brighter than any other object in the evening sky except the moon, so Jupiter is easy to identify. It has been in the constellation of Capricornus, the horned goat, but in August moves next door into Sagittarius, the archer, in the southern sky.

About five degrees to the west (right) is Saturn. Its magnitude is plus 0.4 so it ranks with the first-magnitude stars; however, it is about a twelfth as bright as Jupiter. Both of these planets are visible as soon as it gets dark, and remain in view until shortly before sunrise.

The stars in Sagittarius outline a teapot. The handle is toward Saturn, and the spout to the right, toward the next constellation of Scorpius, the scorpion. In the left-hand end of this group, the stars are in a curved line, which forms the scorpion's tail. That is the way the figure was pictured in the old star maps. The modern astronomer, of course, ignores these picturesque old figures, of lions, bears and dogs as well as scorpions.

At the center of the scorpion is a bright star, red in color, called Antares, which is about half as bright as Saturn.

Looking higher in the southern sky, you can see two other stars of the first magnitude. Directly above Jupiter is Aquila, the eagle, with brilliant Altair. And still higher —virtually overhead, in fact—you find Vega, in Lyra, the lyre. Below this group, toward the east, is Cygnus, the swan, shown partly on the southern map, partly on the northern. It is on the latter that Deneb, the brightest star in Cygnus, is shown.

The big dipper, which is a part of Ursa Major, the great bear, shines in the northwest. In it are the pointers, the two stars in the dipper's bowl that show the direction of Polaris, the pole star. Although of second magnitude, this is a well-known orb, because it always stands in about the same position in the north.

If you follow the handle of the dipper, and continue its curve to the left, it will bring you to another star of the first magnitude. This is Arcturus, in Bootes, the herdsman.

Stay up late on August nights and you may see another planet, for Venus rises in the east about three hours before the sun. Its magnitude is now about minus 3.5 which makes it about three times as bright as Jupiter. Venus, Jupiter and Saturn are the only planets now visible; the other two that are sometimes visible without a telescope, Mercury and Mars, are too nearly in the sun's direction to be seen.

From about the middle of August to the end, the moon will shine in the sky during evening hours. On Friday, Aug. 25, it will be full, rising in the east as the sun is setting in the west.

During that night the moon will pass through the shadow of earth, producing a lunar eclipse. At 10:09 p.m., EST, the eclipse will be at its height. It will not be quite totally eclipsed as a narrow sliver of the moon's surface will remain illuminated by the direct rays of the sun.

The shadow of our planet actually has two parts. That shown is the inner part, the umbra, where the globe would completely hide the sun. But around it is a larger region, called the penumbra, where the sun is only partly hidden. At 7:37 p.m. EST the moon starts to enter the penumbra. In the western part of the United States, of course, the moon will not have risen when this happens.

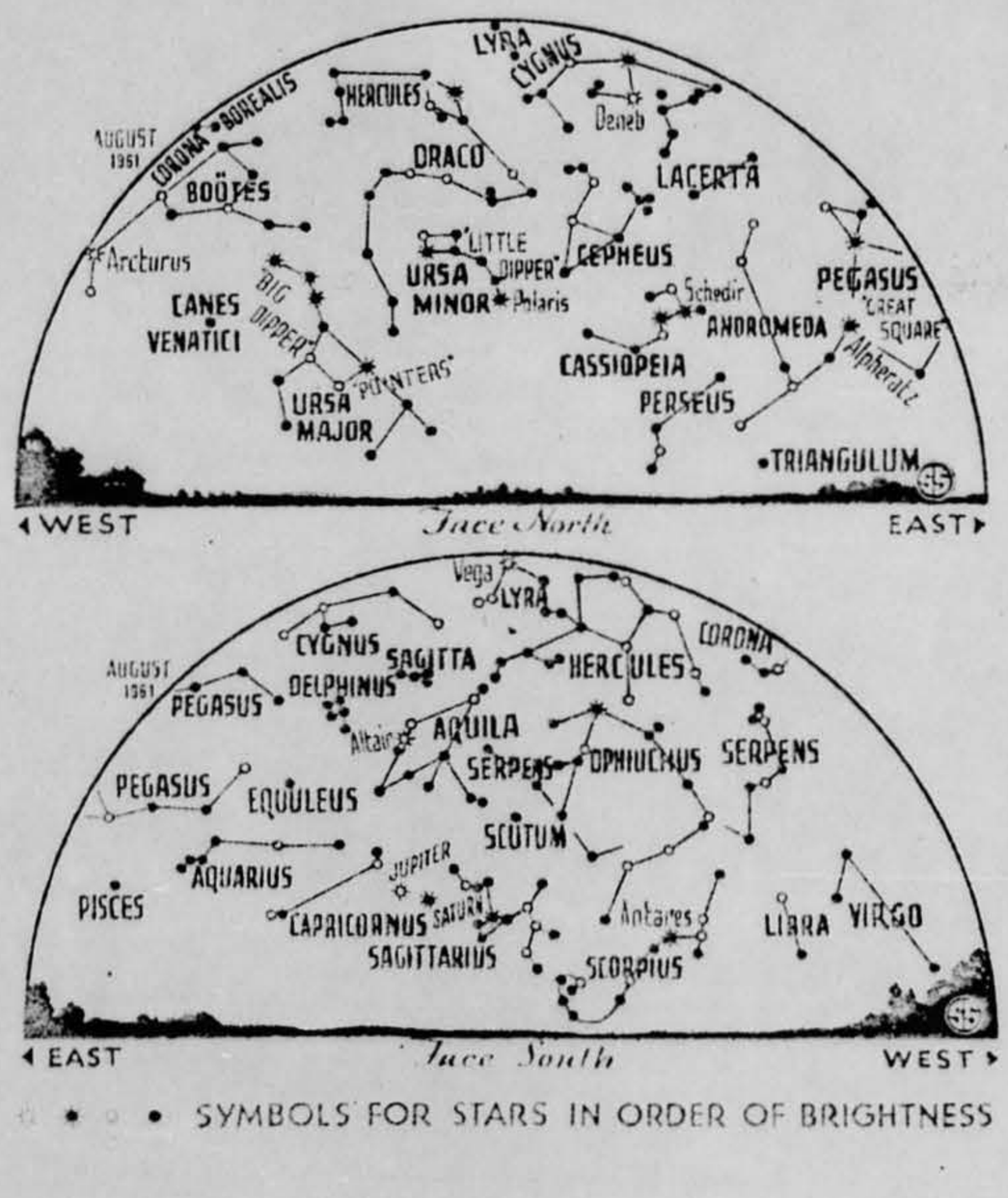
But even in the east, where the moon will be in the sky, nothing will be seen until later when the eastern edge of the lunar disc may seem to be a little fainter than normal.

At 8:36 p.m. EST the moon starts to enter the umbra, or earth's shadow, and the eclipse really begins. Very soon afterwards there will be a noticeable dimming of the eastern edge of the disc. The darkened portion will gradually increase until the maximum eclipse at 10:09 when more than 99% of the lunar diameter will be in shadow. Then the shaded area will become smaller until at 11:42 p.m., the moon will be completely out of the umbra. As the eclipse comes to an end, the moon will have risen even on the Pacific coast, and the eclipse will be visible throughout all of North America except the northwestern tip of Alaska.

Even when immersed almost completely in the earth's shadow, the moon will still be visible, shining with a dull, coppery-red glow. This is an effect of the earth's atmosphere, which acts as a prism to bend sunlight around into the shadow. As the rays pass through the air above our heads, some of the blue light is scattered, and this is what gives the daytime sky its blue color.

White light consists of a mixture of several colors—red, orange, yellow, green, blue and violet. With the blue and other colors at that end of the spectrum reduced, red predominates, and so the light that is bent into the shadow is much more red than ordinary sunlight.

The lunar eclipse on Aug. 25 is not the



• • • • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

CE FIELDS

ENTOMOLOGY

Bait for Termite Trap Found in Decaying Wood

➤ A BAIT that attracts termites as much as cheese attracts mice has been isolated from rotting wood. The bait will be useful in controlling these destructive nibblers, which do hundreds of millions of dollars of damage each year in the United States alone.

The bait, in relatively pure form a colorless oil, is a more or less natural lure because it is extracted from the termites' usual food—wood that is decaying from infestation with fungi. Certain of these fungi or their products help form powerful attractants that guide the termites to an edible piece of wood.

Drs. G. R. Esenther, T. C. Allen, J. C. Casida and R. D. Shenefelt of the University of Wisconsin and the U.S. Department of Agriculture Forest Service, both in Madison, Wis., tested the attracting powers of several kinds of fungi and found that neither healthy wood alone nor fungus alone attracted the termites.

In combination, however, wood and fungus made a very good lure.

The most powerful attractant was produced in pine wood infected with the brown rot fungus, *Lenzites trabea*. All three kinds of termites tested preferred the wood decayed by this particular fungus, and within two minutes most of them had clustered around the wood parts where fungus growth was mature or "woolly." Extracts of this part of the wood attracted the insects even faster than the whole wood. Every termite in a test box gathered around a pad containing the extract within 30 seconds.

This response occurred despite the fact that the termites were in the light and exposed to dehydration, the scientists report in Science, 134:50, 1961.

• Science News Letter, 30:57 July 22, 1961

GENERAL SCIENCE

Colleges Buy Own Tools, But U.S. Pays for Work

➤ COLLEGES and universities doing scientific research buy most of their own equipment and foot the bulk of the bill for building new laboratories or remodeling old ones.

It is Federal money, however, that makes up the major share of the far larger bill for the actual research work.

These are the chief findings in a National Science Foundation survey of research and development costs at the college level in fiscal 1958, latest year for which figures have been gathered and processed.

The 253 independent institutions of higher learning reporting on capital outlays for research facilities and other items in the natural and social sciences spent $153,539,000. The Government's share was $41,361,000 or about one-fourth.

Operating expenditures for budgeted research and development during the same year totaled about $740,700,000. Federal support accounted for 73% of this, or about $540,700,000.

The Foundation notes: "It may be seen that the role of the Federal Government in the support of research and development was reversed from that of support of capital items for this work."

The $112,178,000 in non-Federal sources for facilities and equipment came from the institutions' own funds, State appropriations or private endowments. Federal support was largely confined to research centers administered for the Government, such as the University of Chicago's Argonne National Laboratories, which got $26,000,000.

Some 50% of the total capital expenditures went to the life sciences, reflecting "the need for costly medical school facilities," the Foundation said. The physical sciences received 33%, engineering 15% and the social sciences three percent.

The report, No. 28 in a Foundation series on "Reviews of Data on Research and Development," is available for five cents from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.

• Science News Letter, 80:57 July 22, 1961

ARCHAEOLOGY

Old Hungarian Church To Be Kept in Glass Case

➤ AN ANCIENT CHURCH in Hungary will be preserved for posterity in a glass case.

The church, located at the village Zsambek some 20 miles from Budapest and now in ruins, will be restored in two stages. First the stones scattered around the church will be put back into place and loose stones will be secured. Then the entire nave, along which the stone walls are missing, will be cased in glass.

The glass covering will be supported by a light metal framework and will help prevent further damage to the church.

The idea for the glass support originated with Prof. Frigyes Pogany of the Budapest Technical University. Many colleges from the University are supporting the restoration project, it is reported by the Director of the Royal Geographical Society, Lawrence Kirwan, in Antiquity, 35:58, 1961.

Mr. Kirwan reports that the church was built in 1258 and is considered a fine example of Romanesque-Gothic style. French art historians believe that Villard de Honnecourt, a genius of 13th century architecture, helped build it.

The building was used as a fort by the Turks in the 16th century. Its ruin is believed to date from 1581 when the Hungarians tried to take it back from the Turks.

Since then, local builders have helped themselves to stones for building purposes. It is believed that all the stones missing in the church are now built into the houses in the village.

• Science News Letter, 80:57 July 22, 1961

BIOCHEMISTRY

Virus Particles Line Up At a Certain Stage

➤ AT A CERTAIN STAGE of growth within a cell, the particles of at least one type of virus line up in neat columns. A research team at Columbia University's College of Physicians and Surgeons studied the growth of type nine ECHO virus, which causes a grippe-like disease in man, in kidney cells from the rhesus monkey. They found that the virus particles arrange themselves along parallel filaments within the cytoplasm of the cell.

In photographs taken with an electron microscope, this alignment makes it appear that small patches of window screen are scattered about the cell, except that the holes of the screen are solid (the virus particles) and the wire spaces are blank.

Some of the solid spots are very dark. These are the complete particles. Other spots are lighter in color and these are incomplete particles, Drs. Richard A. Rifkind, Gabriel C. Godman, Calderon Howe, Councilman Morgan and Harry M. Rose report in the Journal of Experimental Medicine, 114:1, 1961.

Cut in cross section and magnified 258,000 times, the particle arrangement is hexagonal. Although the pattern is often somewhat askew, each particle is surrounded by six others and membranes can be seen.

The particle arrangements seem to accumulate around particular granular masses in the cell at one stage of growth and then move out to the edge. Finally the particles escape through tears in the cell membrane and the cell may disintegrate.

The intact cell seems to serve as a protective incubator for the virus particles. The incomplete particles become numerous during advanced stages of infection, but they are never found outside the cell. Such evidence indicates that the incomplete particle is unstable.

• Science News Letter, 80:57 July 22, 1961

TECHNOLOGY

Irradiated Plastics Become Semiconductors

➤ IRRADIATION of chlorinated plastics with ultraviolet light converts them into semiconductors, the materials from which transistors and related electronic items are made.

This discovery is reported in Nature, 191:164, 1961, by Gerald Oster, Gisela K. Oster and Marian Kryszewski of the Polytechnic Institute of Brooklyn, N. Y. They used the chlorinated plastic, saran, for their experiments. Ultraviolet light is in the invisible range with wavelengths shorter than visible light.

They found that at the border of irradiated regions unique p-n junctions occurred as in other semiconductors. The irradiated samples also showed photoconductivity in that they conducted an electric current when exposed to light. The photoconductivity appears to be due to trapped, unpaired electrons.

• Science News Letter, 80:57 July 22, 1961