



Massachusetts

MUTUAL UFO NETWORK, INC.

NEWSLETTER

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A VISIT FROM TUCSON. ARIZONA

On June 22, several MUFON members had a delightful evening in the home of yours truly. The special visit by Marge and Dave Christensen highlighted the meeting. There was good food and drink and lively discussions. It was nice to have them both back even though it was a short visit.

RADIO-TV LOG

- June 16 - Paul Harvey announced he has a 'deep throat' source in the government and will report more on June 20.
- June 20 - Paul Harvey announced on his Saturday "noon report" information he received on MJ 12 and offered his opinion on ufology in general. (we have this on audio cassette.
- June 24 - "Nightline" with Ted Koppel carried a UFO segment.
- June 27 - Barry Greenwood and Budd Hopkins were guests on the Larry King radio show.
- June 28 - Channel 38 broadcast the documentary "UFOs Are Real".

CASE REPORTS

Mass MUFON is currently working on a photograph case. A source from Lowell, MA has contacted me in reference to a slide he received detailing a D/D taken on May 30, 1987. Two witnesses. Investigation is continuing.

Monday, May 25, 9:00-9:30 p.m. - Two women, Sandy K. and Rose B., reported a dome-shaped object lit by scores of lights flying between Manchester and Nashua, NH. They reported the object hovered and moved quickly from right to left across the sky. The object was identified as a Cessna 150 single-engine plane carrying a 440 sq. ft. grid with 300 high-intensity lights. The plane was flashing a "Happy Anniversary" message on the grid. The plane circled the area between 8:45 and 9:15 p.m. at about a thousand feet.

CLASSIFIED

INTRODUCING Y.U.F.O.N. : The Yorkshire UFO Network was founded in 1984 and is doing quite well. If anyone is interested in knowing more about this organization i.e. its aims and goals, you can write them at : Yorkshire UFO Network, 69 Pildacre Lane, Ossett, Wakefield, West Yorkshire, England, WF5 8QB. (SUPPORT UFO RESEARCH)

The most

The northernmost city in the United States is Barrow, Alaska; the southernmost city is Hilo, on the island of Hawaii. The westernmost city is Lihue, on the island of Kauai, Hawaii; and the easternmost city in the U.S. is Eastport, Maine.



The harvest moon is the full moon nearest the autumnal equinox. It ushers in a period of several successive days when the moon rises soon after sunset. This phenomenon gives farmers in the temperate latitudes extra hours of light in which to harvest their crops before frost and winter come.

THEY WERE ALL THERE IN D.C.

Ufologists were in full force at Washington, D.C. June 26-28, 1987. There were approximately 500 people representing about 20 countries. They were of various creeds and cultures. Some travelled a few thousand miles while others only a couple of miles. Every one of them came to American University for one reason: the subject of unidentified flying objects. The brainpower among academia present at the symposium could be compared to the power put out by T.M.I. The field investigators for MUFON and CUFOS along with foreign representatives could have rivaled the manpower and expertise of the F.B.I. fugitive squad and Scotland Yard combined.

The government coverup was strongly represented by Barry Greenwood and representatives from CAUS. Representatives from foreign lands also discussed their gov't involvement. Behind the scenes, the P.I.P.E. committee headed by Marge Christensen and the board of directors of MUFON headed by Walt Andrus were adding and rewriting policy to mold MUFON into a firm and professional investigative unit whose high standards and caliber will be second to none.

The topic of abduction casework was in full gear. Two panel discussions were dedicated to this subject. Budd Hopkins and Dave Jacobs moderated the first panel to a standing-room only crowd. During the first panel discussion I was impressed by Dr. Jacobs and Budd Hopkins thoroughness and professional manner by the way they responded to many misinformed participants. They were cautious so as not to be misunderstood or misquoted by the media and by Phil Klass who was present throughout the symposium.

Now I would like to present a strange scenario that took place throughout the symposium. While I was listening to the first panel discussion on Saturday evening, I noticed a little man about 5ft. tall wearing a hat and carrying a camera and recorder. He walked quickly by me as I was seated. His briefcase was in his left hand and as he walked past, the briefcase slammed into my right knee. It hurt!! As I rubbed my injured knee, I looked up to see who the culprit was. Lo and behold it was Phil Klass. He looked at me, squinted, and gruffly said "I'm sorry". The next morning that same little man walked over to my table and placed his briefcase on top of my material. Naturally I took his case and moved it to the far corner of the table. Upon concluding his conversation with some people, he reached down and slid onto his shoulder my Canon AE-1 camera! I had to tell him that it was not his camera. Now, what I'm telling you is the absolute truth. One hour after the incident, while I was enjoying a soft drink and conversing with colleagues, I was hit from behind by none other than Phil Klass!! Please keep in mind that this was my first personal exposure to Mr. Phil Klass. Later that day, while being interviewed by a reporter from Boston Globe, my wife informed me that we had better be leaving for the airport for our flight to Boston. As we walked out of the Mary Graedon Bldg., with my overstuffed luggage, I saw a blurr out of the corner of my eye and was again bumped by that little man. I laughed and thought to myself, "No one will believe this even though I have scores of witnesses!!

Yes, they were all there: Paul Norman and Bill Chalker from down under, Kanishk Nathan from India, Capt. Daniel Perisse from Argentina and Cynthia Hind from Africa, just to name a few. The magnitude of this symposium was immense. Handshakes and thanks should go to everyone in the Fund for UFO Research for making this event such a success!!



Now You Know

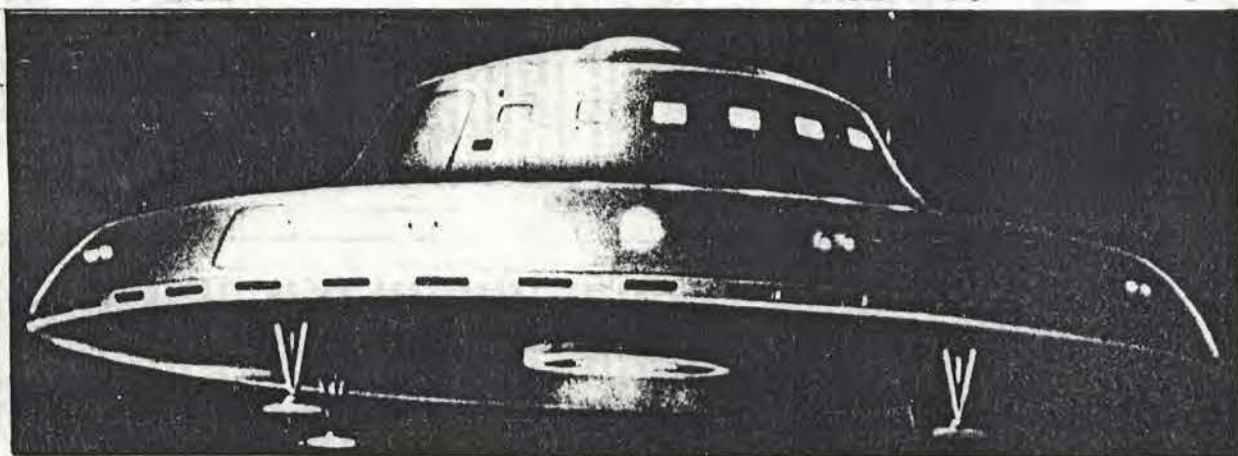
By United Press International

The deepest ocean descent by man was achieved when the Swiss-built U.S. Navy bathyscaphe Trieste, staffed by Dr. Jacques Piccard and Lt. Donald Walsh, reached the ocean bed 6.8 miles down in the Challenger Deep of the Marianas Trench, 250 miles southwest of Guam, on Jan. 23, 1960.

Now you know!

By United Press International

The term "the boondocks," commonly used to refer to a remote area, was derived from the word "bundok," meaning "mountain" in Tagalog, the language of the Philippines. It was originally World War II military slang brought to the United States by soldiers who served in the Philippines.



Artist's rendition of commonly reported type of UFO in the 1950s.

CENTERPIECE

Up in the sky, there were the UFOs

by Herb Strentz
Special to the Globe

The "flying saucer" era turns 40 today, but because of the decline in reports of "unidentified flying objects" (UFOs) in recent years, the birthday is likely to cause more nostalgia than excitement.

Reflection is merited, because the way we coped with flying saucers reveals much about post World War I America. Major themes of the frolics with flying saucers include deception by the military, fears of communism and stereotypical reporting by the news media.

The intriguing and comforting part of the fables is that they were part of the harmless, sometimes comic, social phenomenon christened by the press as having begun June 24, 1947. That's when a US Forest Service pilot, Kenneth Arnold, reported he saw nine bright, saucer-like objects skimming over the Cascade Mountains in Washington state. Arnold's report was followed by sightings in 17 states over the July 4 weekend.

Saucers soon became part of the national scene. In public-opinion polls, "flying saucers" set records of public awareness that remain unmatched by presidents, television stars or rock musicians.

One cause of such attention was the US Air Force.



File photos
UFO floats over Zanesville, Ohio home in 1967 photo.



Two "flying discs" reported on July 6, 1947 in Michigan.

payers, and therefore couldn't be dismissed by a military sensitive to political pressures; and, the Air Force explained reports of flying saucers, it didn't investigate them.

When people saw something in the sky that they didn't understand, they wanted the Air Force to tell them what it was. And it wasn't advisable for the Air Force to ridicule or ignore citizens, even if a saucer sighting was really dubious.

Quintanilla, the last director of the Air Force UFO Inquiry, commented about his desire to be straight forward in dealing with questionable UFO reports, but said: "...You have to be very courteous even though you know the guy (claiming to have seen a saucer) is an S.O.B. You always have that hammer over your head - he may call his congressman. . . I didn't know how much power congressmen had until I took this job."

When the Air Force wrapped up its formal UFO inquiry in 1969, it said it had explained 94.5 percent of the 12,618 UFOs reported to it.



Odd shape UFO in Santa Anna, Calif. in 1967.

nature or, in clear-cut cases, a weather balloon. At the end of a year, the modifiers probably and possibly were dropped. The Air Force then reported identification of all but a handful of UFOs. The procedure helped meet a 1953 Air Force directive that "Air Force activities must reduce the percentage of unidentified to a minimum."

The record keeping maneuvers were not noted by the news media, which faithfully reported the high percentage of saucers identified by Air Force. In related stories, the press would occasionally report that the North American Air Defense Command (NORAD) had no reports of UFOs on its billion-dollar detection systems. Technically, that was correct, since NORAD didn't keep track of UFOs. It kept track of UCTs (uncorrelated targets) blips on NORAD radar screens that were explained but were defined as nonhostile because of speed or trajectory. NORAD had thousands of UCTs.



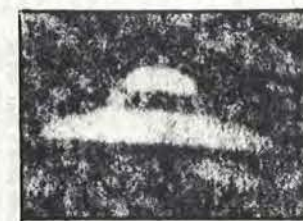
Beaver, Pa. high school student shot photo of UFO near the moon in 1967.

but no UFOs.

The Air Force didn't go out of its way to find UFOs to explain. The 12,000 reports handled by the Air Force were just those reported to the military and don't include thousands of other reports turned into newspapers or police stations.

In January 1953, an inquiry into the phenomenon was launched by a panel headed by H.P. Robertson, a theoretical physicist at the California Institute of Technology. The panel said it didn't make sense for the Air Force to continue dealing with UFOs. But the Central Intelligence Agency expressed fear that saucer reports might be used for subversive purposes - that communication channels could be deluged with phony saucer reports while the Soviet air force descended upon America. The result was that the Air Force not only continued its UFO program but also it began a program to "debunk" the reports.

The decision to continue to explain/debunk the saucers held sway until 17 years later when another study, conducted at the University of Colorado under contract with the Defense Department, suggested that the Air Force



This UFO was seen in Peru in 1973.

rid itself of UFOs. When the Air Force killed its UFO program, the news media lost its major news source. That loss, as much as anything else, is responsible for the decline in public and media attention to UFOs in the years since.

Flying saucer news coverage in the old days typically went through three stages: 1. the report of a UFO; 2. the Air Force explanation; 3. the response to the explanation.

In recent years, however, most news coverage has been limited to stage 1 - simple reports that someone saw a strange thing in the sky. And, as before, most of the news stories show no evidence that reporters pursued the story by contacting the weather service, local astronomers, nearby airports, or any other potentially helpful sources. The difference today is that no Air Force spokesman is giving explanations to the press.

So today, 40 years after it began, the UFO phenomenon is marked by far less heat, but no more light than before.

Herb Strentz, dean of the School of Journalism and Mass Communication at Drake University in Des Moines, Iowa wrote his doctoral dissertation on press coverage of UFOs and was a research associate with the University of Colorado UFO Project in the late 1960s.

Secrets In the Saucers Unidentified Facts Fly at AU Symposium

By Phil McCormick

Shirley A. Coyne says she was only 9 when she was first abducted. "It was the first abduction that we know of. We haven't regressed me any farther than that. I was taken from my bed by two little beings who were two and a half, three feet tall. They came into my bedroom, took me through the living room... It was like we were floating, not walking. I had no control. They took me aboard this craft and gave me an examination."

The examination was "very painful. They did all kinds of little experiments on me. They took a sample from my leg. I have a scar on my thigh where they took a sample of tissue. They did something to my back and other things I'd rather not talk about."

Now Coyne, 47, is a Michigan housewife with two children, three grandchildren and a husband, George, who is retired. As they stood talking with other UFO enthusiasts at the Mutual UFO Network Inc.'s 18th-annual International Symposium on Unidentified Aerial Phenomena, held at American University this weekend, they seemed pleasant, articulate and as sane as any Midwest American couple.

Their experiences seemed a little unusual, at all.

"We're skeptical," she said.

See UFO, D3, Col. 1



Washington Post June 28-29

UFO, From D1

"The first thing we try to do is try to disprove it," he said.

But facts are facts, they said. Shirley said she was abducted again at ages 16, 17 and 20. She has learned this by being "regressed" through hypnosis, which enabled her to remember the metallic, walnut-shaped spacecraft with flashing lights and the little grayish-white beings with "very very large" eyes. Also she remembers "my mother kneeling at the window in my brother's bedroom and she had a gun up to her shoulder and the gun was pointing out the window."

"She said she was shooting at three 10-year-old boys dressed in white," said George.

"This is the only way my mother could deal with it because she's a very religious person," said Shirley.

The couple "got active in the field" of ufology in 1983, said George, when there were four UFO sightings in their neighborhood. "The first one came up from the lake area," he said, as he and Shirley were driving home at 1 a.m. It was the size of a boxcar and had headlights. "When I saw 'em I slowed the car. It started going parallel to us, just over the houses."

But they were not afraid.

"No, we were not," said George. "I wanted to communicate with it. I wanted to get a message to them. I threw my mind into a blank so I'd be receptive to anything they wanted to send. I'm sure they received my thoughts: 'Come to me. Where are you from? Where are you going?'"

But there was no response from the UFO. It paced them a quarter mile down the road, then disappeared.

Abduction research is one of the big developments in ufology that was widely discussed among the 450 fervent believers who attended the weekend symposium. "Taking a close look at the abduction phenomenon gave us our first insight into the motivations of the intelligence behind UFOs," said David M. Jacobs, a history professor at Temple University who is considered the leading UFO historian in America, in his address to the group. "It was as if a door had opened and we were able to look inside the phenomenon... of extraterrestrial life, motivations, intentions and activities... We may be on the threshold of momentous discoveries."

Jacobs said there are well over 100 cases being studied. "In the past, UFO researchers were extremely suspicious of such stories. But now there

publicity-seeking people that we are forced to think that something exceedingly unusual is happening."

Most abductees have submitted to psychological testing that shows they are sane, he said. It also often shows the symptoms of a deeply traumatic experience. He said the abductees "tell specific, definite stories with a consistency of detail that is stunning." While most have to be "regressed" through hypnosis, some have direct conscious memories of their experiences.

Other top ufologists also take the phenomenon seriously. "Some people are being abducted by aliens for purposes decided upon by the aliens," said Stanton T. Friedman, the most popular UFO lecturer in the country. And writer William L. Moore galvanized the group with a story about what he said may be a top secret government document—a relatively new discovery—that mentions four alien corpses found near Roswell, N.M., in 1947.

"There are two possibilities on abductions," said Moore. "Either they're real as reported and we are dealing with something out of this world, or we are dealing with an entirely unrecognized form of psychosis."

Budd Hopkins, author of "Intruders," a new book about abductions, said the stories are "intrinsically almost impossible to consider true [because of] the inability of the human mind to accept the intrinsically unbelievable."

But he said he has interviewed 140 "completely credible" people who claim abduction experiences, including three PhDs, a New York City police officer and a government lawyer.

"All the evidence is totally persuasive to me that it's totally true," he said.

At a press conference kicking off the symposium, Hopkins said that during abductions the aliens generally took sperm and ova samples from the humans, then sought to mix "their cells and our cells" in "an ongoing breeding experiment." He said it appeared they were seeking to produce "a hybrid species."

"They haven't been flying around here for years just idly," he said.

The "ova retrieval process" described by women abductees, Hopkins said, has involved a needle inserted up to the abdomen.

Why, someone asked, would these superior aliens want to mix with inferior humans?

"We're bigger," Friedman interjected before Hopkins could answer.

Then Hopkins said, sensibly, "There's no way we can answer that question for the dums. All I can say is



Charles Hickson with his book "UFO: Contact at Pascagoula."

"Something is really flying around out there, and it's about time we began to pay serious attention to it," said Bruce Maccabee, a Navy research physicist and chairman of the Washington-based Fund for UFO Research, which hosted the symposium.

There were a number of foreign experts on hand for the weekend, and a Polish journalist at the press conference asked about the internationalist implications of the ufological movement.

Friedman answered that a "planetary orientation" or an "earthly orientation... instead of nationalism is the best way to avoid nuclear war."

Maccabee said that the Soviets hadn't responded to inquiries.

"We tried," he said with a shrug.

During a break, Hopkins was standing in a hallway talking with Charles Hickson, one of the two abductees involved in the famous 1977 Pascagoula, Miss., case. Hickson, a streetbroker, was being off a part toward his

behind him and some aliens took him in for a physical.

"He's suffered," Hopkins said of Hickson. "Everybody does. One feels frightened, helpless. You look at that face, it's not the face of a hoaxer."

And indeed, Hickson's heavily lined face had a sad, sincere expression that seemed to say he has seen a lot. He smoked a Winston and talked in a deep Mississippi drawl.

Did he ever think he was nuts?

"I wondered about it a few times, I sure did," Hickson said. He said of his fishing buddy, "he's still not himself. He's had two, three nervous breakdowns." But Hickson covets a book on his experience, "UFO: Contact at Pascagoula," and has recently produced a home video, "In Touch." He's working on another book based on subsequent abduction experiences.

As the two discussed various cases, George Farly, a stranger for a Hartford, Conn., radio station, broke in with a question for Hopkins.

"Any possibility of entombment?"

Hopkins explained that in many

ent. Or, he said, it may happen the other way around.

"It's as if they put 'em in and take 'em out," he said. "We are going to find one of these things one of the days. And that's going to be the smoking gun."

The other big topic in ufology these days is whether there is a "cosmic Watergate" going on. Many experts at the symposium said they think the government knows plenty about UFOs and is hiding it. The government was once intensely interested in the subject, and through the Air Force's Project Blue Book collected reports of sightings and investigated them. Blue Book was ended in 1969 with the official conclusion that no UFO was found to be a national security threat, or of extraterrestrial origin.

Moore, coauthor with Charles Berlitz of the 1980 book "The Roswell Incident," told a sensational story in his Saturday night dinner speech.

The story goes back to July 7, 1947, when the U.S. Army Air Forces announced that a "flying disc" had been found on a ranch in New Mexico. Officials later said the "disc" was just scraps from a weather balloon, but Moore, studying the incident over several years and interviewing dozens of witnesses, concluded it was in fact a flying saucer.

His book became a classic in the UFO field.

Then, in December 1984, Jaime Shandera, a free-lance television producer working with Moore, received in the mail from an anonymous source pictures of what purported to be a top secret briefing document, dated Nov. 18, 1952, and marked "EYES ONLY," for President-elect Eisenhower.

The document, which Moore has released to the press, describes a top secret intelligence operation called "Majestic-12," apparently established by President Truman in 1947 to study UFOs and manned by, among others, then Secretary of Defense James Forrestal and Gen. Nathan F. Twining.

The document details the Roswell flying saucer crash and says that, "On 07 July, 1947, a secret operation was begun to assure recovery of the wreckage of this object for scientific study. During the course of this operation, aerial reconnaissance discovered that four small human-like beings had apparently ejected from the craft at some point before it exploded... All four were dead and badly decomposed... A special scientific team took charge of removing these bodies for study."

The document goes on to say that "although these creatures are human-

... Since it is virtually certain that these craft do not originate in any country on earth, considerable speculation has centered around what their point of origin might be and how they got here. Mars was and remains a possibility."

"You can imagine our reaction," Moore told the group. "Is it real? Because if it is, then it's the most fantastic thing that's surfaced in the UFO world, ever. If it's not, then what's going on? Is it a joke?"

Moore said that he and Shandera spent more than two years studying the document—names, dates, writing style, typefaces—and found that "nothing seemed inconsistent." Moore thinks the document is either "an official reality or an official fabrication... Maybe somebody was out to embarrass us."

Moore said that "if I didn't feel it was real, I wouldn't put it out to the press." He added that "obviously if I was out to exploit it for greenbacks, I'd go do a book." But he said he decided, instead, to put the document out publicly in hopes that "others will come forward" to authenticate it.

Then Moore teased his audience with news that "the document is not all we have. We have some additional information we have not released and which is at this time in a rather delicate phase of our continuing investigation."

This information, he said, is "video-tape material" that is "very startling... almost incredible... Where it will lead, we don't know... Maybe we are on the edge of a new awareness of what human life is about and where we stand on the ladder of the universe."

Philip J. Klass, former avionics editor of Aviation Week & Space Technology, was admittedly the "dunk at the garden party." The author of "UFOs: The Public Deceived" now makes a career of debunking the ufologists.

Wearing a smile and with his tape recorder held high, Klass appeared to be enjoying himself.

"I believe every UFO case can be explained in prosaic and earthly terms," he said.

As for the Majestic-12 document, Klass said he's sure it's a hoax. Like, he said, was chairman of the Joint Chiefs of Staff on July 7, 1947, and it is inconceivable he wouldn't have known about and remembered four alien bodies.

"If Bill Moore had asked someone to write a document to confirm his Roswell book, this would be it," said Klass. "Although it's a very interesting



"Musical," "singing," or "barking" sounds occur in certain parts of the world. A possible explanation is that the grains of sand, when set into motion, vibrate against each other, causing the noise.



Mystery object baffles astronomers

Supernova companion prompts speculation

By David L. Chandler
Globe Staff

VANCOUVER, British Columbia — Astronomers said yesterday that an enormous object sighted near a recently discovered supernova may not be understood until an expanding shell of debris from the supernova explosion crashes into the companion in a few months.

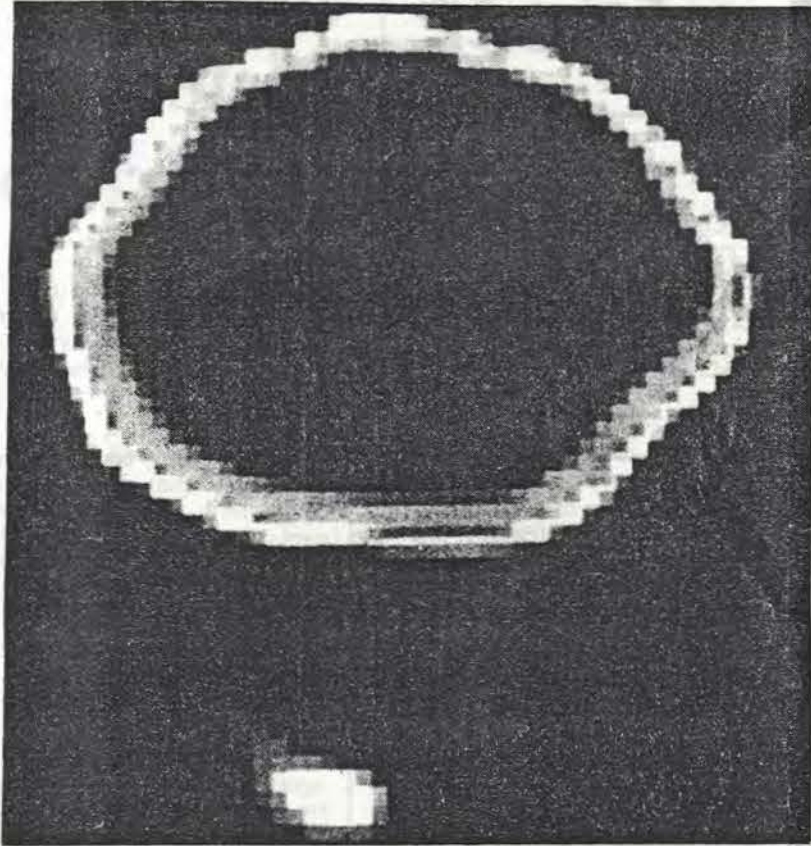
"I think all the explanations you can come up with are quite hard to stomach," said Richard McCray of the University of Colorado. "It makes no sense."

But whatever the object is, he said, its nature should become clearer in about six months when the first wave of material from the supernova — an expanding shell of shrapnel ejected by the cataclysmic death of a massive star — will reach the strange bright point.

If the companion is a brightly glowing blob of gas, he said, the impact of the expanding debris "will be like fireworks," and astronomers "will have no problem" identifying the impact. Analysis of those "fireworks" should help them understand exactly what the companion is.

That companion is clearly caused by the supernova because it was not seen before the supernova blew up. The companion, which is about one-tenth as bright as the supernova, can be seen only in the Southern Hemisphere.

Stanford Woosley of the University of California said yesterday that "it's easier to say what it isn't. It wasn't there before the supernova was; it's not a star; and it's not a second supernova."



AP photo
Unexplained object is shown below ring of material from the supernova explosion in February. The photo is a computer-processed composite of about 60,000 frames made at an observatory in Chile.



Virginia is the site of employment for nearly 135,000 federal workers. They work in such U.S. centers as the Pentagon; the Naval Air Stations in Norfolk, Va.; and Virginia Beach, Va.; the Naval shipyard at Portsmouth, Va.; the Marine Base at Quantico, Va.; Langley Air Force Base and

The mystery was discussed at a meeting here of the American Astronomical Society and the Canadian Astronomical Society.

The companion, which may either be a separate star "triggered" into activity by the supernova, or some kind of material ejected from it, or a beam of energy from the supernova that is reflected from some nearby cloud of gas, or something else that no one has thought of yet, was first seen by Peter Nissen of the Harvard-Smithsonian Center for Astrophysics and his colleagues. It has since been confirmed by observations at the Anglo-Australian Telescope near Sydney, Australia.

Boston University astronomer Kenneth Brecher suggested that the collapsing star that formed the supernova has now become a pulsar — an incredibly dense rotating star that emits energy in a flashing beacon resembling the beam of light from a lighthouse. The companion, he said, could be a reflection from the beam, its light bouncing from a nearby dust cloud.

But Brecher added that even though the idea that there is a pulsar inside the supernova could explain many of the observations made so far, it is, like all other theories advanced so far, highly improbable as an explanation of the companion object.

But if a pulsar is indeed the source of energy producing the supernova's bright light, then the predicted properties of the pulsar would have to fall in a very specific range, which can be clearly identified by radio and optical observations over the next few months.

The supernova, after steadily brightening from the time of its discovery on Feb. 23 until May 22, has now begun to fade rapidly, but many of the most important observations of it are expected to come over the next few months, as astronomers monitor radio waves, X-rays, gamma rays and a variety of other emissions. These observations should produce information about the life-cycle of stars, the composition of the gas and dust that fills space, and the nature of the companion object.

GROUND ZERO

by Tim Haggerty



Research points to a 10th planet

Could explain moves of Neptune, Uranus

By David L. Chandler
Globe Staff

Either our solar system contains a 10th planet or present theories of gravitation need to be revised, a National Aeronautics and Space Administration researcher reported yesterday after analyzing almost two centuries' worth of data on the motions of the planets and five years of data on the trajectories of unmanned space probes.

The researcher, physicist John Anderson of the space agency's Ames Research Center in California, has been making precise measurements of the motion of the Pioneer 10 and 11 spacecraft since 1982 in an effort to detect any unexplained changes in trajectory that might be caused by the "pull" of an unknown object in the solar system.

No such deviations have shown up, Anderson said at a NASA briefing yesterday, indicating that whatever is causing observed disturbances in the outer planets would have to be an object much smaller than a star. This means, he added, that "we're narrowing down the list of candidates for an object that could be disturbing the solar system."

Anderson said, "There are definite inconsistencies in the orbits of the outer planets" based on precise telescope measurements of planetary motions made since 1830. It was analysis of similar inconsistencies that led astronomers to the discovery of the outer planets Uranus, Neptune and Pluto, Anderson said. "It's not that often that you find 200-year-old data that's as good as present-day measurements, but that's the case here."

The telescopic measuring devices used for such studies have changed little, he said, and most other experts in astrometry — the precise measurement of positions of telescopic objects — agree that the data are reliable.

Before the Pioneer measurements, Anderson said, it was considered possible that strange motions of the planets Uranus and Neptune, which could not be explained by the influence of any known planets, were caused by an unusual object orbiting the sun. The possibilities included a brown dwarf — an object smaller than a star but much larger than a planet — or "even something exotic like a small black hole," Anderson said. These explanations, he said, have now been ruled out.

US Naval Observatory astronomer Robert Harrington, a pioneer in the search for unknown planets orbiting the sun or other stars, said in a telephone interview yesterday, "There's not much doubt that something is not being accounted for in the motions of the solar system." His opinion is that there is a 50-50 chance that this "something" is another planet.

If the data on the planets' motions are correct, Anderson said, that leaves only two viable explanations: Either there is a 10th planet, perhaps five times Earth's mass, orbiting the sun somewhere beyond the orbit of Neptune, or there is something wrong with the theory of gravity as originated by Sir Isaac Newton and revised by Albert Einstein. If that were the case, it might mean that a small mathematical factor needs to be added to the presently accepted formulas for gravitational motion. But at this point, there is no other evidence that such a readjustment is needed, he said.

Data about peculiarities in the motion of Mercury early in this century, Anderson

'We're narrowing down the list of candidates for an object that could be disturbing the solar system.'

— John Anderson

said, were taken as evidence of a planet orbiting closer to the sun than Mercury, the innermost planet. The new planet, dubbed Vulcan, was never found, and those strange motions later were explained by Einstein's revisions to the theory of gravity.

"We had to wait for relativity to explain the orbit of Mercury," Anderson said.

Harrington said there might be other explanations than the two proposed by Anderson, such as the influence of clouds of gas within the solar system that were discovered by the infrared astronomical satellite, IRAS.

If the orbital anomalies are caused by a 10th planet, Anderson said, then its orbit must be a long, narrow oval at a steep angle to the orbits of the known planets. If "Planet X" were orbiting in the same plane as the other planets or in a neat circle, he said, it would have had a significant effect on the motions of Pioneer 10 and 11, which are hurtling away from the sun at distances of about 2 billion and 4 billion miles, far beyond the furthest planet.

"I think that's the most likely possibility," Anderson said. But he added that the planet would be distant and dim as seen from Earth, and with present-day telescopes, "it would be quite difficult to find."

Meteorite crater found under North Atlantic

Associated Press

NEW YORK — Scientists said they have identified the first known meteorite crater beneath an ocean, a huge depression about 124 miles southeast of Nova Scotia.

Further study could explore the hypothesis that mass extinction can follow huge meteorite impacts, researchers Lubomir Jansa and Georgia Pe-Piper wrote in today's issue of the British journal Nature.

The crater was formed underwater 50 million years ago from the impact of a meteorite or the nucleus of a comet, wrote Jansa, of the Bedford Institute of Oceanography in Dartmouth, Nova Scotia, and Pe-Piper, of St. Mary's University in Halifax, Nova Scotia.

The falling object must have measured about 1.25 miles to nearly 2 miles in diameter, they said.

The crater lies under about 370 feet of water near the edge of the continental shelf. It stretches at least 28 miles across, with an uplifted portion in the center that stands about a mile tall and 7 miles across.

The crater holds rocks that bear evidence of having undergone tremendous shock, a sign of meteoritic impact.

Blyth Robertson, a research scientist with the Geological Survey of Canada, said the discovery was the first documented finding of such a crater. A partially translated paper suggests that Soviet scientists have found some presumed undersea craters, he said.



Caspian seals migrate from the Caspian Sea's northern ice in winter south to deep, cool water in summer, says National Geographic.

MA HIRON

Only the female mosquito bites. The males are vegetarians.