

# IUR

International UFO Reporter



Senator Richard B.  
Russell, D-Ga.  
(1897-1971)

Project Y,  
"The Silver Bug"



## THE SENATOR, THE SAUCER, AND *SPECIAL REPORT 14*

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AIR FORCE RELEASES STUDY ON  
UNIDENTIFIED AERIAL OBJECTS

The results of an investigation begun by the Air Force in 1947 into the field of Unidentified Aerial Objects (so-called flying saucers) were released by the Air Force today.

No evidence of the existence of the popularly-termed "flying saucers" was found.

This report was based on study and analysis by a private scientific group under the supervision of the Air Technical Intelligence Center, Dayton, Ohio. Since the instigation of the investigation more than seven years ago, methods and procedures have been so refined that of the 131 sightings reported during the first four months of 1955 only three per cent were listed as unknown. (A summary of the report is attached.)

Commenting on this report, Secretary of the Air Force Donald A. Quarles said: "On the basis of this study we believe that no objects such as those popularly described as flying saucers have overflowed the United States. I feel certain that even the unknown three per cent could have been explained as conventional phenomena or illusions if more complete observational data had been available."

"However, we are now entering a period of aviation technology in which aircraft of unusual configuration and flight characteristics will begin to appear."

The Air Force and the other Armed Services have under development several vertical-rising, high performance aircraft, and as early as last year a propeller driven vertical-rising aircraft was flown. The Air Force will fly the first jet-powered vertical-rising aircraft later this month at Edwards Air Force Base, Calif., under contract with Avro Ltd., of Canada, which could result in disc-shaped aircraft somewhat similar to the popular concept of a flying saucer. A available picture, while only an artists' conception, could illustrate such an object. (Photograph is available at Pictorial Branch, Room 2D10, Ext. 75131.)

While some of them may take novel forms, such as the AVRO project, they are direct-line descendants of conventional aircraft and should not be regarded as supra-natural or mysterious. We expect to develop airplanes that will fly faster, higher and perhaps farther than present designs, but they will still obey natural laws and if manned, they will still be manned by normal terrestrial airmen. Other than reducing runway requirements we do not expect vertical-rising aircraft to have more outstanding military characteristics than conventional types.

MORE

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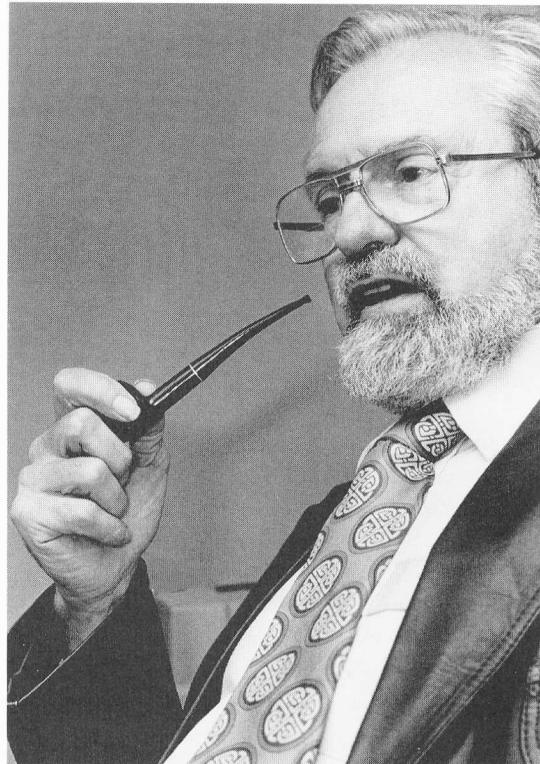
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# THE SENATOR, THE SAUCER, AND SPECIAL REPORT 14

BY JOEL CARPENTER

The release of Project Blue Book's famous Special Report 14 on October 25, 1955, represented one of the Air Force's most important statements on the UFO phenomenon in the 1950s.

According to the report's introduction, it was commissioned by the Air Force to determine whether "flying saucers" represented technological developments not known to this country" but defined "flying saucers," confusingly, as "natural phenomena that are not yet completely understood, psychological phenomena, or intruder aircraft of a type that may be possessed by some source in large enough numbers so that more than one independent mission may have been flown and reported."

The Special Report had its origins several years earlier, when Capt. Edward Ruppelt, head of what would become Project Blue Book, approached the Battelle Memorial Institute, a civilian scientific research organization in Columbus, Ohio, at the end of 1951 with a request for a statistical study of UFO data. The study would be the most sophisticated analysis to date of the huge mass of UFO information that had been collected by the Air Force since 1947, and would be performed using new machine-coding and analysis techniques on IBM data-processing equipment.

By the middle of 1952, Battelle researchers had designed a battery of 30 characteristics of UFO sightings that could be coded onto IBM punch cards based on data obtained from Blue Book files and from a standardized questionnaire that would be supplied to new witnesses. In this manner, Battelle processed some 3,200 UFO reports into explanatory categories such as "birds," "astronomical," "balloon," "psychological," "insufficient information," "psychological," and "unknown." Although the study was supposed to be ready by the fall of 1953, analysis of current reports rolled into 1954 and beyond, in an effort to reduce the percentage of unknown objects remaining in the statistical identification breakdowns.

But given that Project Blue Book seemed satisfied that the study revealed no indication that foreign "intruder aircraft" (or unknown phenomena of any kind) were present

in the data in significant numbers, why did the Air Force choose to issue the report months after it was finished?

Several arguments have been advanced to account for this. David Jacobs pointed out in *The UFO Controversy in America* (1975) that Donald Keyhoe's book *The Flying Saucer Conspiracy* (1955), which strongly attacked the Air Force's denial of the reality of the UFO phenomenon, was just reaching bookstores at the time. Additionally, Ruppelt's own book *The Report on Unidentified Flying Objects* was also about to be published (1956) and the Air Force was probably almost as unenthusiastic about his revelations. Other factors, such as rumors of the forthcoming (1956) production of the film *Unidentified Flying Objects*, made in cooperation with former Air Force UFO spokesman Al Chop, may have contributed to a perceived need to exert some form of official media "perception management" concerning UFOs in the fall of 1955.

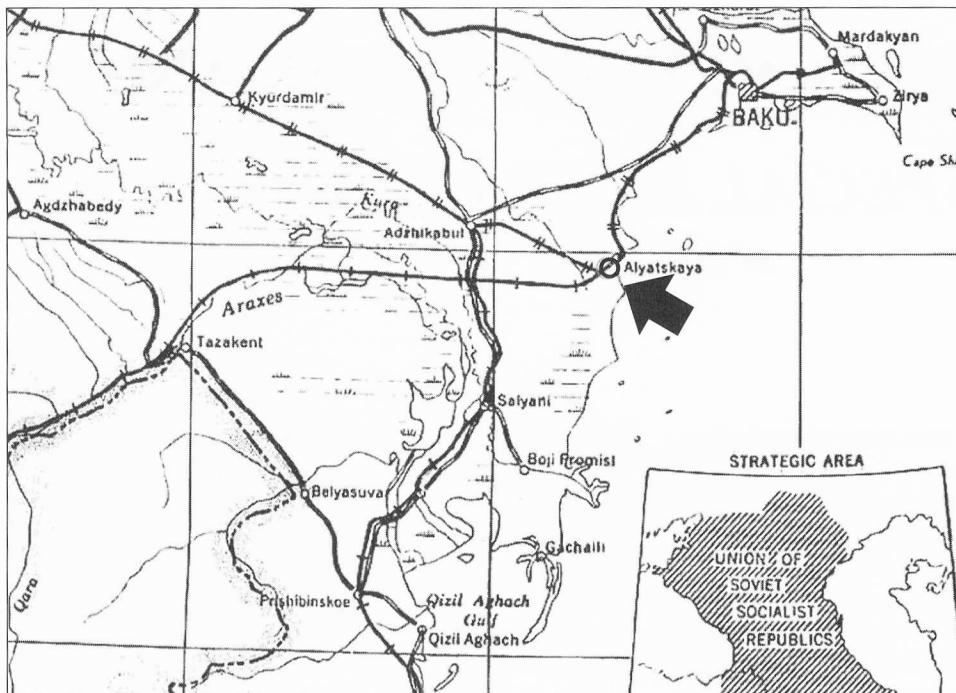
## THE REAL STIMULUS

But there may have been another, more immediate stimulus for the release of *Special Report No. 14* on October 25, 1955: A sighting, three weeks beforehand, of two UFOs in the Soviet Union. The primary witness was senior U.S. Senator Richard Brevard Russell.

Interviews of a surviving eyewitness, combined with recently declassified CIA documents on the case, help flesh out the story of the Russell incident and its aftermath and contribute to a better understanding of the apparent sequence of events. In addition, the archives at the University of Georgia have yielded hundreds of pages of information on Russell's trip to the Soviet Union. Archives personnel were interested in the case and gave me their generous cooperation in reviewing hundreds of pages of travel files for possibly relevant documents.

In the spring of 1955, Senator Russell began planning an extended tour of American military facilities in Europe, a type of "fact-finding" mission he had used in the past to generate leverage for bigger defense budgets. As chairman of the Armed Services Committee and one of the Senate's senior members, Russell was one of the most influential men in Congress. A former governor of Georgia and perennial presidential candidate, Russell was a southern-style

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The circle indicates the approximate location of the sighting, a few miles southwest of Alyatskaya. Dashed line at lower left is Iranian border.

Democrat with socially conservative, strongly pro-defense views (Lockheed's Georgia division was a major employer in his home state). Equally important, in an era when there was no formal congressional oversight of the intelligence community, Russell was arguably the CIA's chief ally and contact in the Senate.

Russell's trip came during a summer full of significant aerospace developments. On July 3, the Soviets had alarmed the U.S. Air Force by staging a flyby of a fleet of giant new jet bombers during a military airshow, provoking American fears of a "Bomber Gap." At the Geneva Summit Conference a few days later, Nikita Khrushchev had rejected President Eisenhower's proposed "Open Skies" arms verification plan under which the United States and Soviet Union would permit mutual photographic flights over strategic installations, setting the stage for the CIA's use of the U-2 covert reconnaissance aircraft beginning in 1956. The Lockheed-built U-2 made its first test flight at a secret airbase on Groom Dry Lake in the Nevada nuclear test range on August 1.

The following day, Frederick C. Durant III, President of the Sixth Congress of the International Astronautical Federation in Copenhagen, had informed that body of Eisenhower's recent decision to back the launch of a U.S. scientific satellite during the upcoming International Geophysical Year. Not to be outdone, the Soviet delegate to the Congress, Leonid Sedov, immediately called a press conference at which he announced, "In my opinion, it will be possible to launch an artificial Earth satellite within the next two years."

When Russell sailed for Europe on the *SS United States* on August 18, he told reporters that he wanted to see firsthand "if we are getting the defense we should for the

money." He downplayed rumors that he would cap his European trip with an excursion through Russia, even though his office had applied for his Soviet visa long before. Accompanying him was Army Lt. Col. Edward N. Hathaway, a member of the congressional liaison staff.

Russell's papers indicate that his friend and Senate protégé Lyndon B. Johnson and Johnson's wife Lady Bird were invited members of his entourage, but it is difficult to picture Johnson, the ambitious, workaholic Senate majority leader, taking two months off to join Russell on his European junket. In any case, Johnson's near-fatal heart attack in June had forced him to drop all plans.

Russell had publicly expressed his opinions on UFOs at least once prior to his Russian trip. On April 5, 1950, a prophetic INS newspaper story reported that "Senators confessed today that they are as baffled by reports of 'flying saucers' as anyone else":

Senator Russell, a member of the Armed Services Committee, declared:

"I am completely baffled by flying saucer stories. It seems incongruous that so many pilots would have hallucinations or be fooled by cloud or atmospheric formations. From their testimony, it seems they do exist. But our Air Force says they do not. I just can't understand it. No, I don't think it is in the stage for a senatorial investigation as yet." . . . Senate Armed Services Chairman Tydings (D-Md.) said his committee has not discussed the discs with anyone, let alone defense officials. Tydings said: "I have not taken the matter seriously. If there is anything to it, I would assume it was our own experiments in embryo stage rather than men from Mars."

The Senator's itinerary was packed with visits to U.S. and NATO military bases. He made stops in London, Madrid, and Paris. In early September he flew to Germany for excursions to airfields at Wiesbaden (soon to host U-2 operations) and Kaiserslautern, then moved on to Frankfurt, Amsterdam, Copenhagen, Oslo, and Helsinki.

In Finland he and Hathaway rendezvoused with Reuben Efron, a Russian-born U.S. citizen who would accompany Russell as his translator during his two-week stay in the Soviet Union. The CIA had a long-standing program to use Western travelers in the Soviet Union as informal intelligence collectors. Efron, a Washington attorney (and possibly a CIA Clandestine Service officer), kept a detailed, classified journal full of comments on Soviet food, living quarters, and economic conditions. Col. Hathaway was tasked with observing items of defense interest. The men clearly took their roles as spies seriously, taking meticulous notes on military installations, transport infrastructure, and a multitude of other items of possible intelligence interest.

Russell, Hathaway, and Efron arrived in Leningrad on September 23, saw the sights, then took a train to Moscow three days later. In the capital they made the usual tourist rounds. Russell annoyed his Soviet hosts by insisting on taking a car 70 miles to the Borodino battle monument from the 1812 Napoleonic war. On the way to the monument, Hathaway dutifully noted that exactly 42 kilometers west of Moscow there was an installation sporting an obsolete copy of an old World War II German radar set.

## THE FOURTH MAN

In studying Russell's papers, I was surprised to note that while he was in Moscow, he crossed paths with another American who happened to be in the middle of a long visit to the USSR: Robert R. Gros, a California marketing executive. I was able to contact and interview him in 1990.

Bob Gros was the vice-president for public relations and advertising for the San Francisco-based Pacific Gas and Electric Company. An adept "collector" of celebrities and public figures, Gros counted dozens of national and international notables as friends—men like Wendell Willkie, Thomas Dewey, and Clark Clifford. Earlier in 1955 Gros had been asked by the mayor of San Francisco to head a committee responsible for managing a special 10th anniversary commemorative session of the United Nations. He quickly



*Senator Russell and Col. Hathaway in Azerbaijan, probably a few hours before the UFO sighting (photo courtesy of Robert Gros).*

got to know the Russian delegate, Foreign Minister Vyacheslav Molotov:

During the week of the UN sessions [Gros recalled] there were many receptions and cocktail parties. Every time I saw Molotov he gave with a platitudinous rhetorical sort of invitation 'you must come visit the USSR some day' . . . I had no illusions about his sincerity but the day before he left I decided to take him up. To my utter amazement he called over his ambassador . . . and told him to visa me whenever I wished.

Gros immediately arranged to leave for the USSR and was in the middle of a five-week trip when he encountered Russell's party. He insisted on joining the other three when they left Moscow and was the mysterious "fourth man" in the American entourage during the UFO sighting.

After spending a few days in Stalingrad, the Americans flew to the famous city of Baku, the capital of the Soviet republic of Azerbaijan, located on the coast of the Caspian Sea in a major oil-producing region. They were placed in the care of the latest in a succession of Intourist guides, a short woman with steel teeth whom Russell (who was growing weary of Intourist guides) sardonically nicknamed "Snappin' Annie." Annie took them to the approved tourist sites in the town, but the party decided that they wanted a better overview of the Caspian and pressured her to take them to the war monument on a hill overlooking the city. The senator and Hathaway each carried 35mm cameras and Gros had a 16mm movie camera in addition to his Leica, which was loaded with Kodak color film. For the benefit of analysts back home, and over Snappin' Annie's protests, the tourist spies clicked away at what they were sure were items of intelligence interest along the waterfront. Gros thought he could see submarines, which seems odd considering that the Caspian Sea is landlocked.

On the evening of October 4 the Americans made their way to the Baku railroad station in preparation for a long rail



*Robert Gros*

trip through the Transcaucasus region to Soviet Georgia. When they settled into their train carriage, Efron noticed that a tall, stocky military officer, apparently a one-star general, occupied the compartment immediately adjacent to his. The doors at the ends of the cars were locked, so the travelers would be effectively isolated until their arrival in Tbilisi, Georgia, the next morning. They finally got underway around six o'clock. The rail line ran southwest along the Caspian and made a sharp dogleg to the west-northwest near the town of Alyat (Alayatskaya on some maps), which the group later referred to in its reports as "Atjaty." At this point, the train was only 100 miles or so from the Iranian border. It stopped briefly at the Alyat station at about seven o'clock.

The senator, who was feeling a bit ill, was resting on his bunk in his darkened sleeper compartment and watching the scenery. About ten minutes out of the Alyat station he noticed a small light that seemed at first to be a reflection in the window. He realized in a moment that it was in the sky outside, some distance from the train. It resolved into a spinning, glowing, yellow-green dot that rose rapidly into the air on a nearly vertical path.

Russell burst into the compartment next door where the other three men were chatting and shouted, "I just saw a flying saucer!" Someone switched off the lights and all four men crowded to the window in time to catch a glimpse of the dot disappearing high and to their right. It was moving fast. Gros grabbed his cameras and began filming. A few moments later, all four men saw a second light flare up a mile or two to the south and spiral up into the darkening sky. It followed much the same path as the first. To Hathaway and Efron, it seemed to be circular, about the size of a fighter plane, spinning rather slowly, and emitting a hint of fire or sparks. There was no smoke trail, and any sounds it might have made did not carry over the noise of the train. As Gros remembers it, the object's motion was rapid: "it *shhhhot* into the sky!" There were one or two searchlights shining toward the train from near the takeoff point, leading the men to assume that the site was a military base, despite their inability to see any runways or structures. Night was rapidly falling; nothing more was visible. The Americans stayed glued to their window, straining to see more. Soon the conductors came through and pulled the blinds, gesturing that further sightseeing was forbidden.

"We saw a flying saucer," Russell said to the others. "I wanted you boys to see it so that I would have witnesses." "Everyone in the compartment was convinced that we had seen something real and unusual," Efron wrote in a later report. "I asked if it could have been some kind of airplane and the others replied, 'No, there was no resemblance.'" The men continued to discuss the incident for some time before retiring for the night.

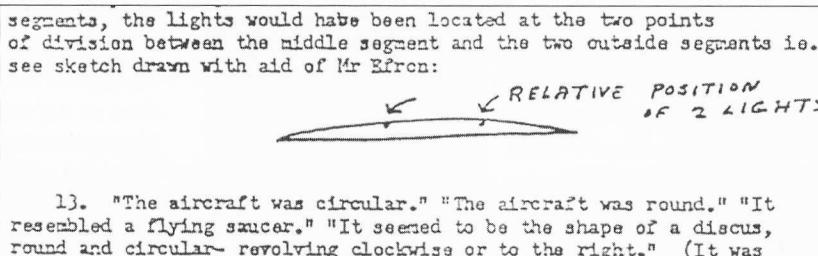
In Tbilisi, a day or two after the incident, Robert Gros

parted company with Russell and headed back to Moscow. His description of the Baku event may have been the first to reach American ears. "We were told by the Embassy and the CIA that the area was a missile-testing site," he recalled. "*The terms flying saucer and missile were used interchangeably at the Embassy.*" When the executive returned to California, he was visited by two CIA representatives who carefully sifted through his slides and motion picture reels. All his photos and 16mm film footage of the Alyat site were impounded. Gros recalled that he was personally asked by CIA Director Allen Dulles to avoid discussing the incident.

Meanwhile, Russell and his two companions were heading west toward Czechoslovakia via Kiev. They finally had a chance to unburden themselves of their secret on the night of October 12, when they reached the U.S. Mission in Prague. Hathaway was barely able to contain himself through a late dinner, and at the first opportunity he took U.S. Air Attaché Lt. Col. Thomas Ryan aside and excitedly told the Air Force officer that they had seen "something that we've been told by your people doesn't exist." Ryan joked that after a year and a half in Czechoslovakia he could believe anything, and arranged for a formal debriefing early the next day. The next morning Russell made a decision that would prove to have very significant consequences: Saying that he would need to socialize at the Mission, he told Hathaway and Efron that they would have to stand in for him at the debriefing.

Secure in Ryan's office, the two Americans began to recount the observations they had made during their long trip: jet fighters at one airbase; a new kind of bomber at another; the possible submarines on the Baku waterfront; details of railway switchyards and construction techniques. But the main item of discussion was the Baku incident. As the travelers talked, Ryan outlined a description of a very strange vehicle. Ryan jotted down the verbal impressions as they poured out: "The aircraft was circular." "The aircraft was round." "It resembled a flying saucer." "It seemed to be the shape of a discus, round and circular—revolving clockwise or to the right."

Hathaway was particularly careful to emphasize that the senator had seen the objects first, and said that just after



13. "The aircraft was circular." "The aircraft was round." "It resembled a flying saucer." "It seemed to be the shape of a discus, round and circular—revolving clockwise or to the right." (It was

the sighting, the Soviet conductors had entered their compartments and pulled down the window shades, which implied to him that the Americans had inadvertently been allowed to see something forbidden. Ryan, initially blasé, was becoming intrigued himself. His interest was height-

ened when Hathaway and Efron revealed a strange and troubling sequel to the incident. Two days after the sighting the men had been riding in another train between Tbilisi and Sochi on the Black Sea when they encountered a friendly and slightly drunken middle-aged Russian. Discovering that they were Americans, the Russian enthusiastically told them that he himself had been to the US in the 1930s—as the pilot of a long-distance record aircraft which had flown nonstop over the North Pole to Washington state! He said his name was Egorov, that he was a Hero of the Soviet Union, that he had shot down 17 German planes during the Great Patriotic War, and that he was now retired. To Ryan, the appearance of such an experienced long-range pilot seemed a “most significant coincidence . . . taking into account the observations which were reported in the Atjaty region. . . . It is difficult for me to believe that this experienced pilot in polar navigation would be retired and doing nothing but travelling around the Trans Caucasus region,” Ryan noted, implying that the Baku objects were some sort of intercontinental-range flying saucers.

As soon as the Americans left, Ryan transmitted an urgent Top Secret, Noforn (No Release to Foreign Nationals) cable to USAF Headquarters.

NIACT. To: DINTA, Wash. DC. Noforn. USAF handle as operational release immediate. USAF crypto pass to CINCUSAFE and USAIRA Moscow. Three reliable US observers, Senator Richard Russell, Lt. Col. E. U. [sic] Hathaway, Army, Mr. Ruben [sic] Efron, visited Prague 12–14 Oct. Arriving direct from Kiev . . . And reported following to USAIRA and USARMA. : On 4 Oct. 55 at 1910 hours between Atjaty and Adzhijabul, ten minutes by rail after departing Atjaty in Trans Caucasus region, two round and circular unconventional aircraft resembling flying discs or flying saucers were seen taking off almost vertically one minute apart. Disc aircraft ascended near dusk with outer surface revolving slowly to right and with two lights stationary on top near middle part. Sparks or flame seen coming from aircraft. No protrusions seen on aircraft which passed over observers’ train. Both flying disc aircraft ascended relatively slowly to about 6000 feet, then speed increased sharply in horizontal flight both on northerly heading. Flying attitude of disc remained same during ascent as in cruise, like a discus in flight. Two operating searchlights pointing almost vertical seen near takeoff area located about 1–2 miles south of RR line. After sighting Soviet trainmen became excited and lowered curtains and refused permission to look out windows. US observers firmly believe these unconventional aircraft were genuine saucer or disc aircraft. USAIRA rates info B-2. . . . Recommend complete debriefing of Russell group upon return and suggest commendation from D/I for efforts. . . .

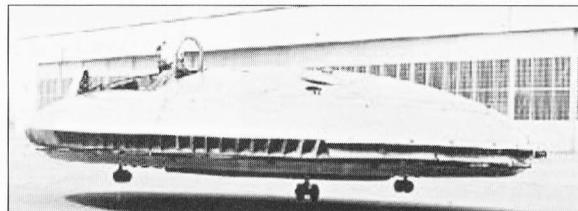
Ryan followed up the cable with a lengthy formal Air Intelligence Information Report including a crude sketch of

the discs and the comment, “The significance of this report re the USAF project ‘Unidentified Flying Objects’ is remarkable and lends credence to many ‘saucer’ reports.”

At least a week before Russell was scheduled to return to the United States, the Central Intelligence Agency was aware of the report. On October 18, Allen Dulles informed the Intelligence Advisory Committee—intelligence directors from the various military intelligence agencies, the FBI, Atomic Energy Commission, and State Department—of the observation.

## THE SILVER BUG

There was consternation among the intelligence officers because the United States had, for some time, been sponsoring the development of a vehicle much like the one Russell saw. Invented by a team of British engineers working at A. V. Roe Canada, a Toronto division of the British Hawker Siddeley Group, the saucer-like craft was to be capable of vertical takeoff and landing (VTOL), with a fantastic rate of climb in addition to incredible speed at tremendous altitudes. The aircraft was known by a variety of names and designations, including Y2, MX-1794, “Ladybird” and “Silver Bug,” and was to be about 30 feet in diameter, with



Photos © London Sunday Times, March 26, 2000

a top speed of about Mach 3.5 and a range of some 1,000 miles, carrying one pilot and a small payload. The Canadian group had begun serious development of the aircraft in the fall of 1951, but by September 1954 the U.S. Air Force, intrigued by the promised capabilities of the design, had taken over funding and management of the aircraft.

As early as December 1954, USAF’s *Air Intelligence Digest* had devoted an article to the idea that similar Soviet high performance aircraft were an imminent possibility. The article showed illustrations of the Avro Silver Bug vehicle (without identifying it as such) and noted:

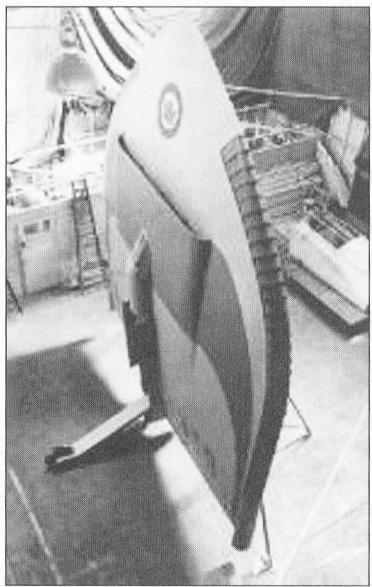
One of the big questions now facing the United States is this: What are the Soviets doing in the disc-aircraft field? If the United States accepts the possibility of success of circular-shaped aircraft, then it must also conclude that the Soviet Union is capable of developing such aircraft. If readers assume, at the extreme end of the possibility scale, that the USSR is several years ahead right now, these questions must occur to them:

- If the Soviets now have such an aircraft in operational use, would the United States air defense system be able to detect, identify, intercept and destroy a bomber or reconnaissance aircraft moving at a 1,500

knot clip at an altitude of 65,000 feet?

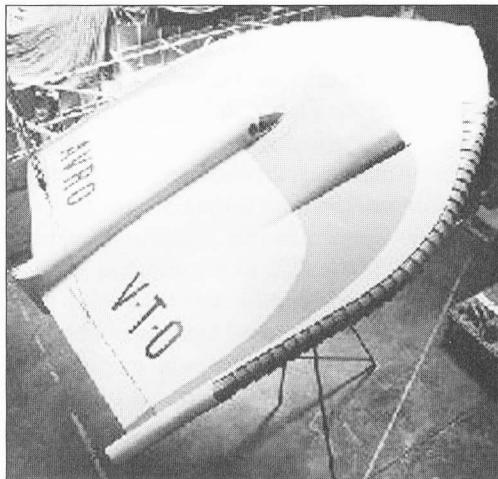
- What would be the capability of the Strategic Air Command with present-day aircraft to penetrate the Soviet Union on bombing missions if the Soviets defended themselves with disc-type interceptor aircraft with the above performance?

It is worth repeating that the disc aircraft is a vertical riser. (Some day it may be known simply as a VTO, or vertical take-off aircraft.) This means that it could be housed aboard most naval ships, including submarines. . . . Such an aircraft would need no long, heavily reinforced concrete runways. At the most, it would only need a concrete platform to keep ground personnel and installations from being hit with dust, sand, or gravel. In many instances, a small clearing could provide the disc with a take-off spot. Conclusion: Heads Up! A great amount of information on the development, flight, and production of circular-type aircraft will be reported and discussed during the next few years. It will behoove the USAF to continue its open-minded interest in all such reports, keeping in mind that reports of saucer-shaped aircraft have an increasingly better chance of being true as the years go by. A new era of flight appears about to begin.



Considering that *Air Intelligence Digest* had suggested that Soviet saucers might be launched from submarines (an idea raised in 1953 in Project Blue Book's own Report 12), the fact that the Americans had seen submarines at Baku may have been an additional concern, especially when combined with the "Egorov" story. As unlikely as all this might seem, the CIA had established a protocol for dealing with the discovery of Soviet saucers as early as June 1954, when technical intelligence officers Sidney Graybeal, T. M. Nordbeck, and Todos Odarenko signed a memorandum titled "Intelligence Responsibilities for Non-Conventional Types of Air Vehicles," which assigned all responsibility for evaluation of information on possible foreign saucers like the Avro disc to CIA's Applied Science Division, Office of Scientific Intelligence. The memo stated that

ASD/SI will be responsible for the initiation and proper exploitation of all intelligence measures required to identify, to assess, and to report the use by any foreign power or nation of non-conventional types of air vehicles, such as or similar to the "saucer-like" planes



presently under development by the Anglo/British Canadian efforts. In this, ASD/SI will rely on the normal assistance of all other elements of OSI, substantive and staff, of the same kind that it receives in regard to other weapons and weapon systems presently within the normal intelligence activities.

The Russell sighting evidently triggered this arrangement, and the day after the IAC meeting, Wilton E. Lexow, head of ASD, noted in a memo that

1. The objects reportedly sighted by [Senator Russell] are described to be similar to Project "Y" which is in the research stage at Avro Aircraft Ltd., Canada, under contract to the US Air Force. . . .
4. Project "Y" is being directed by John Frost. Mr. Frost is reported to have obtained his original idea for the flying machine from a group of Germans just after World War II. The Soviets may also have obtained information from this German group.
5. Since the objects were reportedly seen in operation in an area where it is most unlikely that experimental flying would be conducted, it is likely that these objects were in service. This would indicate very rapid progress in this development for the Soviets. It does, however, seem inconsistent that the Soviets, if they have such an object in service, would continue their large development and production programs on conventional type aircraft.
6. Since our first information on Project "Y" in early 1953, ASD has been on the alert for information which might indicate that the Soviets were working on such a project. Prior to the sighting by [Russell] no such information has been available.
7. In order to properly evaluate the report by [Russell] and group, it will be necessary to have additional information and details of the sighting. The Air Force has made arrangements for technically competent persons to question the party.

While some members of the Intelligence Advisory Committee might have been concerned about all this, it was

by no means proven. Nobody had had a chance to thoroughly debrief the Senator himself, who was considered the primary witness. But if Ryan's cable was accurate, there was plenty to worry about. For the first time since the Arnold sighting in 1947, there seemed to be credible evidence of the existence of Soviet saucer-like aircraft.

If the findings of the Robertson panel actually did reflect high-level opinions, the Air Force and CIA clearly would have preferred to avoid the UFO publicity that inevitably would result from leaks of the Russell story. The last thing the Air Force would have wanted was a nightmare linkage of Russell's power with Keyhoe's public lobbying—and a Congressional investigation of UFOs. Moreover, if the Soviets actually did have a new vehicle comparable to the Avro saucer it could become necessary, by the logic of the Cold War, to signal Moscow that the US was now aware of its existence and that it had its own counterpart in development.

Russell was expected to be safely back on US soil on October 25th. There was still time to handle the story on the Air Force's terms.

#### News Release

#### Department of Defense Office of Public Information

Immediate Release

October 25, 1955  
No. 1053-55

#### AIR FORCE RELEASES STUDY ON UNIDENTIFIED AERIAL OBJECTS

The results of an investigation begun by the Air Force in 1947 into the field of Unidentified Aerial Objects (so-called flying saucers) were released by the Air Force today.

No evidence of the existence of the popularly-termed "flying saucers" was found.

The report was based on study and analysis by a private scientific group under the supervision of the Air Technical Intelligence Center at Dayton, Ohio. Since the instigation of the investigation more than seven years ago, methods and procedures have been so refined that of the 131 sightings reported during the first four months of 1955 only three per cent were listed as unknown. . . .

Commenting on this report, Secretary of the Air Force Donald A. Quarles said: "On the basis of this study we believe that no objects such as those popularly described as flying saucers have overflowed the United States. I feel certain that even the unknown three per cent could have been explained as conventional phenomena or illusions if more complete observational data had been available.

"However, we are now entering a period of aviation in which aircraft of unusual configuration and flight characteristics will begin to appear.

"The Air Force and the other Armed Services have under development several vertical-rising, high performance aircraft, and as early as last year a propeller driven vertical-rising aircraft was flown. The Air Force will fly the first jet-powered vertical-rising airplane in a matter of days. We have another project under contract with AVRO Ltd., of Canada, which could result in disc-shaped aircraft somewhat similar to the popular concept of a flying saucer. . . .

"While some of these may take novel forms, such as the AVRO project, they are direct-line descendants of conventional aircraft and should not be regarded as supra-natural [sic] or mysterious. We expect to develop airplanes that will fly faster, higher and perhaps farther than present designs, but they will still obey natural laws and if manned, they will still be manned by normal terrestrial airmen. Other than reducing runway requirements we do not expect vertical-rising aircraft to have more outstanding military characteristics than conventional types.

"Vertical-rising aircraft capable of transition to supersonic horizontal flight will be a new phenomenon in our skies, and under certain conditions could give the illusion of the so-called flying saucer. The Department of Defense will make every effort within bounds of security to keep the public informed of these developments so they can be recognized for what they are."

Mr. Quarles added: "I think we must recognize that other countries also have the capability of developing vertical-rising aircraft, perhaps of unconventional shapes. However we are satisfied at this time that none of the sightings of so-called 'flying saucers' reported in this country were in fact aircraft of foreign origin."

In conjunction with Quarles' evening press conference, reporters were given access to copies of Project Blue Book Special Report 14 as well as an artist's conception of the Avro MX-1794 "Silver Bug" saucer. The wording of the press release appears to have been carefully crafted to permit the Air Force an "out" in the event that the Baku objects turned out to be real Soviet vehicles. By stating that none of the sightings *in the United States* were believed to be aircraft of foreign origin, Quarles could simultaneously allay domestic concerns and leave open the option of recognizing the existence of the Soviet saucers. Quarles' revelation that the Air Force was about to fly a new jet-powered VTOL aircraft referred to the Ryan X-13 Vertijet, the tiny, delta-winged experimental jet that had been in development for several years. In his page-one story on the release of Special Report 14, the *New York Times'* Tony Leviero noted that "the Air Force said people in the San Diego area might mistake the Ryan plane for a flying saucer. However, no description of the Ryan craft was made public."

Naturally the CIA was anxious to interview Russell, and the assistant director of the Office of Scientific Intelli-

gence arranged to debrief the senator at his earliest opportunity. Herbert ("Pete") Scoville Jr. was a veteran scientific intelligence officer, having been an observer at the 1946 Operation Crossroads nuclear tests at Bikini atoll before being named technical director of the Armed Forces Special Weapons Project, an interservice agency responsible for coordination of nuclear weapons design. He had been associated with the important 1953 Strategic Missiles Evaluation Committee (better known by its code name, the "Teapot Committee"), which was staffed by such luminaries as John von Neumann, Edward Teller, Hans Bethe, Theodore von Kármán and George Kistiakowsky, which determined that it would be feasible to miniaturize thermonuclear warheads to a degree that could make intercontinental ballistic missiles practical. Scoville was close to the developing reconnaissance satellite projects, and after Richard Bissell's departure from the CIA in 1962, he would succeed Bissell as head of the CIA's satellite reconnaissance programs. Scoville was also known as an outspoken opponent of "human intelligence" as a reliable means of gathering information on the USSR, and probably went into the interview with rather low expectations.

## THE DEBRIEFING

Judging by his interview notes, Scoville's major concern was that Russell had been a victim of some sort of Soviet hoax, designed either to plant the idea with the American group that some kind of launch site existed between Baku and the Iranian border, or to make them think they had seen a Soviet saucer, as unlikely as that might be. This was particularly worrisome considering that the Soviet military officer in the adjacent compartment could very well have been bugging them during the sighting. What would the Soviets make of all this?

Carefully interrogating the senator on October 27, the day after his return to Washington, Scoville began to conclude that Ryan's cable, which had alarmed the intelligence services, was inflated in many respects—biased toward an image of a vehicle unwarranted by the observations. Point by point, the CIA officer used the interview to deconstruct the implications of the Ryan cable.

Only Efron had actually claimed to have seen an object take off from the ground—he described the liftoff of the second light as a missile-like "ejection"—and Russell had seen no detail on the lights whatever (but remarked helpfully that the others' eyesight must be better than his). One point in Ryan's cable that had hinted that something of great significance had been seen was the implication that the agitated Soviet trainmen had pulled the window blinds to obstruct the view. On questioning the senator about this, Scoville discovered that the trainmen had closed the blinds at least 10 minutes after the event, when Russell was back in his own compartment. Russell did not feel that they were trying to hide anything. Scoville ticked off the discrepancies between the accounts like a scorecard: Hathaway

thought the second object had a darker, spinning outline; Russell and Efron were not sure. Efron thought he had seen a triangular shape with three lights shoot from the ground; Hathaway saw only two lights per object, and first saw both objects when they were some distance in the air; Russell could only vouch for one light per object. Everyone but Hathaway said the second light had followed a fairly continuous, if wobbly, vertical path; the Colonel was adamant that it had made a sharp transition to horizontal flight. Gros had been trying to aim his cameras, and saw little detail in both cases. The clearly defined saucer-like VTOL aircraft of Ryan's cable were melting away.

Scoville was a great deal more skeptical—or jaded—than the Air Attaché in Prague:

The testimony of [Senator Russell's party] does not in my opinion support the theory that the Russians have developed saucer-like or unconventional aircraft. It is quite possible that the objects seen were the exhausts of normal jet aircraft in a steep climb. The fact that none were seen on the ground might indicate that the aircraft were in a dive followed by a sharp pull-up in such a way that nothing was seen until the exhausts were visible to the observers on the train. However, it is possible that the aircraft were indeed of the short or almost vertical take-off variety.

In a Menzelian memo to DCI Allen Dulles, Scoville growled:

Two years ago, Dr. Robertson headed a group which investigated U.S. sightings of flying saucers. This group was able to explain almost all the sightings and reached the conclusion that these phenomena represented no threat to the security of the U.S. Even if the present sightings [by Senator Russell] are confirmed, it should not be decreed that those unconventional aircraft have actually been flying around the U.S. and were the source of U. S. public speculation.

Scoville probably had more of a reason than just a skeptical attitude to discount the existence of Soviet saucer-like vehicles in the Baku region. The proximity of the site to the Iranian border would have facilitated the monitoring of the radio traffic generated by an operating military facility, particularly a missile or fighter base, as well as the emissions of the radar equipment invariably associated with such a site. The closest known major ballistic missile test facility was Kapustin Yar, about 600 miles north of Alyat, and ironically, the party had been in the vicinity of that installation just a few days prior when they were visiting Stalingrad. The Baikonur ICBM test site in Kazakhstan where Sputnik would be launched (two years to the day after the Russell sighting) was in its earliest stages of construction at the time. Available documents give no hint that anyone in the intelligence community considered the possibility that the objects had been anything but human-made devices.

Interestingly, the senior surviving member of the Avro

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saucer team insisted to me in a 1991 interview that the Canadians were not informed of the sighting. After reading the CIA accounts of the incident I provided, he too expressed skepticism that the objects were Soviet counterparts of their VTOL saucers.

## THE STORY BREAKS

Naturally, despite the precautions, Russell's sighting was too hot to be kept completely quiet. Tom Towers, the aviation columnist for the *Los Angeles Examiner*, soon heard the story through the grapevine and attempted to contact the senator for confirmation. His first letter went unanswered, but a follow-up got an evasive response from Russell:

Permit me to acknowledge your letters relative to reports that have come to you regarding aerial objects seen in Europe last year. I received your letter but I have discussed this matter with the affected agencies of the government and they are of the opinion that it is not wise to publicize this matter at this time. I regret very much that I am unable to be of assistance to you.

A few months later, Max B. Miller, from the Los Angeles-based group Flying Saucers International, wrote to Russell about rumors he had heard concerning the incident. Al Chop, the former Blue Book public relations official, had told Miller's group that Russell had seen *four* flying saucers take off at tremendous speed during his European trip. Miller reported that Chop felt that the secrecy surrounding the incident was another example of official censorship designed to keep the public in the dark about UFOs. Would Russell be willing to make a formal report to Flying Saucers International, Miller wondered? Of course, anything he said would remain strictly confidential. No doubt Allen Dulles would have frowned on a case where a well-connected UFO insider like Chop was leaking (and apparently exaggerating) material that would remain classified top secret for the next three decades; the letter is classic evidence of why UFOs were still treated as a serious security issue. There is no indication in Russell's papers that he ever replied to Miller.

How did the incident affect Russell personally? The security-conscious senator left virtually no direct reference to it in his papers. But there is no question that Russell came back from his trip with increased concerns over the Soviet military air threat. He launched an airpower subcommittee of the Armed Services Committee within a few months of his return. Headed by ultra-hawk Stuart Symington, the subcommittee became a focus for scare stories about Soviet airpower and helped fuel the "Bomber Gap" controversy, leading to huge increases in appropriations for the U.S. bomber fleet.

The Senator also was definitely impressed by the encounter with General "Egorov," the long-range pilot, whom he evidently believed to have been the genuine

article. When the Soviets launched the first earth satellite in 1957, Russell's very next speech linked the 1937 polar flight to the United States to the Russian space achievement. "The principal significance of this announcement is not solely in the fact that the Russians have launched the first satellite," he told the audience at the Gordon County, Georgia, "Industry Appreciation Day" celebration on October 5, 1957:

From the point of view of the Free World, the greatest threat lies in the fact that [the satellite launch] confirms the Russian claim that she has perfected an intercontinental ballistic missile. . . . As I have said time and again, we have consistently under-estimated the productive capacity of the Russians. Before the Committee on Armed Services, I have reminded the officials of the Executive Branch of the Government time and again of the fact that the Russians built and successfully flew aircraft over the North Pole and into this country back in the early 1930's.

In the days and weeks following the Quarles press conference, a flurry of stories on saucer-like vertical takeoff aircraft appeared in major U.S. newspapers and magazines. On November 4, *U.S. News and World Report* triumphantly shouted "Flying Saucers: You'll See Some Official Ones Soon" in a long article on the Quarles statement illustrated with the DOD drawing of the Avro saucer. The magazine finally felt vindicated over its 1950 story on an alleged Navy saucer project:

In the issue of *U.S. News and World Report* for April 7, 1950—five years ago—there was a description of the "flying saucer" projects of that time. Projects referred to then also were "convertiplanes," combinations of helicopters and conventional aircraft. Pictures of those models show a close similarity to the planned Air Force convertiplanes of 1955. . . . Man-made "saucers," now to be built, will have the same basic characteristics that, since 1947, have astounded thousands of persons who reported seeing "flying saucers." The new craft will be able to rise vertically, or almost vertically, travel horizontally at speeds far above normal airplane speeds, maneuver more rapidly than conventional planes, perform feats of turning and climbing that would be impossible with conventional aircraft.

Over a five-year period, "flying saucer" reports came in from all sections of the country, but the biggest concentrations of reports were from New Mexico, Southern California, East Texas and Ohio. Development of new types of convertiplanes, at the same time, has been going on principally in Southern California, Texas and Ohio, with some research at missile ranges in New Mexico—the same areas where most "saucers" were reported during this five-year period.

Actual aircraft appearing in "saucer" reports in the

(continued on page 30)

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# DETECTION OF UFOS USING STATE-OF-THE-ART TECHNOLOGY

BY JOHN F. SCHUESSLER

**F**or the past 50 years, civilian UFO organizations have been collecting, categorizing, and archiving UFO reports. By using proper investigative techniques, they have amassed an incredible amount of information. A major portion of this database is drawn largely from eyewitness testimony, supplemented by films, videotapes, and radar. The various Air Force projects (Grudge, Blue Book) used the same techniques. However, government officials and scientists have casually dismissed this evidence as inconsequential.

Meanwhile, various domestic and foreign government agencies have been using all sorts of advanced technologies for military purposes. As far as we can tell, few of these advanced technologies have been used to investigate UFO sightings. The purpose of this article is to urge responsible governmental organizations to reassess their position and allow all available technologies to be used to eliminate the UFO mystery.

## BACKGROUND

For 35 years I worked in the U.S. human spaceflight program and was exposed to a forward march of both classified and nonclassified new technologies. Many of these could have been applied to solving the UFO mystery, but as far as I can tell, that never happened. For the past five years I have made presentations to various technical and civic groups describing how these new technologies could be applied to the UFO problem and found the audiences to be quite receptive to the idea. Still, nothing of significance has resulted from my efforts.

The following is a summary of some technological options that could help solve the UFO mystery. Everything that follows was taken from open sources and, to the best of my knowledge, is either not classified or sufficiently vague so as not to be a threat to national security. Some readers will be aware that new extrapolations of the technologies

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*John F. Schuessler lives in Littleton, Colorado. He is the current chairman of the UFO Research Coalition and incoming international director of the Mutual UFO Network.*

listed here are now in daily use by various agencies. Of course, greater success could be assured by using state-of-the-art technology, but it isn't necessary. Any one of these techniques, applied to UFO research and investigation, could add significantly to the quality of the database and bring us closer to the day when the mystery is solved.

## PARTNERING WITH GOVERNMENT AGENCIES

In the past 50 years, thousands of individuals and non-governmental groups have spent hundreds of thousands of hours amassing the evidence about UFOs. At several points during this period, the United States, France, Russia, and several other governments commissioned investigations and studies, but apparently they enjoyed no more success in eliminating the mystery than private groups.

According to public-opinion polls, most people abhor this lack of progress and see it as an attempt by government to cover up whatever is really going on. Many conspiracy theories have grown out of this high level of distrust; the public now has a low opinion of the intelligence community, the military, and the government in general. This comes at a time when our very survival may depend on these agencies. Much of this distrust could be eased if agencies would work with private UFO research groups in an era of openness and cooperation.

Government agencies regularly partner with industry, academia, and private research organizations. For example, in 1999 the National Security Agency was selected to spearhead a U.S. Defense Department effort to develop, with commercial assistance, joint tactical signals intelligence systems. Similar efforts have been conducted with private think tanks, universities (such as the University of Texas and Texas A&M University) and aerospace corporations. Such joint ventures almost always enjoy a high level of success.

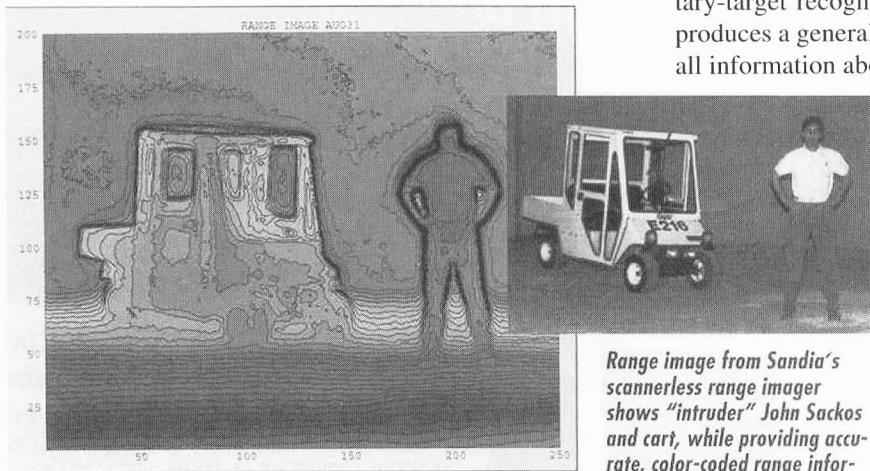
Similar partnering ventures with such organizations as the National Institute for Discovery Science, the Mutual UFO Network, CUFOS, and others could result in the resolution of the UFO mystery in the near term and restore a high level of trust in the government in general. All of the

partnering could be done in the open, without exposing any classified information. However, because of the varied backgrounds of members of these organizations, both classified and unclassified groups could exist within each of them if necessary. The goal in every case is the elimination of the UFO mystery.

## AVAILABLE TECHNOLOGIES

Any solution to the UFO mystery requires more than rhetoric. The journalistic approach to the problem has failed miserably. It is time to collect hard data and subject it to open scrutiny. In most cases, no new systems would be required. All of these technologies already have the capability to amass data on UFOs. Protocols could easily be developed to allow certain data streams to flow to the selected groups for evaluation and analysis.

These existing technologies include radar, infrared imaging, optical holographic filtering, image recognition, sensors, and remotely piloted vehicles. The following is not intended to be an exhaustive list. Rather, it is offered as a starting point for a dialogue between governmental agencies and private groups.



*Range image from Sandia's scannerless range imager shows "intruder" John Sackos and cart, while providing accurate, color-coded range information at the same time.*

## LASER RADAR IMAGER

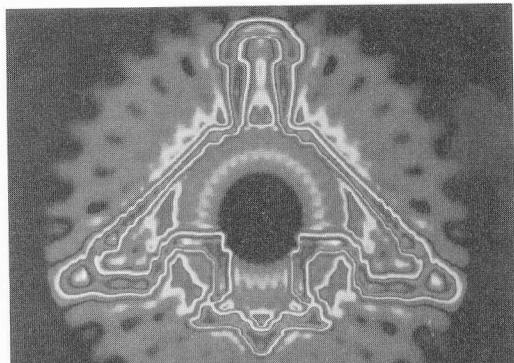
Engineers at Sandia National Labs in Albuquerque, New Mexico, have developed a field-ready scannerless laser radar system (above) that can resolve differences in range accurately enough to use the data to image the size, shape, and contours of the objects it sees, thus providing image and range information.

The system was developed as part of a program to enable smart conventional weapons to actively seek and identify their targets while discriminating between targets and decoys.

*Source: R&D Magazine, November 1994.*

## OPTICAL HOLOGRAPHIC FILTER

Researchers at Sandia National Laboratories have defined an advanced technique for optical pattern recognition that



*Computer reconstruction of a delta-wing aircraft made from an incomplete set of image components.*

provides the capability to detect and identify images of target objects, despite distortions in image scale, rotation, or angle of view.

Older holographic pattern-recognition systems could identify a target rapidly by matching it to information stored in a holographic template. Those systems suffered a basic drawback in that the target images must match the template exactly.

The newer technique, developed primarily for military-target recognition, does not suffer this limitation. It produces a generalized holographic template that includes all information about a prospective target.

A special filter is employed to create a "lock-and-tumbler" hologram. This will identify a target image regardless of the target's position, brightness, or rotation, even if the target is partially obscured by other objects, altered in appearance by reflections or glint, or buried in visual "noise." These features make the lock-and-tumbler hologram particularly attractive for real-world optical pattern recognition under conditions of less than ideal visibility. It can recognize the shape of a particular aircraft, the plumes of enemy rockets, or other flying objects.

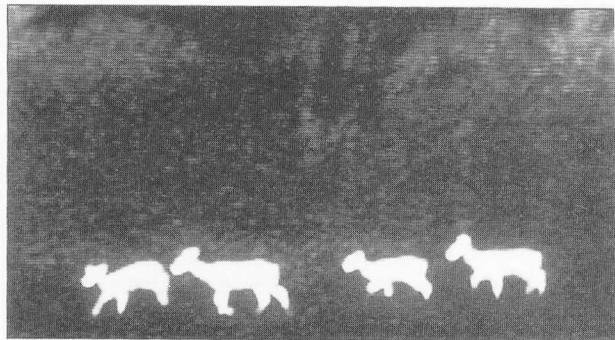
The hologram is generated from detailed information about a prospective target, which is stored in computer memory. A series of calculations is required to produce a lock-and-tumbler hologram. A spinning optical-correlation filter is employed. The angular harmonics of this device closely approximate those of the target image, which is dissected into a number of fundamental components and recombined in a way determined by a computer algorithm called spectral iteration. This produces the hologram that serves as a unique "key" for the target—a Harrier Jump-jet, for example. The computer-generated key fits no other image, therefore recognizes only the target it has been programmed to recognize.

*Source: Machine Design, September 25, 1986.*

## Thermal Infrared Imaging

In the spring of 1993, Dr. Richard J. Pollack of the Harvard School of Public Health and Mitsubishi Electronics America teamed to utilize thermal imagery to assess the abundance and distribution of deer on Block Island and Prudence Island off the coast of Rhode Island.

Mitsubishi provided a high-quality thermal imager capable of detecting temperature differences of  $0.1^{\circ}\text{C}$ . This was installed in a Cessna 206 airplane modified for aerial surveillance and photography.



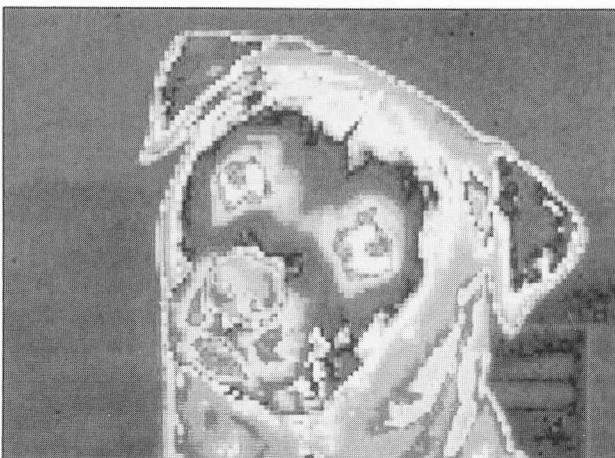
Thermal infrared image of deer observed during a nighttime deer census on Prudence Island, R.I., in a low-resolution frame captured from a high-resolution videotaped image. Mitsubishi's IR-M-500 registers energy in the 3- to  $5\mu\text{m}$  spectral range on 262,000 PtSi detectors in a focal plane array and converts it to a  $512 \times 512$ -pixel image in 256 gray levels.

A penned herd of 35 white-tailed deer was imaged at various altitudes, speeds, and light conditions. The researchers were able to identify and discriminate among deer, horses, cows, and people. They found the view from 1,000 feet above the ground to be acceptable, permitting recognition of nearly 100% of the deer in open areas, more than 87% of the deer in brush-covered sites, and more than 63% of the deer in moderately wooded sites without leafy vegetation.

Source: *Photonics Spectra*, July 1994.

## Pole-Mounted Infrared Imaging

Amber of Goleta, California, has developed a new infrared



This infrared image of a prize-winning Rottweiler was recorded by an Amber 128 x 128 indium antimonide staring focal plane array. After it was recorded, the image was photographed from a display generated by Amber's Pro-View imaging system. Photo courtesy of Amber, a Raytheon Co., of Goleta, Calif.

imaging system called Radiance 1 that combines advanced infrared camera performance with the operational ease of video cameras. The camera's electronics are centered around a 32-bit digital signal processor and Flash memory, so that tasks that were once complex—manual IR camera tasks such as calibration, brightness-setting, and contrast enhancement—are now automatic functions. The camera also has additional memory for performing image processing and analysis on its own, so that tasks such as motion detection, autotracking, and object recognition can be performed at the camera level.

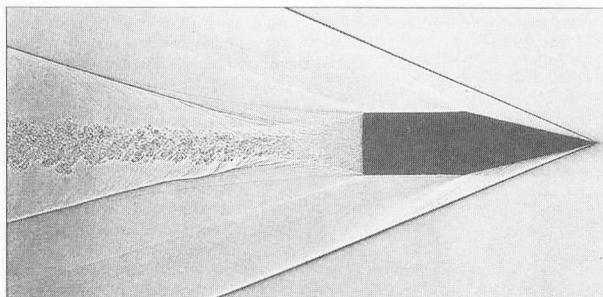
Source: *Photonics Spectra*, January 1993.

## Acoustic Detection System

An acoustic sensing system can track incoming rifle and artillery fire to provide real-time information on the projectiles' source and trajectory. Known as the projectile detection and cueing system, the small portable unit analyzes a projectile's shock wave to extrapolate its path back to the originating weapon.

The system can provide operators with the direction and elevation of the incoming munitions. Military applications use vehicle-mounted or hand-held devices for sniper detection or for locating tanks.

The device seizes upon projectile shock waves instead



Acoustic sensors can detect the origin of a passing projectile by discerning the leading-edge shock wave pattern as it fans out from the nose of the object. This shock wave is compared to the weaker recompression shock wave that trails the projectile.

of on the muzzle blast to determine point of origin. The projectile need only pass by the sensor suite from any direction to be detected and tracked. The projectile size offers no limitation to the system's ability for detection. The projectile must be supersonic for the detection system to function in its primary mode.

Source: *Signal*, November 1994.

## All-Weather Sensor

A fine resolution, real-time synthetic-aperture radar (SAR) system, developed by the Department of Energy's Sandia National Laboratory and General Atomics, takes photograph-like images in rain or fog, through clouds, and in day or night conditions. Lynx, the 115-pound all-weather sensor, can be mounted on both manned aircraft and unmanned aerial vehicles and operate at a range of 85 km. Flying at an altitude of 25,000 feet, the Lynx SAR produces one-foot

resolution imagery at standoff distances of up to 55 km. At a resolution of four inches, the radar can make images of scenes 25 km away. The radar forms an image that is larger than that displayed, storing it in cache memory. This allows the operator to pan around within the total scene in order to concentrate on a particular area of interest. The sensor can detect small surface penetrations such as footprints in soft terrain. The sensor picks up the slightest change in a scene using a technique called coherent change detection. Not only can the Lynx detect moving targets, but future versions will be able to image seaborne targets, cue other sensors, and take 3D images.

*Source: Design News, October 18, 1999.*



*HARD radar mounted on German MaK Wiesel 2 surveillance vehicle.*

### **HELICOPTER AND AIRPLANE RADAR DETECTION (HARD)**

The countries of Sweden and Germany are using the Swedish-built helicopter and airplane radar detection system. The HARD radar is a track-while-scan radar that operates in the X band. The system can automatically monitor 20 targets at up to 20 kilometers.

*Source: Signal, March 1999.*

### **SPACETRACK**

The U.S. Air Force Space Command runs Spacetrack, which provides data on satellites and missiles from its network of sensors around the world, including NASA's tracking system. Spacetrack gets its information from the U.S. Navy Space Surveillance System (NAVSPASUR), which operates a line of radar stations running from Georgia to California that transmit a fan-shaped radar beam into space to a height of about 15,000 kilometers. The system can detect and calculate the orbital characteristics of any satellite or other object breaking the beam.

*Source: Tracking UFOs by Satellite, Simon Harvey-Wilson.*

### **BALLISTIC MISSILE EARLY WARNING SYSTEM (BMEWS)**

To protect the North American continent, the USA and Canada cooperate in maintaining a radar shield over their combined land mass that can detect incoming missiles or craft from any direction. This system is operated by the North American Aerospace Defense Command (NORAD), located near Colorado Springs, Colorado. BMEWS is especially strong to the north because of the risk of ballistic missiles coming over the North Pole. To complete the radar shield, there are also radar beams facing west, south, and east from the North American coast, so that nothing that is detectable by radar can fly into Canada or the United States from any direction without tripping the system.

*Source: Tracking UFOs by Satellite, Simon Harvey-Wilson.*

### **GROUND-BASED ELECTRO-OPTICAL DEEP SPACE SURVEILLANCE SYSTEM (GEODSS)**

The Ground-based Electro-optical Deep Space Surveillance System consists of a worldwide network of nine systems located at White Sands Missile Range in New Mexico, on the island of Maui in Hawaii, in Portugal, and on the Indian Ocean island of Diego Garcia. These systems, which include telescope-mounted low-light-television cameras and infrared sensors, can detect an object as small as a football in geostationary orbit 36,000 kilometers above the ground. This system was used in the 1970s to determine the extent of the damage sustained by the Skylab space station during launch before the launch of the Skylab astronauts was allowed.

*Source: Aviation Week & Space Technology, March 15, 1999.*

### **NUCLEAR DETONATION DETECTION SATELLITES**

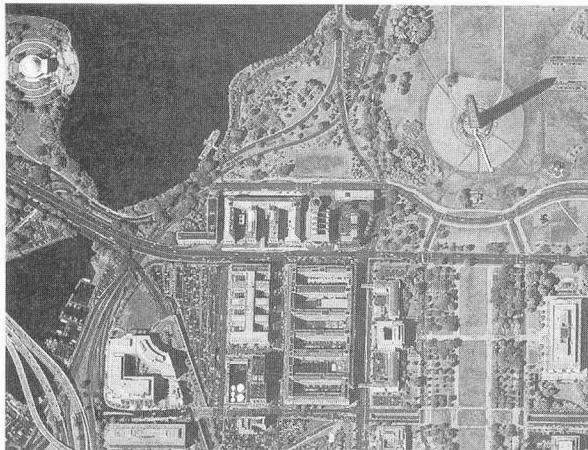
U.S. Department of Defense satellites monitoring for nuclear explosions have the capability to detect bright flashes caused by meteoroids disintegrating in the atmosphere. Sensors provide the exact location by latitude and longitude, peak flash intensity, total radiated energy, number of pieces, and earth impact site.

The DSP satellites are equipped with Schmidt infrared telescopes, nuclear detection detonation sensors, ultraviolet sensors, and visible light sensors.

*Source: U.S. Air Force Web site: phobos.astro.uwo.ca/~pbrown/usaf.html.*

### **SPACE-BASED REMOTE-SENSING IMAGERY**

High-resolution remote sensing imagery allows commercial viewers to discern objects smaller than an automobile.



The Ikonos satellite, put into orbit by Space Imaging Incorporated, can provide 1-meter resolution remote sensing imagery such as this view of the Washington Monument in Washington, D.C.

An industry-owned system duplicates some of the capabilities of Department of Defense satellites.

The Ikonos satellite, owned and operated by Space Imaging Incorporated, Thornton, Colorado, revolves around the Earth 14 times a day in a sun-synchronous orbit 423 miles high. In addition to 1-meter panchromatic, the satellite's Kodak optical imaging device can generate 4-meter multispectral imagery operating in the same bands 1 to 4 as Landsats 4 and 5.

*Source: Signal, December 1999.*

## MULTISPECTRAL IMAGING

The Pentagon is offering its combat leaders an additional source of intelligence that springs from its newly found ability to quickly collect, analyze, and identify nonphoto-

graphic clues from a target. The data include unique heat patterns, electronic emissions, and previously unused dimensions of radar reflections (see chart below).

Data can be collected by sensors on aircraft, ships, satellites and the ground. New technology allows specialists to combine the products of several sensors and closely examine thin slices of the electromagnetic spectrum—a process called multi- or hyperspectral sensing—to produce distinct signatures of anything of military importance.

There are sensors available that can look through clouds, camouflage, and foliage. The technology also examines less obvious products given off by a target such as reflective color, chemical discharges, or radar polarization.

*Source: Aviation Week & Space Technology, August 2, 1999.*

## KEYHOLE SATELLITES

The early-generation Keyhole satellites, KH-1 through KH-9, returned canisters filled with film of targets and included 144 satellite launches between 1960 and 1972. The satellites produced over 800,000 images that were recently declassified. Cameras on the KH-1 satellites permitted resolution of objects about 12 meters (40 ft.) apart. That resolution was improved to about 1.5 meters for the KH-4s.

The more advanced, higher-resolution KH-7, KH-8, and KH-9 contributed several million images in the 1970s and early 1980s. The unique KH-9 was capable of imaging tens of thousands of square kilometers in a single frame with a resolution of about two thirds of a meter. The KH-8 and KH-9 programs concluded in 1984.

*Source: Scientific American, February 1998.*

## Spectral Band Combinations and Applications (Landsat Example)

### APPLICATION

- TRUE COLOR
- WATER PENETRATION
- INITIAL SEARCH
- CHANGE DETECTION (WATER)
- DESERT DETAIL
- TEMPERATE TERRAIN DETAIL
- RESIDENTIAL INFO

- LAND TRAFFICABILITY
- TRACKAGE
- RESIDENTIAL INFO

- WATER-LAND DIFFERENCE
- TRACKAGE
- CHANGE DETECTION (LAND)
- TEMPERATE TERRAIN DETAIL

- THERMAL ANALYSIS

- WATER PENETRATION

### BAND COMBINATIONS

#### SPECTRAL BANDS

#### BAND COMBINATIONS

### APPLICATION

- COLOR INFRARED
- INITIAL SEARCH
- LAND TRAFFICABILITY
- NEW CONSTRUCTION
- CHANGE DETECTION (LAND)
- TROPICAL TERRAIN DETAIL
- TEMPERATE TERRAIN DETAIL
- RESIDENTIAL INFO

- LAND TRAFFICABILITY
- DESERT DETAIL
- RESIDENTIAL INFO

- INITIAL SEARCH
- TROPICAL TERRAIN DETAIL
- TEMPERATE TERRAIN DETAIL

- INITIAL SEARCH
- NEW CONSTRUCTION
- CHANGE DETECTION (LAND)
- CHANGE IN WATER LOCATION

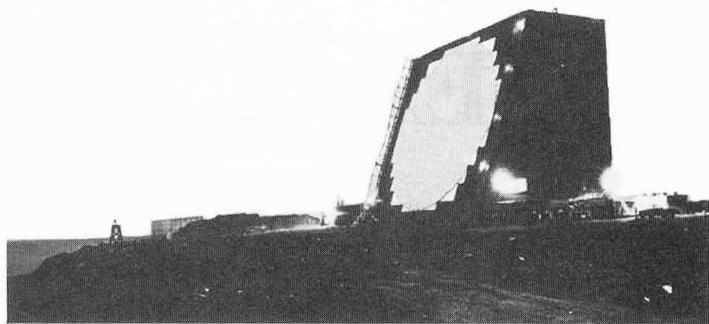
#### DESERT DETAIL

Pentagon-issued Multispectral User's Guide shows intelligence officers how to combine data from different frequencies to find targets of interest.

## **COBRA BALL AIRCRAFT**

The U.S. Air Force's 55th Wing operates RC-135S Cobra Ball missile surveillance aircraft, containing long-range optical telescopes, infrared sensors, and laser range finders. Rectangular windows house the medium-wave-infrared arrays, six cameras to each side of the aircraft.

*Source: Aviation Week & Space Technology, December 6, 1999.*



*The Cobra Dane phased array radar outpost in the Aleutian Islands, Alaska, will receive new computers and electronics components to improve data collection and processing.*

## **COBRA DANE RADAR SYSTEM**

The Cobra Dane radar system, located in the Aleutian Islands, Alaska, can detect a grapefruit-sized metallic object at more than 2,000 miles. In its tracking mode it can simultaneously handle up to 200 objects at ranges of up to 1,250 miles.

*Source: Signal, September 1990.*

## **GLOBAL HAWK SURVEILLANCE AIRCRAFT**

The Global Hawk, an unmanned, high-altitude surveillance-and-reconnaissance aircraft, can fly for 38 hours and at altitudes of 12.5 miles. Global Hawk is the size of a large business jet and carries high-resolution radar, optical and infrared sensors, and a satellite communications and navigation system. Future enhancements will allow the detection of moving targets.

*Source: Foxmarketwire.com, March 2, 1999.*

## **VERTICAL-POINTING RADAR**

A ground-based vertically-pointing frequency-modulated continuous-wave radar with a range resolution of one meter can see a common house fly at altitudes to 10,000 feet. It has an output of 200 W at 2.8–3.0 GHz. The beam angle is 4.5 degrees. During tests in the California desert, the radar pinpointed swarms of crickets and cabbage hoppers as they flew overhead. The radar has an extremely high range resolution and close minimum range.

*Source: Microwaves, February 1973.*

## **HOLOGRAPHIC RADAR**

France announced a ground-based military holographic radar system designed to provide broad, precise coverage of airborne targets. The VHF radar network gives continuous coverage from horizon to horizon and out into space. The installation routinely tracks meteorite trails in the Earth's upper atmosphere.

The radar's holographic technique reconstructs amplitude and phase distributions of wave disturbances caused by targets moving through its coverage zone. The radar network uses a number of omnidirectional transmitters and receivers distributed over a wide area. Each transmitter operates continuously to illuminate the coverage zone.

*Source: Aviation Week & Space Technology, August 8, 1983.*

## **LASER RADAR**

Laser radars combine some of the advantages of conventional radar and video imaging. Video provides finer resolution but no range information; conventional radar provides distance but no shape information. Laser radar produces real-time images of an object and can calculate the distance it travels.

*Source: Machine Design, November 9, 1989.*

## **ADDITIONAL SYSTEMS**

An exhaustive listing of existing systems of possible use in detecting UFOs could number in the hundreds. Some of the more obvious ones include weather radars, military tactical portable radar units, fire-sensing systems, aircraft gun camera films/videos, NORAD's uncorrelated targets, air traffic radar control systems, and more.

## **SUMMARY**

Sufficient systems and equipment exist to positively identify every UFO sighted anywhere in the world if a way could be found to apply available technology. Two categories of technology exist: current and obsolete. The use of current technology is preferable, but most of it is classified, making access more difficult. Even obsolete technology is still better than nothing.

Existing technology can detect anything that enters U.S. air space or flies anywhere in the world, gives off electronic signals, or is measurable by a variety of techniques. Historically, data have been recorded that could allow us to gain new insights into the UFO mystery. In real-time, the systems exist to positively identify characteristics of UFOs that would hopefully lead to an understanding of the phenomenon. Private organizations stand ready to partner with governmental agencies to collect, analyze, and archive UFO-related information. The goal is to serve both science and humanity. ♦

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# NEW LINES IN UFO RESEARCH: ORTHOTENY REVISITED

BY DON JOHNSON

**O**ne of the greatest advances in technology at the beginning of the 21st century is the widespread availability of powerful personal computers. Combine this with the availability of increasingly inexpensive software for searching the Internet, constructing databases, and drawing maps, and we have a new golden age for certain types of research by the amateur or unfunded scientist.

Over the past two years I have brought the UFOCAT database up to date with the latest advances in computer technology. The new database, UFOCAT99 (it will be updated now every year), contains more than 19,000 additional records of UFO reports since it was last used in published research around 1982. I have also added considerably more detail to the existing records, providing new fields for detailed codes and expanding citation information such as author's name, reference source, volume and page number citations, and indirect references.

In the process I have been able to conduct some meaningful statistical studies of the UFO phenomenon. Contrary to the opinions of past UFOCAT critics, including onetime CUFOS chief investigator Allan Hendry, it is possible to conduct statistical research with UFOCAT, provided you are aware of the limitations of the quality of the data and apply the appropriate filters to the database. This is a relatively easy exercise once you have mastered the procedures for creating queries in Microsoft Access, the format in which the database is saved. Questionable or explained UFO reports can be excluded for analysis so that research is done only with high-quality UFO cases. As a backup check, I also create a computer file of the subset of reports being analyzed and review them for accuracy and completeness before proceeding with any statistical research.

I wish to begin a series of articles on my explorations of the new UFOCAT database by resurrecting a long dormant subject: orthoteny. Although regarded by many

as a dead and discredited area of inquiry, I intend to show that this is not the case, and I present some new evidence here that will buttress and revise the case for orthoteny.

Orthoteny is the study of the conformity of UFO reports to great circle lines, the equivalent of straight lines on the Earth's curved surface. It was first described by Aimé Michel in his study of the European UFO wave of 1954 in his book *Flying Saucers and the Straight-line Mystery*.<sup>1</sup> Michel found several UFO reports that when mapped appeared to fall along straight lines. A particularly famous configuration of UFO reports is known as the BAVIC line. BAVIC takes its name from the French cities Bayonne and Vichy, located at the two ends of a serial set of six sightings, all occurring in France on September 24, 1954. The other pertinent observations were at Lencouacq, Tulle, Ussel, and Gelles.

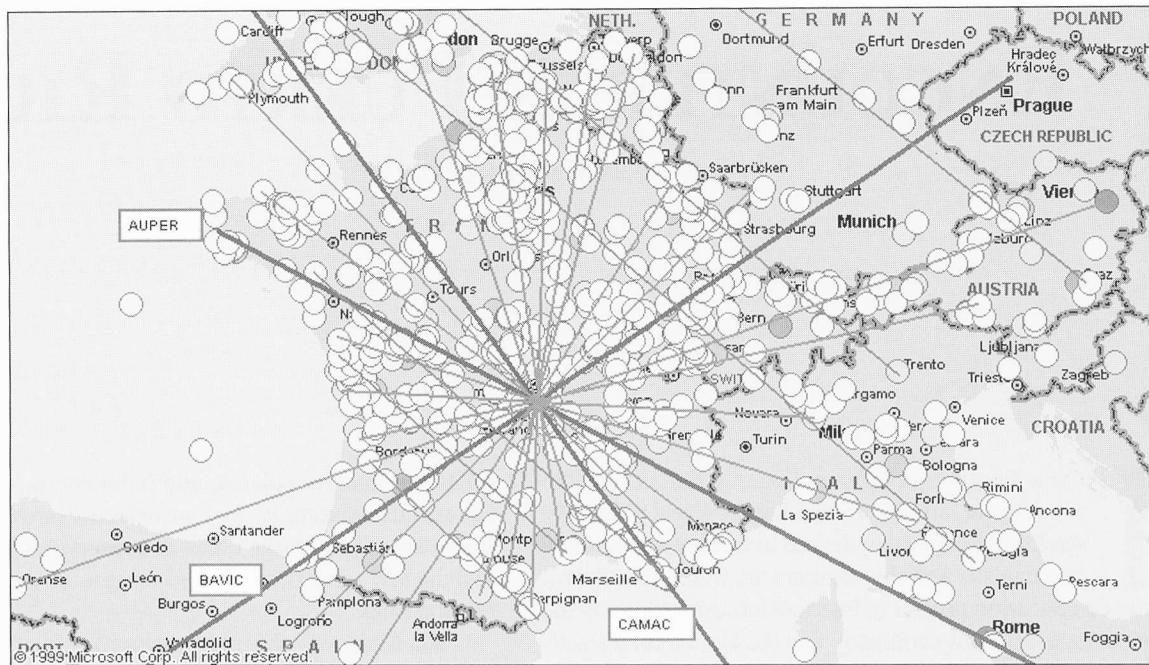
Statistical inquiries by Jacques Vallee, Donald Menzel, and Michel himself<sup>2–6</sup> have shown that most of the alignments plotted from the 1954 data can be accounted for by chance alone. This is certainly true for straight lines comprising only three points. However, when one observes five or six points conforming to a straight line stretching over a distance of 200 miles or more, all occurring on the same day, the observation warrants additional attention. Such was the case for the BAVIC line. David Saunders was able to compute a probability for the likelihood of this alignment occurring by chance alone. He did so by calculating the combination of ways that one could capitalize on chance by extracting the best six reports out of the 15 recorded for that day. He subtracted that expected probability from the observed probability of the remarkable linear fit and came up with an estimate of the alignment being due to chance alone of less than one in 100,000.<sup>7</sup>

If BAVIC is real, it ought not to be a unique occurrence. There should be other examples of orthoteny. Saunders applied the same statistical technique to other great circle lines proposed as remarkable by Michel and Vallee. Two other alignments that occurred in France in the autumn of 1954 were also statistically remarkable. One of these lines is known as CAMAC and is based on eight reports, all dated October 7, 1954. The other is known as AUPER. It was

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*Don Johnson maintains the Center for UFO Studies UFOCAT database and works as a statistical consultant in Concord, New Hampshire.*

*Figure 1.*  
Orthotenic  
alignments  
in the  
French  
wave of  
1954.



originally defined by just five observations dated October 1, 1954, but was reinforced by four more points that occurred on September 17, 1954, a week before BAVIC.

When Saunders plotted these three lines on a map he made two startling discoveries.<sup>8</sup> First, all three of these lines seem to pass through the same point (see Figure 1). Saunders noted that when testing this interpretation by computing the precision of the intersection, he found it to be "a perfect intersection beyond what would be expected from the approximate determinations of the individual lines."

The intersection is very close to a village in central France called Le Vauriat, Puy-de-Dôme. It was the scene of an unusually good UFO sighting on August 29, 1962. If you had followed the debate between Michel and Menzel during the 1960s, you would have known that Menzel was particularly unhappy with Michel's conclusion that Le Vauriat is on BAVIC. Not only is it on BAVIC, Saunders reported, but Le Vauriat is on all three of these great circle lines.

Second, BAVIC and CAMAC are at right angles to each other. The angle computes out to  $89^\circ+$ . According to Saunders, both the precision of the intersection and the nearly exact right angle should be regarded as remarkable and present a further argument against chance and positively in favor of some global pattern. What we are probably observing here, he concludes, is one pole or corner of such a global pattern.

Armed with this information and much more data from the 1954 wave than Michel had available to him at the time of his book, I set out to establish evidence for more orthotenic alignments.

The first dramatic demonstration that the lines are real and not imaginary is the finding that a remarkably large

number of UFO reports from the period are found to fall on them when you extend the lines outward. BAVIC passes close to Lisbon, Portugal, over the Spanish towns of Hernani (November 24, 1954) and Irún (June 12, 1954), the French cities of Dole (August 12 and September 22, 1954) and Strasbourg (October 16, 1954), and the German city of Coburg (October 13, 1954). I calculate that 73 out of 1,116 reports for autumn 1954, or 6.5%, fall on BAVIC within the margin of error associated with these geographical coordinates. Falling within  $\pm 0.2^\circ$  (less than 10 miles), CAMAC has 68 reports out of the same total for the same time period. With the identical margin of error, AUPER passes over Rome (eight reports between September 17 and November 12, 1954), Naples (October 15 and 21, 1954), and Salerno (late October 1954) in Italy. It is also noteworthy that AUPER appears to pass directly over Mecca, the Muslim holy city and worldwide center of Islam. Although there are no reports from Mecca in 1954 (not surprising given the lack of Western news coverage in that era), because two other orthotenic lines appear to pass over the holy cities of Lhasa and Jerusalem, I no longer believe it is merely a coincidence that AUPER is aligned perfectly over both Vatican City and Mecca. A total of 70 cases from autumn 1954 fall on AUPER, just over 6% of the total.

I mention in passing that in a future article on great circle alignments in the Western Hemisphere I will show that AUPER and CAMAC pass over numerous US and Canadian UFO hotspots, while BAVIC passes over several such sites in Brazil and Argentina. Included in that list is a village called São Francisco de Sales, the home in 1957 of abductee Antonio Villas-Boas.

Given that these three lines all pass through the same point, it is reasonable to ask the question whether other lines

(continued on page 32)

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# ENCOUNTER IN PUERTO RICO

BY HENRY CORDOVA

**I**t was my first job after college, in the 1972–1973 school year, and it turned out to be a real plum. My qualifications were a degree in science and fluency in Spanish, and my assignment was to conduct a science education project in Puerto Rico, sponsored by the local electrical utility company and the United States government.

My task was to visit every high school on the island, give a science presentation to the entire student body in assembly, and conduct labs and classes for selected groups of students. I was provided with excellent training, a van filled with audiovisual and laboratory equipment, and full cooperation from the local authorities and educational officials. I found the students eager to learn and their teachers delighted to have me. For an entire year I prowled around the back roads of the interior of a tropical paradise, and had the time of my life. These events occurred almost 30 years ago, but they are still clear in my memory.

Puerto Rico is a small island, but rugged and mountainous. Automobile travel is slow, and the traffic is a nightmare, so I found it convenient to divide the island into separate zones, move into a hotel in one of the larger towns in each region, and schedule my appointments for schools within easy driving range of my home base. During my weekends and the very frequent school holidays, there was always the night life of San Juan.

However, I was particularly looking forward to visiting one particular school, in the isolated little country town of Utuado, for a variety of reasons. For starters, Utuado is situated in Puerto Rico's Karst region, a fantastic complex of steep hills and sinkholes caused by a vast layer of highly eroded limestone lying on the surface. Of course, the whole area receives abundant rain from the trade winds, so it is covered in lush tropical vegetation. Because of the nature of the terrain, and its relative isolation, the famous Arecibo radio observatory is sited here, although Arecibo proper is on the northern coast, where I made my base while working the northwest part of the island.

This whole corner of the island is difficult to farm and

relatively underpopulated, and is known primarily for its caves and its suitability for hydroelectric power generation. There are several large dams and reservoirs located there, and the low selva is crossed with big steel towers and high tension lines.

But there was one other characteristic of this area that had captured my attention. I had read several times in the San Juan papers that Utuado was having a UFO flap, and several stories had made it to the big city dailies concerning mysterious lights in the skies over the little town. As soon as my schedule allowed, I moved my headquarters to Arecibo and made my appointment with the school authorities by telephone.

My show-and-tell went smoothly at the high school, and the staff invited the students from the local junior high school as well. I felt that the whole town had turned out to welcome me and that they were genuinely happy to have me there. I got a chance to ask several of the kids about the UFOs and, sure enough, they all had seen them. None seemed particularly awed or afraid of them, and they eagerly recounted their tales of daylight discs and nocturnal lights as if it they were the most normal thing in the world. They told me that if I stayed in their town for a few days I would probably see one myself! Some were convinced the UFOs were of extraterrestrial origin, the rest suspected that they were secret aircraft being tested by the Americanos.

After the afternoon classes, I accepted the kind hospitality of my hosts, the high-school science faculty, for a delicious dinner and the obligatory coffee and smokes with conversation afterward. The teachers were mostly local, and although they had gotten their degrees in San Juan or even on the mainland, they had all come back to their hometown alma mater to carry out their teaching careers. Sitting under a canopy of trees and surrounded by glorious mountains, I could see why they had chosen to come home. It was inevitable that I would eventually steer the conversation to the UFO stories I had read in the *San Juan Star* and when I brought up the subject they were not shy about responding.

"The papers left out all the good parts," said one. "We had to stop classes because we couldn't teach over the noise of the F-104s of the PR Air National Guard chasing these

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*Henry Cordova is an amateur astronomer who lives in Tamarac, Florida.*

lights up and down the valleys.”

“These things have been haunting these parts for as long as anyone here can remember,” spoke another. “The old timers think that they’re ghosts, but we don’t believe in ghosts any more; they’re UFOs.”

The others did nothing to contradict their stories, although one suggested that the unusual geology of the region might produce piezoelectrical phenomena. All had experienced sightings, and swore that so had everyone else in town. One mentioned that he had heard stories that during Utuado’s frequent power outages strange objects had been seen hovering over the power lines, but that the crews at the hydroplants insisted that their generators were turning against a load. But only one of the teachers present claimed to have actually experienced a close encounter. The others had obviously heard his story before, and remained silent while he repeated it to me.

“I was driving back from town with my brother one night, when we saw an incredibly bright light off in the bush. We knew it had to be one of them, so we stopped the car and took off on foot towards the light. It was about a hundred yards from the road, sitting in a clearing, about the size of a small house. It was a flattened disc shape, like two soup bowls on top of one another, lip to lip; and it was perfectly featureless except for a set of small, dark rectangles evenly spaced around the edge. The craft was almost too bright to look at, and it was changing color, going through all the colors of the spectrum, from violet to red and back. But it somehow didn’t seem real. It seemed to be glowing from within, and although I could not actually see through it, it seemed translucent somehow, like a Disney

animation.” (These last words are verbatim, as close as I can translate them from memory: “como un muñequito dibujado por Disney.”)

He continued his story, how he and his brother had watched the object for a few minutes, and then it simply vanished, instantly, like “someone turning off a light.” Suddenly afraid, they ran to their car and drove home.

If the others present did not believe his story, they betrayed no evidence of it. They had all talked to the man’s brother, who had confirmed the tale. If they were all in it together, just having a little fun at the Yank’s expense, they didn’t give me any hint of it, and they had pulled off a fine piece of acting without once giving it away. We talked for about an hour longer, and I heard them recount their own and their friends’ sightings, mostly far encounters with little detail, not particularly unusual except for the large number in a small area. If they had been deliberately trying to pull my leg, surely they could have come up with more elaborate sightings. I drove back that night to my hotel on the coast, and although I did drive through the area a few more times later on that year, while on business or visits to the telescope and the reservoirs, I never went back to Utuado.

Well to sum up, I didn’t see anything myself, and my account of those events is only hearsay twice repeated, from the same folks who brought us the chupacabras. But the experience is still in my memory, and perhaps someone reading this has visited that beautiful little mountain town, or even hails from there, and might want to add to my story. Do the jets still chase ghosts through the blue skies over Utuado? ♦

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We hope that you will consider including CUFOS among the residual beneficiaries in your will, if not a major beneficiary. Such gifts have been designated in the past by individuals deeply interested in the serious scientific investigation of the UFO phenomenon. Although they have been modest gifts, they have made a real difference.

Major endowment by the creation of living trusts or major gifts upon death can make the difference between minor investigations accomplished on a part-time basis by hobbyists and significant research by scientists on the

nature of UFOs. Major funds are still needed.

### SAMPLE LANGUAGE

There are a number of ways this can be accomplished:

• *Percentage of estate:* “I give to CUFOS \_\_\_\_% of my estate to be used in such a manner as the Board of Directors of CUFOS shall, in its sole discretion, determine.”

• *Fixed amount:* “I give to CUFOS \$\_\_\_\_ of my estate to be used in such a manner as the Board of Directors of CUFOS shall, in its sole discretion, determine.”

• *Residue of estate* (after probate costs and other expenses): “I give to CUFOS \_\_\_\_% of the rest and residue of my estate to be used in such a manner as the Board of Directors of CUFOS shall, in its sole discretion, determine.”

### LET US THANK YOU

Please let us know if you have made a bequest so that we can acknowledge your very special gift. For more information, contact John Timmerman, 9511 Cottage Grove, Lakeview, OH 43331; (937) 843-3834.

# A 1956 MILITARY AIRCRAFT— UFO CLOSE ENCOUNTER

BY RICHARD F. HAINES AND FRANKLIN CARTER

The UFO report described in this article comes from a former member of the U.S. Air Force, Jimmie Lloyd, then a Lieutenant (he retired as a Lt. Col). We write about this sighting because it involved a highly-trained crew of military personnel, because the UFO was allegedly spotted on radar and pictures were taken in daylight, and because this report never was recorded in the Project Blue Book records, even though it certainly should have been. It thus becomes another example of what Allen Hynek, former scientific advisor to Blue Book, often noted about the best reports being sent to some other location and bypassing the official reporting procedures. The witness contacted one of us (FC) several years ago after a radio talk-show appearance. In the fall of 1998 one of us (RH) conducted a personal interview with Lt. Col. Lloyd.

This UFO event occurred sometime in the fall or winter of 1956. A U. S. Convair Air Force RB-36H (Peacemaker) airplane<sup>1</sup> of the 718th Squadron, 28th Strategic Reconnaissance Wing, based at Ellsworth AFB, Rapid City, South Dakota, had taken off before noon with a nominal crew of 22 men (17 regular flight crew and a five-man relief crew). The commander was Lt. C. Lenny Marquis. Their mission was training in the use of various air-to-ground camera and other military surveillance equipment. At the time of this sighting, America was finally getting over the aftermath of the Korean War while facing a growing Cold War with the Soviet Union. The mission of the crew was critical in this effort.

The Air Force's Strategic Air Command operated 10 wings of B-36 bombers at this time, with about 30 aircraft in each one. Type RB-36H was the photoreconnaissance version of the B-36H. As the photos accompanying this article show, this was a huge aircraft powered by six 28-cylinder Pratt & Whitney R-4360 piston-pusher engines

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*Richard F. Haines is a retired research space psychologist and CUFOS Scientific Board member living in the Bay Area. Franklin Carter is president of the Institute for UFO Research in Fort Collins, Colorado.*

mounted on the trailing edge of each wing, and two pairs of J-47-GE-19 turbojet engines mounted outboard of them.

The huge, 10-engine heavy bomber climbed to about 40,000 feet in clear air. The time was shortly after noon. Figure 1 shows this huge bomber in flight (nicknamed "the Aluminum Cloud") as seen from below with its 230-foot wing span.

According to the main eyewitness, Lloyd, the airplane



Figure 1. RB-36 in flight. (USAF)

was cruising in straight and level flight near its top speed of 423 mph at cruise altitude. Its six retractable and remotely controlled gun turrets<sup>2</sup> were in the stowed position. Details of its huge, high-resolution camera are found elsewhere.<sup>3</sup> Suddenly the left scanner (observer) in the aft compartment saw a metallic disc about 100 feet in diameter fly toward the airplane from the left-hand side and take up a fixed position off the left wing less than 300 feet away.<sup>4</sup> He reported it over the intercom system and soon the visitor's arrival was known by everyone on board. Many men rushed to the nearest porthole on the left side of the fuselage and began taking 35mm photographs of the disc using their standard-issue cameras.<sup>5</sup>

The length-to-height ratio of the UFO was about 8:1, and a low dome, about one-third the length of the object, was located at the center of the top surface, which was only

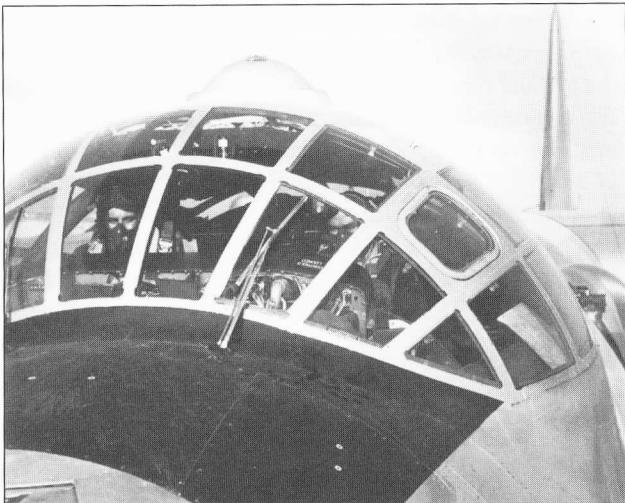


Figure 2. Main cockpit windows. (USAF)



Figure 3. Nose of a B-36 seen from left side. (USAF)

slightly curved. The dome had three round openings or light sources approximately as shown in Figure 4. Its surface was perfectly smooth and was without seams, markings, any visible means of propulsion or other aerodynamic details. The object seemed to have an almost flat or slightly concave bottom surface. Its vertical sides were populated by many separate round sources of light, each of a different color. Their spacing was approximately as shown in Figure 4. The surface of both the main body and raised dome appeared a "light golden" hue.

After five to eight minutes, the UFO suddenly accelerated horizontally in parallel with the B-36 and then rose at about 30 degrees above the local horizontal without pitching up or down. (The duration of the UFO's visible acceleration lasted approximately one to two seconds at the most.) All of the peripheral bluish lights became much brighter and definitely greenish as the object accelerated out of sight in several seconds. It did not appear to rotate about its vertical axis nor did it appear to wobble or undulate in flight. In addition, no buffeting or unusual noises were felt or heard by Lloyd during this sighting. Flying at nearly 423 mph, the UFO and airplane would have traveled a distance of about 55 miles during this eight-minute period.

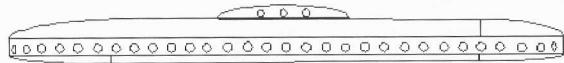


Figure 4. Approximate side view outline of UFO seen from the RB-36.

Lloyd was serving as a substitute navigator in the nose of the aircraft during this flight. He recalled that they were somewhere in northern South Dakota and probably near the North Dakota state line during the sighting. At this time he held five specialty ratings (primary, photographic, radar, weather, and electronic countermeasures).

The radio operator used a preassigned frequency on his single sideband radio to contact ground authorities about the UFO while the sighting was ongoing. Lloyd told us that ground radar was able to detect the UFO as well as the airplane.

Later he wrote an account and stated, "When we got on the ground, we had to turn in all of our logs, equipment, photographs, everything, to an intelligence unit called 'Reci-Tech' [Reconnaissance Technology] which was the central processing unit for the whole wing. We were debriefed by Intel officers, reminded that we all held top-secret clearances, and that we couldn't reveal any of this information for a period of 12 years. Then, several weeks later, we were debriefed again by some officers from higher headquarters who reminded us also of the same 12-year period, and in fact, when I was discharged back in 1960 from the active Air Force into the active reserves, I was also reminded again of the 12-year period to not reveal any of this information."

It is clear that Air Force officials wanted to keep this sighting completely under wraps. And in this they were successful, since this report cannot be found in Project Blue Book files, the UFOCAT database of CUFOS, or those of Larry Hatch or Dominique Weinstein.

## DISCUSSION

This rather typical high-altitude close encounter by a military airplane involved a single, three-dimensional, symmetrical aerial object that was witnessed and photographed by many highly qualified airmen and officers. It is instructive to apply our knowledge of terrestrial aircraft design to this object to try to better understand its most likely physical characteristics. We begin with its weight.

**Airframe weight.** Terrestrial aircraft typically employ a standardized construction involving smooth sheet metal attached to ribs and longitudinal spars (generally referred to as a "monocoque" construction). This particular construction design yields an almost linear relationship between an aircraft's total "wetted" or outer surface area and its structural weight (with no engines, fuel tanks, interior fittings, or cargo included).<sup>6</sup>

An approximate surface area of 15,000 sq. ft. approxi-

mates the present UFO. This results in an estimated airframe weight of about 110,000 pounds if its construction is similar to an aircraft. Without knowing its interior components, of course, it isn't possible to estimate its gross weight. If gross weight were known, one could better estimate the total horsepower required to propel the object at 423 mph. As a comparison, the gross weight of the RB-36H was 357,500 pounds.

**Wake turbulence.** When aircraft, whether conventional or disc-shaped, travel through the air they typically produce invisible air turbulence behind them. Vortex zones initially spread out one to two seconds after leaving a wing's edge and tip. For the next two to three seconds the vortex effect remains together (i.e., retains its compactness), but loses 60–80% of its capacity to roll another aircraft passing through it. A downwash effect persists, however. It also maintains an almost constant volume (see the parallel lines behind the UFO in Figure 5). After about five or six seconds, the turbulent area begins to break apart into separate cross-trail pillows. At a point some three to five minutes behind the object there is almost no coherent rolling moment remaining.<sup>7</sup> Other useful information on wake vortices is found elsewhere.<sup>8</sup> It can also be shown that if this UFO were moving through the local airmass with zero pitch angle, i.e., with zero angle of attack, no wake vortex should be formed behind it. This is indeed supported by the fact that no air turbulence was recalled by Lloyd on board the aircraft.

The white condensation trails sometimes seen behind jet aircraft flying at high altitudes are produced by rapid heating of moist air from the heated engine exhaust. These contrails provide useful insights about the highly unstable zones behind an aircraft, so it would be educational to view the photographs that were taken to see if condensation trails were present. (Of course, it would just as important to obtain characteristics of the UFO from the photo.)

Furthermore, the fact that the UFO was able to fly much faster than the RB-36H and climbed without changing pitch angle suggests some type of gyroscopic attitude-stabilization system.

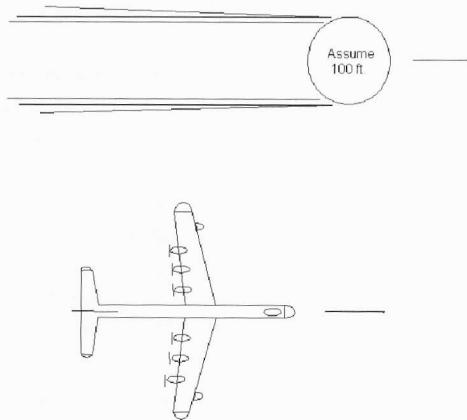


Figure 5. Plan view of UFO next to B-36 (relative to probable wake turbulence from the disc's edges).

**Strouhal shedding number.** This dimensionless number ( $S$ ) represents "aperiodic" air flowing alternately over the top and then the bottom surface of a symmetrical solid while it travels through the air. In essence,  $S$  represents an unsteady shedding of a Von Karman vortex street (a stream of air).<sup>9</sup> For aircraft with a high Reynolds<sup>10</sup> number,  $S$  is approximately 0.21 (used here). The present UFO was approximated by a 12.5-foot diameter cylinder with its longitudinal dimension moving perpendicular to the direction of travel. Thus:

$$S = \frac{nd}{V_o}$$

where  $n$  = shedding frequency (Hz),  $d$  = object diameter (ft.), and  $V_o$  = velocity relative to the local air mass or 423 mph (620 ft/sec.). Solving for  $n$  we find:

$$n = \frac{SV_o}{d} = \frac{0.21(620)}{12.5} = 10.4 \text{ Hz}$$

According to this calculation, one would expect a vortex street flowing, alternately, first over the upper surface and then the lower surface of the UFO approximately 10 times a second. Whether this effect could result in some kind of visible phenomenon or an audible noise remains to be seen. However, UFO investigators are urged to seek such data in other such cases.

#### Aerodynamic drag and structural considerations.

The total frontal area relative to the local air mass of a 100-foot diameter disk having the cross-sectional shape shown in Figure 5 would be about 1,250 square feet at zero pitch angle (i.e., minimal silhouette). Of course, drag would increase, relative to the air mass, if its angle of attack increased.

If the UFO was constructed using a terrestrial-based monocoque construction it would undergo various bending moments as a function of g loading (constant earth gravitation effect plus accelerative forces) during turning. On the other hand, if the means of propulsion of the UFO incorporated a mechanism where each micro-element (perhaps at the molecular level) is integrally involved in propulsion and properly coordinated in the same vector and acceleration level, then the UFO's entire body would act as a single point mass. The implications of moving a point mass simplify some of the consequences while making others more complex.

The paucity of data in this case prevents us from saying much more about the possible physical characteristics of this UFO. Interested readers are urged to write to us in care of CUFOS.

#### REFERENCES

1. "Convair B-36" description in [air-recon.com Encyclopedia, Aerospace Publishing, Ltd., 1997–2000 \(194.205.16.17/ency/B/B-36.asp\);](http://air-recon.com/Encyclopedia/Aerospace Publishing, Ltd., 1997–2000 (194.205.16.17/ency/B/B-36.asp);) and "Convair RB-36H 'Peacemaker,'" in USAF Museum, Wright-Patterson AFB,

**TABLE 1.**  
**Other Reported UFO Sightings in North and South Dakota, Fall and Winter 1956**

September 22, 1956	1950L*	Williston, ND	Amateur astronomer sighted “dull metallic” elliptical object the size of a small plane, which oscillated side-to-side as it moved 150 mph above the Missouri River. <i>Williston Plains Register</i> , September 22, 1956.
November 16, 1956	morning	Lemmon, SD	Phones and automatic railroad block signal system failed to operate as glowing red object about three feet in diameter flew over the railroad yards. <i>Mobridge Tribune</i> , November 22, 1956.
November 25, 1956	0430L	Hot Springs, SD	Police radio picked up transmissions made by a jet interceptor from the 54th Fighter-Interceptor Squadron at Ellsworth AFB that made three passes at a brilliantly lit UFO bobbing up and down in the sky. On the third pass the pilot reported that the object registered on his radar. It was also rumored that a blip was picked up on ground radar by the 740th Aircraft Control and Warning Squadron. <i>Rapid City Daily Journal</i> and <i>Pierre Capitol Journal</i> , November 26, 1956; Richard H. Hall, <i>The UFO Evidence</i> (Washington, D.C.: NICAP, 1964), p. 22, 79.
November 25, 1956	1030L	Rapid City, SD	A sheriff and deputy observed a stationary UFO for 30 minutes. The object was green, but a flashing red light and an upward-shining bright white light appeared at intervals. <i>Rapid City Daily Journal</i> , November 26, 1956.
December 1, 1956	0720L	Valley City, ND	Round, reddish object caused interference with police radio. USAF Project Blue Book file.
December 2, 1956	0500L	Belvidere, SD	Two red objects. USAF Project Blue Book file.

\*L = local time

*Editor's note:* Many different UFO reports were reported in newspapers in South Dakota, North Dakota, and Minnesota in November 1956, resulting in a remarkable mini-flap. The NICAP file in the CUFOS archives contains many clippings; see also Loren E. Gross, *The Fifth Horseman of the Apocalypse: UFOs: A History, 1956, November–December* (Fremont, Calif.: The Author, 1994).

Archives Gallery ([www.wpafb.af.mil/museum/research/bombers/b3-83.htm](http://www.wpafb.af.mil/museum/research/bombers/b3-83.htm)); Leonard Bridgman, ed., *Jane's All the World's Aircraft* (London: Jane's Publishing, 1957–1958); Wayne Wachsmuth, *B-36 Peacemaker in Detail and Scale* (Carrollton, Tex.: Squadron/Signal, 1997).

2. Each turret had twin 20-mm cannons. Two more 20-mm cannons were mounted in the nose and two more in the radar-controlled tail turret. This reconnaissance version of the B-36 with guns was referred to as “Fetherweight II.”

3. “RB-36 Reconnaissance Camera,” in USAF Museum, Wright-Patterson AFB, Cold War History Gallery ([www.wpafb.af.mil/museum/history/postwwii/rb36.htm](http://www.wpafb.af.mil/museum/history/postwwii/rb36.htm)).

4. The witness said later (October 5, 1998, to author RH) that “the entire object would have been covered by my closed fist held and viewed at arm’s length.” This would make the UFO subtend an angle from the nose of the airplane of almost 10 degrees of arc. A 100-foot-long object subtending 10 degrees of arc would lie 567 feet from the observer, close enough to the witness’s estimate.

5. Haine 35mm format cameras were used. Everyone also had a pair of binoculars and a standard UFO reporting form developed for Project Blue Book.

6. Brian E. Smith, NASA Ames Research Center, personal communication, April 12, 2000.

7. Vernon J. Rossow, NASA Ames Research Center, personal communication, October 10, 1998.

8. John H. Olsen, Arnold Goldberg, and Milton Rogers, eds., *Aircraft Wake Turbulence and Its Detection* (New York: Plenum, 1971).

9. James W. Daily, and Donald R. F. Harlman, *Fluid Dynamics* (Reading, Mass.: Addison-Wesley, 1966), p. 381.

10. The dimensionless Reynolds number is important in analyzing any type of flow where there is shear. It is defined for a vehicle moving through a fluid medium as scale velocity times scale length divided by kinematic viscosity. A critical velocity range above which a fluid flow becomes turbulent, below which it remains viscous, and in which it may be either, depends on several factors, including temperature. ♦

### PHOTOS OF JUPITER'S INNER MOONS

The Galileo spacecraft has captured the highest-resolution images yet of three Jupiter's four innermost moons, Thebe, Amalthea, and Metis. Two views of Jupiter's 250-kilometer-long (155 miles), irregularly shaped moon Amalthea, obtained by Galileo's Solid State Imaging camera (SSI) last August and November, show for the first time that a bright surface feature named Ida is a streak of bright material, about 50 kilometers (31 miles) in length.

## BOOK REVIEW

*The Abduction Enigma*, by Kevin D. Randle, Russ Estes, and William P. Cone. New York: William Morrow, 1999. 416 pages. \$25.95.

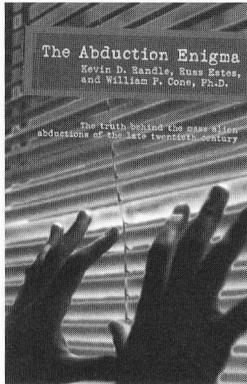
Skeptical books on abduction are usually outspoken, and *The Abduction Enigma* doesn't disappoint on this score. Authors Kevin Randle, Russ Estes, and William P. Cone picture abductees as psychologically disturbed; the conscious memories that many of them say they have are dismissed as dreams, massaged into abduction tales by investigators who know in advance what conclusions they're going to reach. Most of this is not new, but that authors sympathetic toward UFOs make these claims requires us to pay closer attention to their arguments.

Before proceeding further, I should acknowledge my own position in the abduction world. I've worked with Budd Hopkins, served on the Advisory Committee of his Intruders Foundation, and moderated abduction conferences that he's organized. Anyone who thinks I'd be prejudiced against a skeptical abduction book, like this one by Kevin Randle and his colleagues, is free to think so.

My own position, though, is that the reality of abductions has never been proved, so skeptical studies are valuable. I'd welcome this book, skeptical or not, if it told me something I didn't know, or made points that made me reconsider anything I might believe. The problem, however, is that *The Abduction Enigma* doesn't, in any serious way, make any points at all. It's full of feisty assertions, but almost none of them are backed up by any data. That makes the book frustrating, even maddening, because I don't know how the authors came to their conclusions. I can only shake my head and wonder why in Zeta Reticuli they didn't tell me more.

The problems start right at the beginning, with an introduction in which the three writers tell us who they are. Randle—with whom I've been friendly—needs no introduction to readers of *IUR*; he's a frequent contributor here, best known for his books and articles about the Roswell crash. I especially value him for his honesty. When Roswell witnesses like Glenn Dennis proved unreliable, Randle was quick to disavow them. Russ Estes and William P. Cone will be less familiar, but it's interesting to learn that that both believe, as Randle does, that aliens are visiting earth. That—or so I hoped as I began reading—might have made their skeptical view of abductions especially powerful.

But something's missing. Cone identifies himself as a psychologist, someone who treated patients in psychiatric hospital units devoted to Satanic Ritual Abuse and Multiple



Personality Disorder; he also says he's spent 10 years researching the abduction phenomenon. Estes reports that he began his professional life in the music industry, then moved on to television, for which he produced both general interest shows and documentaries on UFOs.

Cone, in addition, talks about childhood memories that, in some circles, would mark him as a possible abductee. When he was very young, he thought he saw huge black ants, at least three feet tall, in his front yard; when he was nine, he remembers an "orange ball of fire" coming through his bedroom window. Estes, too, reports encounters with the paranormal. "I have experienced the poltergeist phenomenon," he writes, "I have documented numerous hauntings, and I have seen a UFO."

But which UFO documentaries did Estes produce? To assess his standing in ufology we need to know, but we're not given any titles. What is Cone's psychological training? Which institutions did he work at? "I was on the staff of five local psychiatric hospitals," he writes. But since we're not even told where he lives, where does that leave us? And, as he tells us, he worked at those hospitals back in 1987. What does he do now? Nor do we learn much here, or later on, about what each of the three contributed to the final manuscript. It would have strengthened the book's thesis if we'd learned how Cone concluded—with alien-like beings in his back yard, and balls of light in his bedroom, both alleged to be typical abduction memories—that he's not an abductee.

These are minor difficulties, though, compared to what happens after the introduction. On page 58 we read, "Nearly every city with even a moderate-sized population boosts [sic] one or more abduction 'survivors' group." On page 70, the statement is expanded: "[N]early every community of any size [has] those who investigate abductions and those who treat the trauma of alien abduction." These assertions make intuitive sense to me, but I'm not the one making them in a book. How do Randle, Cone, and Estes know that they're correct? Have they actually found abductees, support groups, and abduction therapists all over the country? They don't tell us. The statements aren't footnoted; no data are offered to support them. I'm willing to guess, since Randle, Cone, and Estes interviewed abductees and visited support groups, that they learned about abduction activity in enough small cities to infer that they'd find it in any town of any size. But if that's how they reasoned, they should have said so.

Their interviews are also problematic because we're never told much about them. To put this another way, the collaborators never discuss their methodology. In fact, they barely even mention it. Instead, as we make our way through the book, we figure out, from random comments here and there, that abductees were interviewed. And even these random comments are inconsistent. On page 91, we're told that the interviews involved "over a hundred people." But on page 12, Cone, in his biographical statement, had written, "I have talked to dozens of abduction researchers and hundreds of victims of alien abduction."

And on page 22, Randle, in his introduction to himself, says that Cone and Estes started the abduction research on their own, and then drew him in. “I was given the opportunity,” he writes, “to review the dozens of videotaped interviews they had conducted.” Later we learn a few details of the questions asked in these interviews, but gaping holes remain. How many abductees were interviewed? What were the demographics of their sample—how old are these abductees, where do they come from, what do they do for a living? How many of the interviews were videotaped? Who conducted the interviews? Were the same questions asked each time?

It would be even more crucial to know how these abductees were found, and how they were chosen to be interviewed. Obviously, there’s no central registry of abductees and no way to identify abductees in any survey of the population. Thus, a truly random survey of abductees isn’t possible, and any abductee group assembled for study very likely will be skewed by some kind of selection effect. Budd Hopkins mostly sees people who don’t come to him with abduction claims, but instead just report (often with self-searching doubt, and a willingness to consider other explanations) what are often taken to be “indicator” memories—lights in their bedrooms, beings by their beds, and missing time. Thus Hopkins tends to avoid wildly credulous abductees. He also tends to find people who don’t want to speak in public, or on television; several times I’ve been in meetings helping him plan events that include public abductee panels, and we’ve had trouble finding more than one or two people who’d want to serve on them.

What kind of abductee do Randle, Cone, and Estes tend to find? One remark in the final chapter offers a suggestive clue. “While it can be shown that many, if not a majority of the abductees, reluctantly tell their tales at first, they soon change their minds. . . . Within months, however, those same people are not only using their real names, but are guests on national talk shows, featured in magazine articles, and are speaking at UFO conventions, revealing all that has happened to them.” Assuming these comments are based on real data (as usual, they’re not footnoted, and no evidence, apart from two anecdotes, is offered to support them), we might wonder whether the abductees the writers spoke to—selected, perhaps, by their willingness to be interviewed by three strangers—might be unusually willing to reveal themselves.

Chapter three of the book does offer what we’re told are two typical stories, one of a woman whose abduction memories were wildly sexual (and whose experiences stopped when she began taking Prozac), the other of a gay man whose memories of sexual contact with female aliens leave him horribly depressed. But what, exactly, makes these stories typical? Are they typical of all abductees everywhere, or only those the collaborators interviewed? And since, as I’ve said, we’re hardly told anything about the abductees who were interviewed, how can we know that these two case histories from the group really *are* typical?

Once more, we’re handed an assertion, with no data to back it up.

Chapter four compares contactees and abductees and introduces the unusual notion that there isn’t much difference between them. Here we have a problem not with data, but with clarity of thought. Anyone familiar with the history of the UFO phenomenon, I’m sure, could cite reasons why contactees and abductees seem very different—contactees go off with aliens happily, abductees are taken against their will; abductees report invasive medical procedures, contactees don’t; contactees meet gorgeous blondes, abductees meet ugly gray humanoids. And in fact I’ve taken this list directly from *The Abduction Enigma*, which notes these well-known differences only to conclude that they don’t matter because of five allegedly more fundamental similarities. Both contactees and abductees:

- Have contact with alien creatures;
- Are taken to a spacecraft or facility;
- Are given a message to bring to our planet;
- Are shown apocalyptic images;
- Are returned relatively unharmed.

An ant could be compared to a human being, and by similar logic found nearly identical: Both have eyes, both have legs, and both go through life with some sense of purpose. The five items make an odd little list. The last one seems irrelevant—do people report they were taken by aliens and *not* returned unharmed? And the first two items seem trivial. Since abductees and contactees are, more or less by definition, people who tell stories of alien contact, why wouldn’t we expect them to report trips in spacecraft, and meetings with alien beings? Is the assumption here that all people who report alien contact are, for that reason alone, more similar than different? Wouldn’t that—because the point here is to prove that abductees and contactees are more similar than different—be circular reasoning?

On to chapter five, “The Sexual Component of Alien Abduction.” There I was dumbstruck to read that “the sexual component of alien abduction has been virtually ignored by abduction researchers.” David Jacobs is cited as an exception, but hasn’t sex, in various forms, been widely reported as a prime abduction activity? When the three writers soberly note that “[a]ll the people who were interviewed said that [abduction] did have an impact on their ability, or their inability, to nurture human relationships,” hasn’t Budd Hopkins repeatedly said the same thing?

And isn’t sex in abductions so widely reported that by now it’s even a media cliché? When John Mack was nearly censured at Harvard for his abduction research, the *New York Times* all but snickered about his alleged belief that women have sex with aliens. On a happier note, the *New Yorker* ran a sweet cartoon about a middle-aged woman who gets flowers from an alien who abducted her. Wistfully, she tells it, “I thought bizarre sexual experiments would be involved.”

In support of their claim, Randle et al. cite something

Budd Hopkins wrote “in one of his books”: “I know of no case in which a female abductee has ever reported an act of intercourse.” Is this an adequate précis of Hopkins’s views on abduction and sex? And is it a current statement? “In one of his books” isn’t much of a citation. Did Hopkins write this in *Intruders*, published back in 1987, or even in *Missing Time*, written 20 years ago?

But then comes an even bigger surprise, something that, to my knowledge, has never before been asserted by any major investigator: Abductees, we’re told, tend to be gay. Or, as the three collaborators write, “A very high percentage of the abductees we interviewed openly stated a sexual preference of homosexuality or bisexuality.” A few paragraphs down from that, they say, “Research by several different investigators has suggested that as many as half of all abductees are homosexual.”

Now, these assertions have already made waves. The members of one private (and anonymous) abduction e-mail list, for instance, surveyed themselves and discovered they were largely straight. That made them wonder where the authors were getting their information. I myself might note, with some surprise, that homosexuality is treated in the book as if it were a sexual aberration, the point being to establish that abductees aren’t sexually normal. The high gay percentage, the authors write, “leaves us with a low number of abductees who claim to have what would be considered a normal sex life.” Immediately there’s a hedge: “Of course, defining normal in any society would be a tough call.” Still, Randle, Cone, and Estes have just about said in so many words that homosexuality isn’t normal, thus muddying their argument with a notion that many people might think verges on bigotry.

I could also say that in Budd Hopkins’s abductee support groups, the percentage of gay people isn’t high at all. Nor has any such predominance been reported by David Jacobs or John Mack. Randle, Cone, and Estes suggest that abduction researchers have been either negligent or prudish because they don’t ask abductees their sexual orientation. But it seems pretty obvious that, at least early in the interview process, many abductees—typically anxious, and worried that the abduction investigator might turn out to be some kind of nut—would be suspicious of anyone who asked questions about their sex lives. Hopkins, certainly, isn’t prudish; he spent his professional life in New York’s art world and lives in the Chelsea neighborhood of Manhattan, which, outside of San Francisco, is reported to have the highest concentration of gay men in America. In any case, people in his support groups are reasonably open about their sexual orientation. As they talk about their daily lives, they mention spouses and lovers, and the lover’s gender is usually unmistakable.

But what’s most notable about the gay assertions in the book is that they’re nothing *but* assertions. We’re not told anything more than I’ve quoted—not who the other investigators are, or what kind of research they did, or even, for the collaborators’ own study, exactly what “very high”

percentage of abductees said they were gay or bisexual. I’m not saying that Randle, Cone, and Estes are misrepresenting what they feel they’ve learned, but until they give us real data, it’s hard to be persuaded.

Continuing on, in chapter 21 the authors say that abductees develop an unhealthy dependence on support groups, which are described as meeting weekly, encouraging so much anxious fantasy that “many of these people deteriorate to the degree that they can no longer hold a job or have a relationship outside of the group.” Nothing like that has been observed by any abduction researcher I know (abductees, in fact, are usually thought to be free of major psychopathology), and the collaborators, as usual, offer no evidence to support their view. (Hopkins’s support groups, for whatever it’s worth, meet only a few times a year.)

In the same chapter, we also read: “Statistical research carried out specifically for this work suggests that as many as half the tales of abduction have sleep paralysis as the precipitating event.” What research? What statistics? We’re never told. “And then there’s this about David Jacobs: ‘For those who have been privileged to hear the tapes of [his interviews with abductees], it is clear what he is doing. When the abductee strays from what Jacobs believes to be the norm, he makes no audible comment. However, when the subject touches on a point in which he believes, he nods and says, ‘Uh-huh.’ It doesn’t take the abductee long to pick up on the cues and begin to massage the tale for the verbal approval of Jacobs.’” But who, exactly, listened to these tapes, and how many did they review? Why aren’t we given transcripts?

The authors’ larger skeptical points—that abduction accounts are strongly shaped by researchers and the media, that hypnosis is unreliable, or that sleep paralysis (statistical assertions aside) may be the cause of many alleged abduction experiences—have been made many times before, though the authors aren’t always generous enough to say that.

In the sleep paralysis discussion, they make very careless use of David Hufford’s pioneering study, *The Terror That Comes in the Night*. Hufford, as many *IUR* readers will know, studied a frightening nocturnal experience widely reported in Newfoundland, called the Old Hag, in which people feel themselves suffocated by an entity that crushes their chest while they’re lying in bed. To his surprise, Hufford found that Americans, too, had this experience, even though it was almost never reported in the United States. “The cross-cultural aspect of the Old Hag,” Randle, Cone, and Estes write, “suggested to Hufford there had to be another cause for it. A cultural tradition that was unknown to students in Pennsylvania could not account for their tales of an Old Hag. That led Hufford to sleep paralysis and hypnagogic hallucination to account for the similarities.”

This is plainly untrue. Hufford didn’t use sleep paralysis to explain the Old Hag, and in fact, explicitly disavows

(continued on page 32)

## LETTERS

### GOING NEANDERTHAL OVER MOGUL DEBRIS

To the editor:

Although I've made an effort to follow the evolving debate over the Roswell incident, I do not recall any of the Project Mogul proponents addressing the question of why witnesses to a balloon crash would need to receive rough treatment at the hands of the U.S. military to shut them up ("Mack Brazel Reconsidered," *IUR*, Winter 1999).

The significance of balloon debris, no matter how secret, would have been lost on all but the most technically skilled scientists involved. Consequently, there would have been no need for the various methods of intimidation and pressure reportedly used against civilians, especially Mack Brazel. They didn't know enough to be dangerous!

This "behavioral mismatch" remains one of the strongest arguments that the Mogul story is disinformation.

Terry Hansen  
Bainbridge Island, Washington

### ASTRONOMERS DO SEE UFOs

To the editor:

In reference to "Astronomers and UFOs" (*IUR*, Fall 1999), Stanford University's Peter A. Sturrock conducted a 1975 UFO survey of professional astronomers that even today remains a unique and important study (*Report on a Survey of the Membership of the American Astronomical Society Concerning the UFO Problem*, Stanford, Calif.: Institute for Plasma Research, January 1977, 202 p.).

Of the 1,356 astronomers who responded, 62 actually reported that they had witnessed UFO events. One observer sketched a disc with a dome on top and "darker markings/structures" on its surface. This object flew silently by the respondent at an estimated quarter-mile distance. In another case, the reporter along with three other witnesses viewed a "silvery, disc-shaped object [which] had bluish-green lights at the rim and a red light at the center." Two other AAS members cited interference with their automobile electrical systems during their observations.

Sturrock's survey reported five instances where anomalous objects were viewed through telescopes; in three other cases, UFOs were observed through binoculars; and photographs of unknowns were obtained in seven episodes.

In other words, astronomers *do* see UFOs but rarely publicize their unexplained observations.

Walter N. Webb  
Westwood, Massachusetts

### MORE INSIGHT INTO RUPPELT

To the editor:

Thanks to Michael Hall and Wendy Connors for their insightful and fascinating historical outlook on the late

Edward J. Ruppelt (*IUR*, Winter 1999). It is clear that at least during his tenure as the Air Force's UFO chief, Ruppelt made a conscientious effort to pursue an unbiased technical inquiry into UFO sightings. One of his successors, however, Capt. George T. Gregory, reflected the new official policy of downplaying UFOs, as Hall and Connors point out. The reader can gain a further understanding of the post-Ruppelt period by reading my report, "Inside Building 263: A Visit to Blue Book, 1956," *IUR*, September/October 1992. My meeting with Gregory at ATIC in June 1956 was discussed at length.

Gregory's association with Allen Hynek is further explored in another article, "Allen Hynek As I Knew Him," *IUR*, January/February 1993. In that article, I also confirm that both Moonwatch teams and the Baker-Nunn satellite tracking cameras recorded occasionally anomalous sightings, despite Hynek's denials to Ruppelt of UFO activity in his satellite tracking program. But Hynek himself later corrected this impression in his later writings. Bud Ledwith, the engineer at our Cambridge headquarters, checked both Moonwatch reports and satellite tracking film for UFO traces. I recall that neither source furnished anything really dramatic or conclusive regarding UFOs. (Ledwith, who had figured prominently as an investigator of the Kelly, Kentucky, CE-3 affair of August 1955, died in February 1999 in Sidney, Ohio. For the Kelly case, see Isabel Davis and Ted Bloecher, *Close Encounter at Kelly and Others of 1955* (Evanston, Ill.: Center for UFO Studies, 1978).

Walter N. Webb  
Westwood, Massachusetts

### LOOKING FOR A FEW GOOD TRACE CASES

The Center for UFO Studies has recently strengthened its investigations and analysis of cases with physical evidence by arranging for the services of an analytical chemist with many years of experience in industry. In the past year, we or our investigative associates have gathered various types of samples, including angel hair (wispy filaments of whitish material that fall from the sky), traces from an abductee's body, and samples from an automobile involved in a very close encounter with a UFO. We also had original soil samples from the well-known Delphos, Kansas trace case reanalyzed. We expect that reports on these cases will be published in the not-too-distant future.

To complement this new research capability, we have begun an active program of searching for new physical trace cases. We strongly encourage any reader who learns of such an event to contact CUFOS immediately.

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## SENATOR—continued from page 11

U.S. thus far have been American varieties, not foreign vehicles bent on espionage. . . . Behind the whole array of strange objects now being developed is the problem of runways. . . . Experimentation . . . has been going on constantly since early in World War II. It has produced a wide variety of convertiplane types, some circular, some resembling helicopters, some still on the "secret" list.

Over the course of the next few months, magazines were filled with similar stories about the potentially UFO-like vertical-takeoff aircraft mentioned in the Quarles press release or ones like them. The Avro project, ostensibly highly secret, was suddenly the darling of magazine editors everywhere. Perhaps the best example came in the March issue of *Mechanix Illustrated*. The magazine's cover story was captioned "U.S. Air Force Reveals Our Flying Saucer," and showed an artist's conception of a two-man MX-1794 streaking into the night sky over lower Manhattan.

"Ever since 1950 when TRUE The Man's Magazine discussed the existence of flying saucers, the world press has been continuously interested in the possibilities of disc-shaped aircraft," the editors noted in a reference to Keyhoe's seminal story (*True* and *Mechanix Illustrated* were both published by Fawcett Publications Inc.). "If you haven't seen saucers yet, you will—and they'll be built to Air Force specifications." The feature article was written by the veteran German rocket propagandist Willy Ley.

Even the most devoted science news and science fiction readers were surprised by a series of official releases that enlivened newspaper reading last summer and fall [Ley wrote]. First there was the White House release about artificial satellites, to become a reality no later than 1957. Then came the Department of Defense "flying saucer" release, dealing not with machines from outer space manned by small green men, but with a product of terrestrial slide rules and American factories, to be flown by American pilots. . . . Secretary of Defense Donald Quarles was quoted as saying that AVRO Ltd. of Canada had a USAF contract to build an aircraft similar to the popular flying saucer concept. In subsequent news articles journalists observed sagely that something called the Coanda effect, a new principle in aerodynamics, had made the disc-like aircraft possible.

The mainstream press accepted the UFO aspect of the Quarles release just as readily. Special Report 14's seemingly anti-UFO findings gave some critics license to unleash some particularly acid invective at civilian UFO

researchers. A notable example was a review of *The Flying Saucer Conspiracy* and *The Report on Unidentified Flying Objects* by Time's science editor Jonathan Leonard in the *New York Times Book Review* on January 22, 1956. Leonard called Ruppelt's book "the longest and dullest of the current crop" and described Keyhoe as "a thin, nervous, serious man who insists over-and-over that the high command of the U. S. Air Force is deliberately concealing a dangerous threat from space."

This is one of the basic dogmas of the flying saucer cult.

It performs two important functions: it permits saucer prophets to pose as martyrs, and it explains after a fashion why Air Force scientists, who are admittedly skillful and well-informed, should deny that flying saucers are invaders from space. . . . The book describes few new saucer "sightings." Most of it is a repetitious and unconvincing attack on the Major's great enemy: the Air Force's "silence group."

Blue Book chief Captain Hardin informed Major General Harold E. Watson, head of the Air Technical Intelligence Center, a few days later of his satisfaction over the handling of the release of Special Report 14:

A review of recent books on Unidentified Flying Objects appearing in the *New York Times* issue of 22 January 1956 is highly complementary to our Special Report 14.

Written by Jonathan N. Leonard, a science editor and author of *Flight into Space*, it gives considerable credence and support to our UFO position. It would appear from this review that the downgrading [i.e., declassification] and subsequent release of Special Report 14 is serving well the purpose for which it was intended.

By the spring of 1956, American readers had been saturated with stories about the dawn of the man-made saucer era. Significant leakage of the Russell UFO story had been headed off and Blue Book Special Report 14, which had been released on the Air Force's terms, could be used to undermine the arguments of saucer enthusiasts. The Air Force had revealed that it was developing an impressive-looking disc-shaped aircraft of spectacular potential and clearly hoped that future domestic UFO reports would be perceived in the context of saucer-like American secret weapons. If the Soviets actually did have a saucer of their own, they had been signaled that the US was aware of its existence. But above all, the Air Force and CIA had demonstrated a remarkable determination to restrict and shape the information reaching the American public about UFOs and UFO-like advanced weapons in that dangerous, unpredictable, Cold War-dominated era. ♦



# OF INTEREST TO CUFOS ASSOCIATES

## SAUCER SMEAR

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## ORTHOTENY—continued from page 19

converge on the same point to form a polar grid system. The answer to this question appears to be yes indeed. My explorations revealed several good candidates. These are shown in Figure 1 by the lighter lines.

The first good candidate I tested runs west to east. It extends from the Atlantic seacoast island of Île d'Oléron in the Charente-Maritime district and runs through the French cities of Limoges, Clermont-Ferrand, and Lyon across the Italian border to Milan. It comprises 49 unique cases from autumn 1954 and shares an additional 19 cases in the Clermont-Ferrand region with AUPER. A second line runs from southwest to northeast, passing from Central Spain through France to Luxembourg, Germany, and eventually Sweden. A third line with a large number of UFO reports runs from Orense, Spain, through Bordeaux, France, and through Switzerland and Austria to Vienna.

Another line runs from Perpignan, France, to Belgium, passing over Brugge. Yet another extends from near the Andorra border in the Pyrenees Mountains to Liège, Belgium, while a line drawn next to it passes over Reims in France, and Brussels and Antwerp in Belgium. Another line extends from Montpelier in the south of France across the western suburbs of Paris to Calais, while another can be drawn from Nîmes through the city of Orléans to London. In total an additional 13 candidates for orthotenic lines emerge from the data that intersect at the same point, all with 20 or more reports.

But there are additional lines from 1954 that are not part of the Puy-de-Dôme polar coordinate system. These lines run from northwest to southeast across Europe and are parallel to one another. If extended far enough to intersect (all parallel lines on a sphere intersect in two places) they come together in Colorado and the Indian Ocean. Thus there appear to be two polar coordinate systems identified in the 1954 data, offset from one another by 75°.

What could these global orthotenic patterns in UFO reports mean? I am convinced that they are real because they are replicated in data from other time periods. For example, the worldwide UFO wave that occurred in the summer of 1965 also shows similar patterns for Western Europe. I believe what we see represents a navigational system, but I believe it could be more than that for two reasons.

First, there appear to be not just two but three polar coordinate grids, with the third centered in the northern hemisphere over the North Pacific south of the Aleutian Islands and in the South Atlantic southwest of the Cape of Good Hope, South Africa. Since only one coordinate system is required for navigation, the additional coordinate systems must fulfill some additional requirement. Perhaps they represent entrance and exit points for extraterrestrial visitors. Admittedly this is just speculation but the grids do seem to be persistent over time and most likely serve a useful purpose.

Second, the lines pass over many cities that are globally important political and religious centers. I realize that the population effect of urban centers may be the cause of this, and human population density is certainly a confounding reason for these observed great circle patterns, much like the pattern that emerges from airline route systems (which also fall in straight lines because of the requirements of air traffic control). However, remember that at least the first three lines—BAVIC, CAMAC, and AUPER—were identified by reports that all occurred on the same day, and in most cases these sightings and encounters occurred over rural areas and in small towns and villages. I find the observation that these lines, when extended, pass over important cities like Rome, Mecca, and Mexico City somewhat disquieting. Unsettling because, to me, it implies an interest and involvement by the intelligence behind the UFO phenomenon in human political and religious affairs.

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## REVIEW—continued from page 28

any attempt to do so. "Can we say that sleep research has 'explained' the Old Hag?" he asks. "No, we cannot. We cannot because what has been gained has been a description of physiological events that seem to account for the production of the state, that is, paralysis in wakefulness, preceding or following sleep, during which a complex and frightening experience may take place. The specific contents of the experience, however, have not been explained"—an important caveat that applies just as much when anyone tries to use sleep paralysis to explain abduction reports.

*The Abduction Enigma*, quite honestly, is a mess. It's provocative but unreliable, and it doesn't offer data, let alone proof, to support most of its bold assertions.

—Greg Sandow ♦