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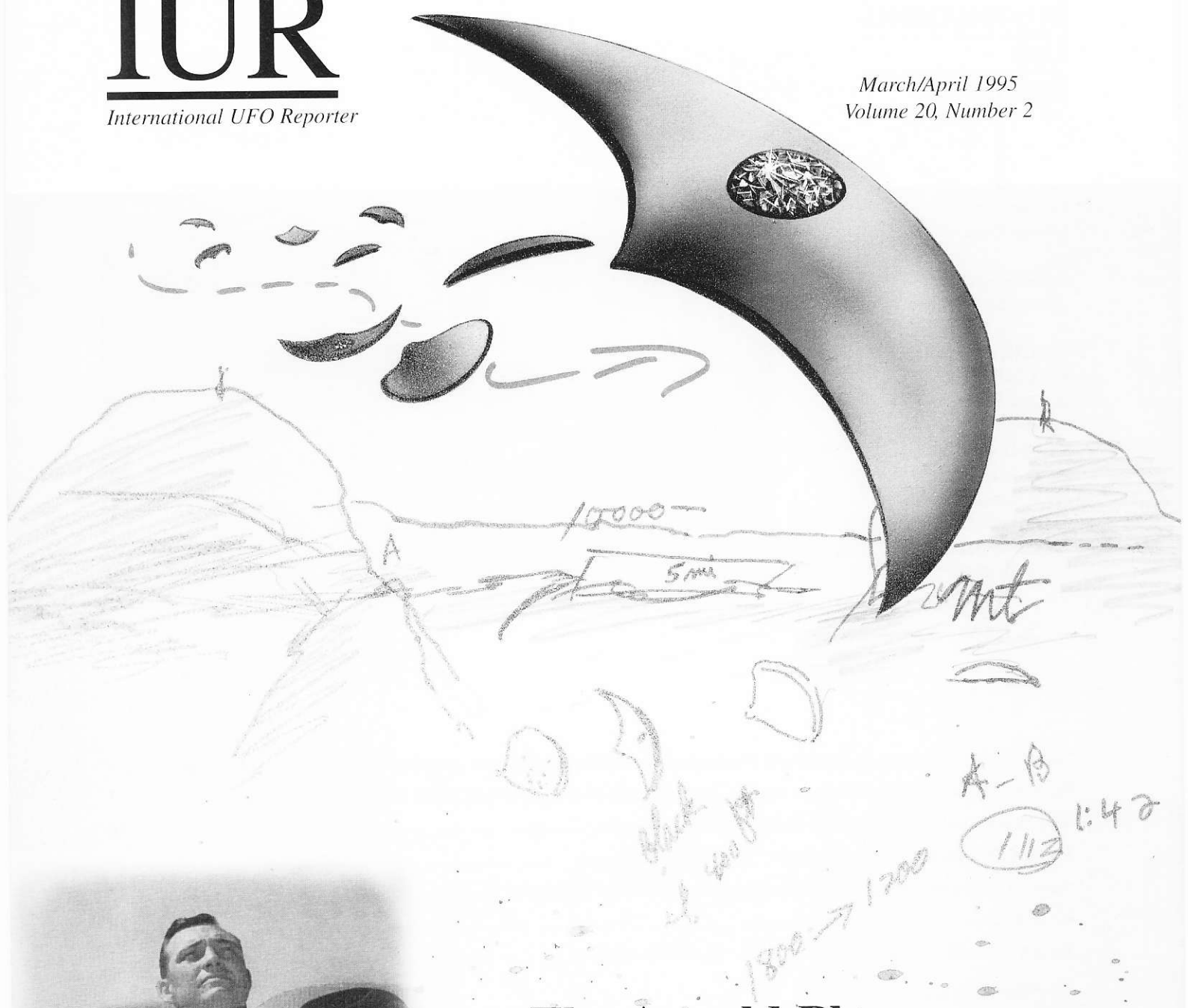
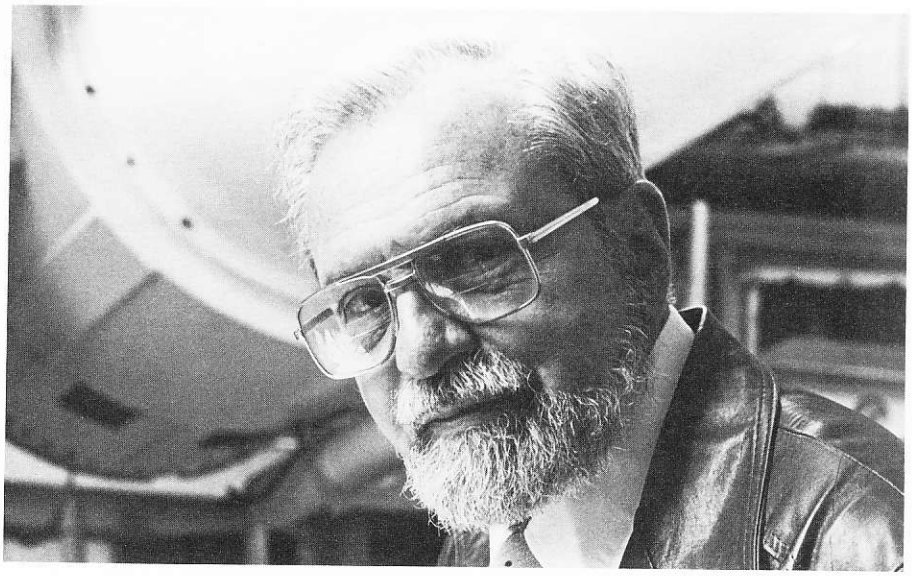


# The Arnold Phenomenon: Part Two

# INTERNATIONAL UFO REPORTER





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# THE ROSWELL DEBRIS:
## A QUANTITATIVE EVALUATION OF THE PROJECT MOGUL HYPOTHESIS

BY ROBERT A. GALGANSKI

The origin and composition of the allegedly unusual debris recovered by the military from the Foster ranch near Roswell, New Mexico, in early July 1947 is still a highly controversial issue. In a report issued in September 1994,[1] the U.S. Air Force concluded that this material was the remains of the top-secret Project Mogul Flight 4, "a multi-neoprene balloon train with multiple radar reflectors."

Independent researcher Karl Pflock reached a similar conclusion in his monograph, *Roswell in Perspective*.[2] Pflock, however, attributes the debris to Mogul Flight 9, which utilized polyethylene (plastic) rather than neoprene (rubber) balloons. He speculated that this array may also have supported a multiple radar-reflector payload.

Two recently published articles in *IUR* examined the Project Mogul hypothesis. In their review of the Air Force report,[3] Mark Rodeghier and Mark Chesney cited numerous internal and logical inconsistencies in refuting the Air Force's claim that Mogul Flight 4 wreckage was recovered. In a subsequent article,[4] Kevin Randle utilized winds-aloft data and newly discovered Mogul documentation to posit that Flight 9 could not possibly have landed on the debris field.

Even if Mogul Flight 9 did land there, however, a big question still must be answered. Did this balloon array and its payload contain enough polyethylene and other lightweight material to litter the field to the extent reported? This article examines the issue from a quantitative perspective.

### METHODOLOGY FOR TESTING THE MOGUL HYPOTHESIS

The approach used to evaluate Pflock's hypothesis was straightforward: (1) calculate the surface area of the Mogul Flight 9 multiple-balloon polyethylene envelope and other possible thin-shell material; (2) estimate the surface area of similar material at the debris site; and (3) compare the results of these computations. In order to carry out the second of these steps, mathematical models of the debris field had to be developed. They were formulated in part using information gleaned from *first-statement* testimony of firsthand and secondhand witnesses *who have allowed their names to be used.*[5]

*Robert A. Galganski is an engineer who has worked in transportation safety systems research for more than 20 years. The author thanks his colleague, Kenneth N. Naab, for reviewing this manuscript and for his many valuable comments and suggestions throughout the course of this research.*

**Table 1**
**Polyethylene balloon envelope surface areas of selected Project Mogul arrays**

| *Flight no.* | *No./shape/size of balloons* | *Balloon envelope surface area ($ft^2$)* | *Remarks* |
|---|---|---|---|
| 8 | 10 conical @ 200 $ft^3$ | 10(179) = 1790 | |
| 10 | 1 spherical @ 15 ft diam | 707 | |
| 11 | 1 spherical @ 15 ft diam; 6 conical @ 200 $ft^3$ | 707 + 6(179) = 1781 | Area of two neoprene meteorological balloons not included |

### FLIGHT 9 BALLOON ENVELOPE SURFACE AREA

The specifics of the balloon configuration used in Mogul Flight 9 are unknown. Consequently, quantitative information for Mogul Flights 8, 10, and 11 (which were launched within hours or at most several days of the Flight 9 cluster) was examined in an effort to ascertain the range of their total balloon envelope surface areas. Table 1 displays the approximate values of this parameter for the balloon arrays of those three well-documented launches. The balloon shape, quantity, volume, and dimensional data used to calculate these areas were obtained from Karl Pflock's report and Rodeghier and Chesney's *IUR* article.

The balloon envelope surface area of Mogul Flight 9* was assumed to comprise 1800 $ft^2$ of polyethylene, a reasonable yet liberal estimate reflecting the Table 1 results. According to Kevin Randle, the diary of Dr. Albert

*The size of the balloon array for Mogul Flight 4 was similar to Flight 9. Hence the same surface area estimation and the same arguments apply to Flight 4.

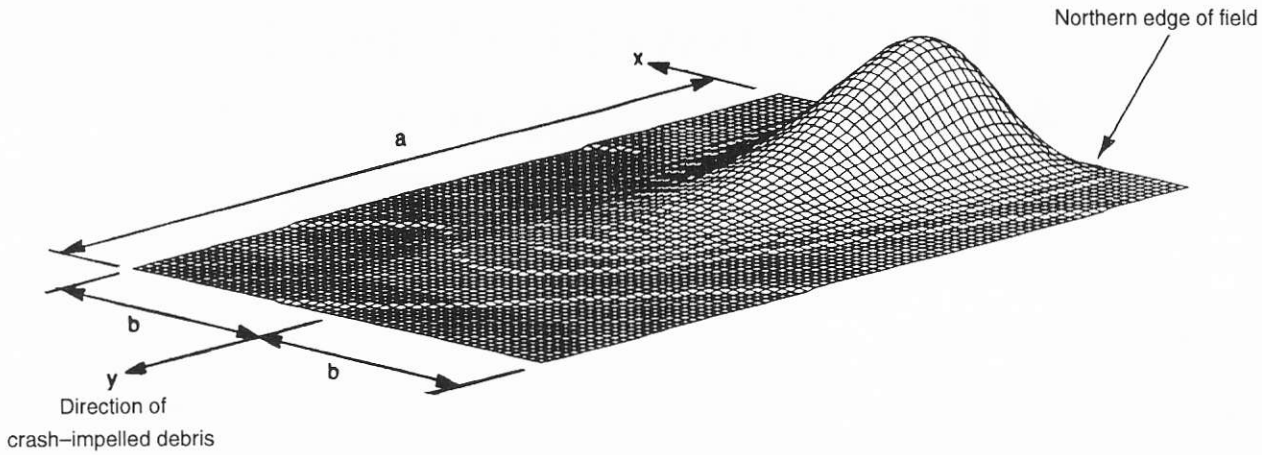


*Figure 1. This is a computer-generated drawing of the assumed shell fragment distribution given by Equation 5 for a rectangular-shaped debris pattern. The peak of the hill marks the location of the maximum concentration of material; it is located 400 feet from the front (northern) edge of the field. Because of computer plot size restrictions, the field is shown considerably wider than it would have been if drawn to scale.*

Crary noted that Flight 9 was launched with a dummy load. Therefore the estimated Flight 9 envelope surface area did not have to be increased to account for radar-reflecting targets that were sometimes attached to Mogul arrays.

## The Debris Field

One of the earliest documented descriptions of the Roswell debris field size appeared in a December 8, 1979, interview of Major Jesse Marcel by *National Enquirer* reporter Bob Pratt. Here is an extract as it appears in Pflock's report:

> *Pratt:* When you went out there that morning, you could see this stuff scattered for quite a ways in the distance?
>
> *Marcel:* Lord, yes, about as far as you could see—three-quarters [of a] mile long and two hundred to three hundred feet wide.

Marcel described the distribution of the wreckage as follows:

> *Pratt:* Was it grouped or bunched together, or was it scattered?
>
> *Marcel:* Scattered all over—just like you'd explode something above the ground and [it would] just fall to the ground. One thing I was impressed with was that it was obvious you could just about determine which direction it came from and which direction it was heading. It was traveling from northeast to southwest. It was in that pattern. You could tell where it started and where it ended by how it thinned out. Although I did not cover the entire area this stuff was in, I could tell that it was thicker where we first started looking, and it was thinning out as we went southwest.

Ranch hand Tommy Tyree stated that Mac Brazel had to drive the sheep around the field to water because they would not cross through the wreckage. This observation indicates that there was at least one localized or more extensive area where the fragments were highly concentrated.

Most of the debris retrieved from the Foster ranch consisted of small pieces of extremely lightweight, shell-like material, that is, material having a thin-gage, flat or curved sheetlike configuration. (Polyethylene, neoprene, and tinfoil are included in this general classification.) The largest shell fragment reported was a ten-foot diameter piece recovered by Mac Brazel near the far (southern) end of a gouge. Several witnesses, including Bill Brazel and Walt Whitmore, Jr., reported seeing a narrow, shallow gouge in the ground aligned with the long dimension of the field. Their gouge length estimates ranged between 400 and 500 feet. General Arthur Exon also saw gouges at both the debris field and impact sites during an aerial survey several months after the event.

## Debris Field Models

An assumed distribution of shell debris was formulated consistent with witness descriptions. Equation 5, given in the appendix, defines its mathematical form; Figure 1 is the corresponding visual representation for a rectangular-shaped debris pattern of length $a$ and width $2b$.

In Figure 1, the height of the mesh is proportional to the relative ground-coverage density of thin-shell material at any given point on the field. The higher the mesh, the more material present. The peak of the hill is centered on the approximate location where the largest reported piece of shell wreckage was found. The existence of such a densely covered region is also consistent with Tyree's testimony that the sheep refused to cross a portion of the field. Marcel's observation regarding the direction of thinning

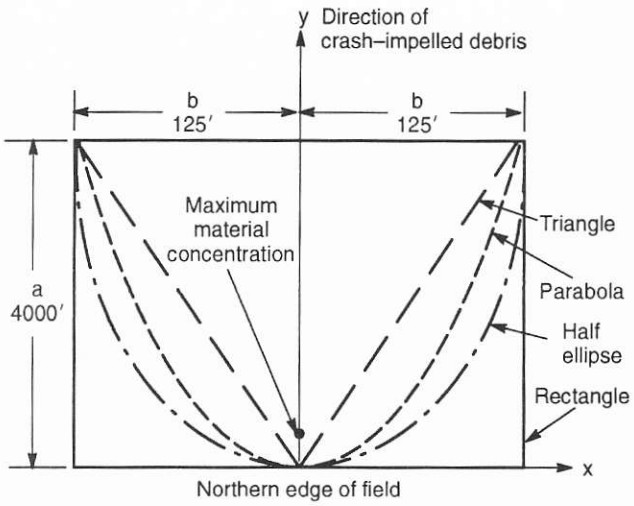


*Figure 2. Four different geometric shapes were used to model the debris field configuration. Each encompasses a different percentage of the shell distribution shown in Figure 1. A true-scale drawing would be nearly 23 times longer in the* y *direction than shown here.*

debris (in the $y$ or apparent direction of crash-impelled debris) is also accounted for by the assumed debris distribution.

Those parts of the actual field, especially far downfield and well to both sides of the location of maximum material concentration, were most likely virtually free of debris. Conversely, other regions probably exhibited a very high percentage of ground coverage, e.g., the area near where Brazel retrieved the large shell fragment. These extremes were assumed to average out over the assumed conservative fragment distribution.

Four debris patterns were modeled. One was a rectangular configuration, consistent with the shape implicit in Marcel's field size estimate. Three other configurations were modeled: triangular, parabolic, and half-elliptical. Each of the latter shapes is more consistent with a fan-shaped debris pattern resulting from the impact of a conventional aircraft with the ground. A plan view of all four models is shown in Figure 2. The length ($a$ = 4000 ft) and width ($2b$ = 250 ft) of the rectangle reflect the estimates given by Major Marcel.

## Model-Generated Results

The numerical value of the assumed shell distribution at any point on the field is dependent on the value of a constant, $\rho_0$. This parameter, defined in Equation 2, represents the thin-shell material average ground coverage density in a small-area region where the debris is assumed to be most dense (i.e., the peak of the hill in Figure 1).

As an example, assume that $\rho_0$ = 0.20 and that a 10 ft × 10 ft grid is centered at that maximum-density location. This region contains more thin-shell material than any other area of comparable size on the field and is common to all four models. Using Equations 5 and 13 with $(x,y)$ = (0,400) feet and a 10 ft × 10 ft small-area region $\Delta A$ = 100 ft$^2$, we find that the combined surface area of the individual shell fragments in this zone is equal to 20.0 ft$^2$ (meaning that 20% of this small area would have been covered by debris). If we could fit all these pieces together like the parts of a jigsaw puzzle, they would be equivalent to a single, 4.5 ft × 4.5 ft (54 inches × 54 inches) square shell remnant located somewhere in $\Delta A$.

**"... this balloon train was *not* responsible for the debris at the Roswell site."**

Figure 3 illustrates the size variation of equivalent square shell pieces at selected points within the boundaries of the parabolic-shaped debris pattern for $\rho_0$ = 0.20. The amount of material contained within any given 10 ft × 10 ft grid decreases rapidly away from the center of maximum material concentration. Indeed, it can be shown that approximately 62% of the shell fragments are clustered within 1000 feet of the northern edge of the field; more than

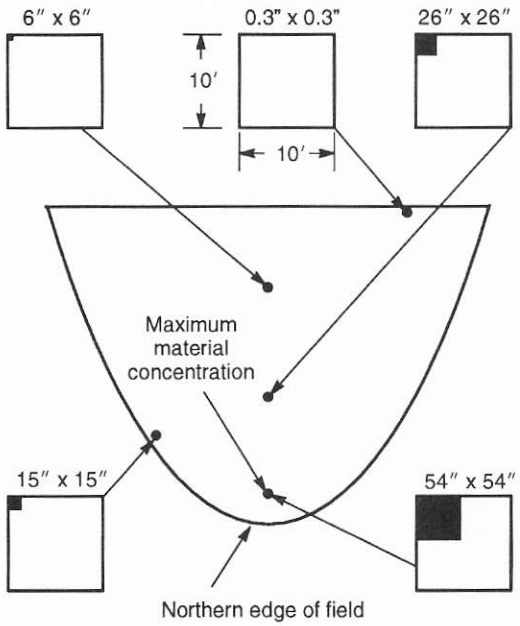


*Figure 3. This drawing illustrates the predicted surface area variation of shell fragments in a 100 ft$^2$ region surrounding selected points in a parabolic-shaped debris pattern. The black area in each common 10 ft × 10 ft grid and the dimensions shown above it indicate the size of the equivalent square shell panel that theoretically could be made from this material. An extremely conservative average ground coverage density of 0.20 is assumed in this example.*

**Table 2**
**Calculated area parameters for a range of average ground coverage densities $\rho_0$**

| $\rho_0$ | $A_s$ : Model-predicted shell surface area on field ($ft^2$) | | | | Number of Flight 9 Mogul trains for polyethylene envelope area to equal $A_s$ | | | |
|---|---|---|---|---|---|---|---|---|
| | Triangle | Parabola | Half ellipse | Rectangle | Triangle | Parabola | Half ellipse | Rectangle |
| 0.20 | 3,300 | 6,880 | 9,080 | 16,100 | 1.8 | 3.8 | 5.0 | 8.9 |
| 0.25 | 4,130 | 8,600 | 11,400 | 20,100 | 2.3 | 4.7 | 6.3 | 11.2 |
| 0.30 | 4,950 | 10,300 | 13,600 | 24,100 | 2.8 | 5.7 | 7.6 | 13.4 |
| 0.35 | 5,780 | 12,000 | 15,900 | 28,100 | 3.2 | 6.7 | 8.8 | 15.6 |

93% of them are located within 2000 feet (half the field length) of this boundary.

Total on-ground shell surface area estimates for the entire field were obtained for all four debris patterns using the integral calculus approach detailed in the appendix. Algebraic expressions for these predictions are given by Equations 9 through 12 as a function of average ground coverage density, $\rho_0$. Given the uncertainties about the actual coverage density, this parameter was assumed to range between 0.20 and 0.35 in the analysis which follows.

Table 2 lists, for each model, the numerical value of the debris field shell surface area $A_S$ in square feet and the corresponding number of Project Mogul Flight 9 balloon trains that could be theoretically pieced together from this material if it was actually polyethylene. The latter number was calculated by dividing $A_S$ by the estimated Mogul balloon envelope surface area (1800 $ft^2$).

The rectangular model generates the highest estimates because it encompasses the entire material distribution shown in Figure 1. Since it is not fan-shaped, it probably greatly overestimates the amount of material on the field and the associated number of Mogul balloon trains.

Conversely, the triangular model provides the smallest estimates because the extremely narrow part of its area (near the northern edge of the field) excludes a substantial portion of the moderate-density material distribution. It should be noted, however, that *extremely lightweight,* crash-impelled debris would tend to scatter in more of a curved pattern (i.e., bow outward) rather than remain within the confines of two straight-line boundaries. Therefore the predictions generated by the triangular model significantly underestimate the on-ground thin-shell material and the corresponding number of Mogul arrays.

Figure 2 shows that both the half ellipse and parabolic shapes can be used to approximate curved-boundary, fan-shaped debris patterns. The parabolic model, which predicts about 24% less shell-fragment area than its half-ellipse counterpart (see Equations 11 and 12), was selected as *the most plausible, conservative approximation* to the actual Roswell debris field pattern.

Table 2 indicates that at the assumed minimum average ground coverage density ($\rho_0$ = 0.20), *it would take nearly four* Mogul Flight 9 trains to provide enough polyethylene fragments to match the model-predicted surface area for a parabolic-shaped field.

As illustrated earlier, a $\rho_0$ value of 0.20 means that only 20% of the ground is covered with shell debris in the immediate vicinity *where this material is most highly concentrated.* It therefore causes the parabolic model to generate *an extremely conservative estimate.* According to Table 2, even more Mogul balloon trains would be required to serve as polyethylene sources if a slightly higher average ground coverage density is used with the same model (e.g., nearly six arrays at $\rho_0$ = 0.30).

## Conclusion

This research utilized available information and several plausible assumptions to compute two surface areas: (1) a conservative estimate of thin-shell material on the Roswell debris field, and (2) a liberal estimate of the polyethylene multiple-balloon envelope comprising Project Mogul Flight 9. Comparison of these quantities provides compelling, quantitative support for arguments which contend that this balloon train was *not* responsible for the debris at the Roswell site.

## Appendix: Mathematical Model Development

The total surface area of the thin-shell fragments retrieved from the Roswell debris field site, denoted by $A_S$, can be expressed in double-integral form:

$$A_S = \iint_A \rho(x,y)dA \qquad (1)$$

where $\rho(x,y)$ is a nondimensional function which describes the distribution of this material over the entire debris field area $A$. The integration is carried out within the boundaries of the debris patterns depicted in Figure 2. $A_S$ is assumed

*continued on page 23*

# PROJECT MOGUL AND THE ROSWELL CRASH: AN EXCHANGE

BY CHARLES B. MOORE, ROBERT G. TODD, MARK RODEGHIER, AND KEVIN D. RANDLE

**CHARLES MOORE WRITES:**

In their effort to refute the 1994 Air Force research report on the Roswell incident (September/October 1994 *IUR*), Mark Rodeghier and Mark Chesney quote William L. Moore's version (in his and Charles Berlitz's 1980 book *The Roswell Incident*) of my reply to him sometime around 1979. Moore had asked me if one of the New York University balloons could have plowed long, deep furrows in the ground where W. W. Brazel found the debris on the Foster ranch in the early summer of 1947. Readers who go to the page in question (38) will note that my reply contained the condition that it was "[b]ased on the description you just gave me. . . ." In their treatment of my answer, however, Rodeghier and Chesney did not consider what had been described.

Though Moore showed me no evidence or documents to bolster his story, he told me that some heavy craft had crashed, made long, furrowlike gouges in the ground, lost some parts, then rebounded into the air and left the region. As I remember, he said that the craft finally crash-landed on the San Agustin plains about 110 miles to the west. His description of the two widely separated crash-landings with long, deep furrows in the earth at the first site made the balloon explanation unlikely. After reading his and Berlitz's book, however, on January 12, 1981, I wrote Moore and took issue with some of his information and his incorrect identification of my balloon photograph in the book. He never responded to my letter, and the errors are reprinted in the book that is now on the market.

Contrary to Rodeghier and Chesney's inference that I had not heard of the incident until approached by investigators, I had long held the opinion (from 1947 until 1992) that the debris from one of the new polyethylene balloons we had launched from Alamogordo in early July 1947 probably was responsible for the press flap. We had launched several experimental balloon trains from Alamogordo Army Air Field in two expeditions during June and July of that year. The last flight in the second expedition was NYU Flight #11A, using a cluster of polyethylene balloons. This flight, launched at 0508 MST on July 7, was tracked by Watson Lab personnel in a C-54 airplane until the balloons landed at 1427 MST, about 19 miles due west of Roswell Army Air Field. The equipment had not been recovered when we left Alamogordo on the morning of July 8 in the C-54, bound for Newark, New Jersey. We heard about the press reports of the "flying saucer" recovery during our trip east and concluded that it was probably based on the finding of Flight #11A by persons who could not have ever seen polyethylene balloons before.

There was much excitement nationwide about flying saucers in the last week of June 1947. During that period the radio station at Alamogordo received many calls about saucer sightings from residents who saw our balloons in the sky over the Tularosa Valley. We recognized that our balloons were responsible for these local radio reports, and later we guessed that some of the polyethylene balloons had caused the Roswell incident. As far as we were concerned, it was a funny example of how the press could get excited about a balloon flight because of the flying-saucer furor.

I first saw the 1947 *Roswell Daily Record* interview with Brazel in June 1992, after a friend sent me a copy.

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*Charles B. Moore served as a weather equipment officer in the U.S. Army Air Forces during World War II. After earning a chemical engineering degree at Georgia Tech in 1947, he enrolled as a graduate student in physics at New York University and became the project engineer for the NYU Constant-Level Balloon Group. In 1949 he was appointed engineer-in-charge of General Mills' Balloon Operations in Minnesota, then moved to Arthur D. Little, Inc., in Massachusetts in 1953. There he became involved in thunderstorm and lightning research which continues to the present. He became professor of atmospheric physics at the New Mexico Institute of Mining and Technology in 1969 and retired from teaching in 1986. Moore's classic daylight-disc sighting at Arrey, New Mexico, on April 24, 1949, is discussed on pages 63–64 of J. Allen Hynek's* The UFO Experience *(1972) and elsewhere in the UFO literature.*

*Robert G. Todd is a longtime student of official UFO policy.*

*Mark Rodeghier, Ph.D., is CUFOS scientific director.*

*Kevin D. Randle is co-author of* The Truth About the UFO Crash at Roswell *(1994).*

When I read it, it was clear that no polyethylene was associated with the Foster ranch debris.

Rather, Brazel provided an excellent description of what the remains of one of our unorthodox, early June meteorological balloon clusters carrying multiple, corner-reflecting radar targets would have looked like after some of the balloons burst and the others dragged the lower targets across the ground. They would not have plowed "furrows," but none were reported by Brazel, by Maj. Marcel in his AP interview, by Jason Kellahin (the AP reporter who visited the site), by Sheridan Cavitt (the CIC agent who accompanied Marcel), or by Bessie Brazel Schreiber (Brazel's daughter, 14 years old at the time).

On the basis of this new information, I did change my mind. I discarded the idea that a polyethylene balloon had been the source of the debris, and I looked at the records from our earlier flights with clusters of meteorological balloons.

One of our cluster flights in early June 1947 was tracked to the Capitan Peak/Arabela area. It was lost, or tracking ceased while it was still airborne at a location about 17 miles or so from the Foster ranch. I think it is likely that this flight provided the debris that Brazel found.

It should be pointed out that Project Mogul was so highly classified that I did not know until recently it was the name of the project we worked on. I had no need to know, though I eventually acquired a general idea of the purpose of our effort. I "did not remember" (to quote Rodeghier and Chesney) the project name when I talked to Moore because I did not know it and had never heard it before. As part of my argument to him that one of our NYU balloons caused the incident, however, I supplied him with the balloon photograph and with the sketch of the #11A flight train that he used in *The Roswell Incident.*

Rodeghier and Chesney's treatment notwithstanding, none of these flights were ever identified or known as "Project Mogul flights"; they were all "New York University balloon flights." We prepared the balloon equipment, launched it, and documented the flight performance when possible. The project was tightly compartmentalized with the classified portions retained at Watson Laboratories while the NYU balloon operations themselves were unclassified. Our mission was to develop constant level balloons, ostensibly for meteorological purposes. Coupled with the development mission was the requirement for our making service flights when requested by the project scientists. On the service flights the Watson Lab payloads themselves were not classified; by July 1947 the Watson people had decided that no outside person would be able to deduce their purpose if their debris was ever found after landing. Under these conditions there was no great urgency to recover our payloads except when we wanted to find what went wrong.

With all the security around the purpose of Project Mogul, I am reasonably sure that the Eighth Air Force officers, Brig. Gen. Roger M. Ramey, and Col. Thomas J. DuBose, had no need to know about the project and therefore were not briefed on the Air Materiel Command (AMC) operations in Alamogordo until after the debris was recovered. They were probably as mystified, initially, about the origin of the debris as were Col. William Blanchard and Maj. Jesse Marcel. On July 8, 1947, none of the Eighth Air Force officers were qualified to answer questions about the NYU balloon flights. On the other hand, the AMC officers held a press conference on July 9 at Alamogordo and claimed the debris as theirs (essentially true; we worked for AMC under Contract W28-099-ac-241).

As to any Army or Air Force lie about the debris, the only one I can identify is in the original press release wherein 1st Lieut. Walter Haut repeated the rancher's belief that he had found a crashed saucer. After getting some help from the officers in Fort Worth, Brig. Gen. Ramey said the debris was that of a weather radar target and a meteorological balloon. That is what Col. Richard L. Weaver said in his report, and that is how some of the debris from the NYU flights with standard Signal Corps ML-307B targets and multiple meteorological balloons could be described. So where is the alleged Air Force lie regarding the identification of the debris?

Another correction that should be made for the record has to do with the effect of sunlight on the neoprene balloon film (which has not been fully and accurately described in the brief accounts that have appeared). When first inflated, the ML-131 balloons (made by Dewey and Almy) that we used were ivory in color. After exposure to sunlight for a few hours, they acquired a brownish color and usually burst, leaving large fragments of thin film. With prolonged exposure to the sun for about three weeks, the upper portions of these fragments became almost black, with a faint gray deposit often appearing on the top surface caused by the exudation of the plasticizer in the neoprene. The neoprene in the lower layers usually acquired a mottled appearance, the darkness of which depended on how much sunlight had penetrated. Eventually, after several months' exposure, the film fragments deteriorated under the influence of the sunlight, became fragile, and often crumbled when flexed by the surface winds. I have several examples of neoprene balloon fragments that have had prolonged exposure to sunlight and will gladly show them to anyone interested.

To improve their flight performance, we conditioned these balloons before inflation by dipping them into very hot water. This increased the elasticity of the film that always degraded during prolonged storage. Afterwards, however, the balloons developed an acrid burnt odor due to migration of the anti-oxidant, anti-ultraviolet compounds in the neoprene to the surface as a result of the wet heating. This odor was often noticeable thereafter whenever the balloon film was handled. It is interesting that both J. Bond Johnson (the *Fort Worth Star-Telegram* reporter who photographed the debris in Brig. Gen. Ramey's office) and Warrant Officer Irving Newton (the weather officer who identified the debris) both reported odors associated with

the debris. According to Kevin D. Randle and Donald R. Schmitt, Johnson spoke of "some burnt rubber that was stinking up the place." Newton later wrote in response to a question: "I can't be sure, but yes I do think there was a smell of old rubber, rather than burnt rubber." He, of course, had smelled neoprene balloons before and probably would have related the odor to old balloons rather than to burned rubber.

It appears to me that in seeking to refute the Air Force report, Rodeghier and Chesney were as partisan and narrowly focused in dismissing a terrestrial explanation for the Roswell incident as William Moore was 15 years ago. They seemed as uninterested in the information now available as they were in what my conditioned answer to Moore was based upon.

Those who would like to know more about the NYU flight data or related information, or to see the records, may write me at Box 1333, Socorro, New Mexico 87801.—*Charles B. Moore*

**ROBERT TODD WRITES:**

Rodeghier and Chesney claim, "What makes the Air Force report inferior to the best Roswell investigations is its refusal to use all the available testimony." Yet there is clear evidence that the very Roswell investigators Rodeghier and Chesney praise have themselves refused to use *all* available testimony. Let's look at just one example.

Kevin D. Randle and Donald R. Schmitt have written two books on Roswell, *UFO Crash at Roswell* (1991) and *The Truth About the UFO Crash at Roswell* (1994). Neither carries the testimony of Bessie Brazel Schreiber, the daughter of W. W. Brazel. At the time of the Roswell incident, Bessie Brazel was 14 years old. According to the newspaper accounts, W. W. Brazel told reporters that on July 4 Bessie Brazel helped him gather up some of the debris he had found on June 14. She was a firsthand witness to the debris and the debris field both. Nonetheless Randle and Schmitt barely mention her in their books.

Karl T. Pflock contacted Schreiber, and she signed an affidavit for him. This affidavit appears in Pflock's monograph *Roswell in Perspective* (1994) and in the Congressional briefing prepared by the Fund for UFO Research in 1993. In her affidavit Schreiber stated that she was indeed on the ranch with her father when the Roswell story broke; she said she helped her father pick up the material. In their attempt to discredit the newspaper accounts, with Brazel's devastating description of the Roswell debris, Randle and Schmitt employed the testimony of persons who were not on the ranch at the time to claim Bessie Brazel wasn't either.

Schreiber's firsthand testimony offers valuable insight into the Roswell incident. While we can acknowledge that the affidavit Schreiber signed was prepared for her by Pflock and there is always the danger of putting words into the mouths of witnesses under such circumstances, Schreiber described the debris she saw in terms that are entirely consistent with a description of a weather balloon and radar target. Schreiber's testimony also tends to dispute the claim that her father was held incommunicado for a week or more, but the crashed-saucer proponents have furnished little credible testimony in support of this claim. In addition, Schreiber's testimony disputes the claim that there was a gouge in the earth where the supposed spacecraft crashed or touched down and skipped off. The testimony of Maj. Jesse Marcel also casts the claim into doubt. CUFOS's Roswell investigators ignore this as well, not because the testimony they offer for the existence of the gouge is more reliable (it isn't), but because the gouge story tends to rule out the balloon explanation. So Rodeghier and Chesney's assertion that the case built by the crashed-saucer proponents is better because it takes into account *all* the available testimony is false.

I contacted Schreiber myself. I also furnished her with a copy of the November/December 1990 issue of *IUR* in which some of the Roswell photographs appeared. I asked her if the debris depicted in the photographs looks like the debris she recalls gathering with her father back in July 1947. Her written response states simply, "The debris shown does look like the debris we picked up." Since Schreiber was one of only a few firsthand witnesses to the debris and the debris field both, her statements should be given a great deal of weight, at least as much weight as the statements made by Jesse Marcel, Jr., who was only 11 years old at the time and who was not at the debris field. Randle and Schmitt and the other crashed-saucer proponents put great stock in Jesse, Jr.'s, statements, even though the younger Marcel's statements conflict sharply with those his father made.

According to Appendix E of their first book, Randle and Schmitt spoke with Schreiber by phone in March and July 1989. Yet nowhere in their book did they report what Schreiber had to say. She is not even listed in Appendix G, titled "Relevant Persons." Their second book makes only one passing reference to Bessie Brazel. But once again, Randle and Schmitt made no attempt to report on what Mrs. Schreiber said when they contacted her. Did she refuse to talk with them but agree to help Pflock?

Rodeghier and Chesney criticize the Air Force for conducting only a few interviews. While noting that two supposedly significant witnesses, Bill Rickett and Edwin Easley, have died, they nonetheless say the Air Force ought to have requested copies of the interviews the crashed-saucer proponents conducted with these men.

As far as I am aware, the Air Force wasn't required to conduct *any* interviews. All it was required to do was to search for records on the Roswell incident. It searched and found none, which isn't surprising.

As for the second criticism, in spite of the Randle/

*continued on page 19*

# THE ARNOLD PHENOMENON: PART TWO

BY BRUCE MACCABEE

How did the Air Force come to the conclusion that Kenneth Arnold saw a mirage that memorable afternoon of June 24, 1947?

The answer is not a straightforward one. Initially the Air Force intelligence officers who were collecting flying-saucer reports treated the sightings, including Arnold's, seriously. This was, at least in part, a response to the fact that a number of Air Force pilots had also reported the objects.

But in the fall of 1948 Gen. Hoyt Vandenberg rejected the extraterrestrial-visitation conclusion expressed in an estimate of the situation prepared by members of Project Sign. The only alternative, that the Russians had made immense improvements on German aircraft developed during World War II and were flying the new aircraft over the United States, was too much for the intelligence analysts to accept. Therefore they could only explain each sighting in some conventional way. The urge to explain carried over into Projects Sign and Grudge.

Explanations for Arnold's sighting were proposed by two scientists with close connections to the Air Force project. Their explanations have had the most impact on the final Air Force evaluation of the sighting. Those skeptical scientists were J. Allen Hynek and Donald H. Menzel. Hynek, a professor at Ohio State University and then at Northwestern University, was the astronomy consultant to the Air Force's UFO projects starting with Sign in 1948 and continuing through the end of Blue Book in 1969. Though his specialty was astronomy, he was asked to suggest explanations for all types of sightings. Menzel was an astrophysicist and director of the Harvard Observatory during the same time period. Hynek, who died in 1986, reversed his skeptical stance toward UFO reports in the mid 1960s and, in 1973, co-founded CUFOS. Menzel, who died in 1976, never retreated from his published opinion that sightings by credible observers could all be explained as meteorological phenomena.

*Bruce Maccabee, Ph.D., former head of the Fund for UFO Research, is an optical physicist and active investigator/analyst of UFO reports past and present. Part one of this article appeared in the January/February issue. The third and concluding part will be published in the next issue.*

## DR. HYNEK'S UNTAKEN ROAD

In 1948 Hynek was hired to analyze sightings and to decide which ones could be categorized as misidentified astronomical phenomena. He also expressed his opinion on other sightings, Arnold's among them.

Hynek's initial assumption was that at least part of what Arnold said was true: that Arnold could see the overall shape of the objects, that he could see them edge-on, and that he thought their width was about 20 times greater than their thickness. Hynek decided to try to calculate their size based on the basic visual capabilities of the human eye. He pointed out that the angular resolution of the human eye is typically about 3 minutes of arc (1 minute of arc = $^1/_{60}$ of a degree = 0.00029 radians; the angular size of the moon is about $^1/_2$ degree or about 30 minutes of arc). He then argued that if the angular size, i.e. thickness, were substantially less than this, then Arnold could not have seen them. Hence Hynek concluded that the thickness must have been at least 3 minutes of arc, which is about $^1/_{10}$ of the apparent size of the moon. Hynek calculated that this angular size corresponds to a thickness of about 100 feet at the greatest distance estimated by Arnold, 25 miles. Therefore, if Arnold's 20:1 ratio of length to thickness were correct, then the objects were about 2000 feet long, a size that seemed to Hynek ridiculously large.

But Arnold had estimated that the objects were the size of fighter aircraft with typical lengths of 40 to 50 feet. Hynek thought he had found a contradiction. He calculated that if indeed they had been this short, they would have been too small for Arnold to discern any details. Furthermore, if the 20:1 ratio were correct, they would have been too thin to see edge-on if 25 miles away. In short, if the objects were the size and distance estimated by Arnold, he could not have seen any details of their shape because he could not have seen them at all.

Hynek decided to resolve the inconsistency by ignoring both Arnold's distance and size estimates. Instead, Hynek argued, if the objects were a more reasonable size, say the size of the largest known aircraft, roughly 400 feet long and 30 feet high, they must have been much closer to Arnold to be seen edge-on. Hynek estimated their distance at six miles. At this distance the aircraft could appear (from

the position of Arnold's plane) to travel past Mount Rainier and then past Mount Adams in 102 seconds if their speed were only 400 mph.

"In view of the above [calculations] it appears probable," Hynek declared, that Arnold saw "some sort of known aircraft." In other words, Hynek explained Arnold's sighting by assuming the objects were the size of ordinary large aircraft and then concluding that the objects probably were ordinary aircraft.

As a result of Hynek's discussion of the discrepancy between Arnold's estimates of the distance and size of the objects, the Air Force officers who wrote the final report of Project Grudge in the spring of 1949 decided that "the entire report of this incident is replete with inconsistencies and cannot bear even superficial examination."

So what about Hynek's argument that the objects would have been too thin to be visible, based on his claim that the human eye can't see something smaller than 3 arc minutes in angular size? Does it make any sense at all?

The answer is no, and it comes in two ways. First, the fact is that many people can see objects smaller than 3 arc minutes in angular size, especially if they are larger than this in one dimension (a long cylinder viewed from the side, for example). The second part of the answer comes directly from Arnold's report to the Air Force. Though it would have been nice if Arnold had taken an eye test to provide Hynek with actual visual-acuity data, some information in his report—information that Hynek ignored—provides us with a clue. He said he was able to see a DC-4 at 15 miles (estimated distance), and he compared the spacing of the engines on the plane with the apparent size of the saucers. With its 27-foot height, the vertical angular size of the DC-4 at that distance was 0.00034 radians or about 1.2 arc minutes. (Even if Arnold overestimated the distance and it was really 10 miles away, then vertical angular size would still have been less than 2 arc minutes.) Thus, by Hynek's criterion, Arnold should not have been able to see the DC-4, and certainly he wouldn't have been able to see the engines and thereby to see the spacing of the engines. But Arnold said that he did see the airplane and its engines—a statement Hynek did not dispute. Therefore Hynek's "inconsistency" objection must be rejected.

Had Hynek tested his hypothetical explanation—known aircraft—against the information in Hynek's report, he might have thrown out his own explanation. To test Hynek's explanation, assume that the unknown objects were ordinary large aircraft six miles away and ask the following question: why wasn't Arnold able to identify them, to see their engines, tails, wings, and so on, even though he could identify another aircraft about 15 miles away? Clearly Hynek did not notice the inconsistency in his own analysis. Had Hynek done what skeptics usually fail to do—to test his suggested explanation against the data—he would have seen that his hypothetical solution failed.

It is amusing to imagine what would have happened if Hynek had accepted Arnold's distance estimate. Then he would have been forced to accept the high velocity (about 1700 mph), in which case it is conceivable that the early history of the UFO subject would be different from what it turned out to be. Instead Hynek chose to take the road more traveled by, and that has made all the difference.

**"Had Hynek done what skeptics usually fail to do—to test his suggested explanation against the data—he would have seen that his hypothetical solution failed."**

## Dr. Menzel's many explanations

Hynek's work was done secretly for the Air Force, and his discussion of Arnold's sighting was not published, though his conclusion was mentioned in the "Project Saucer" report published by the Air Materiel Command at Wright Field (now Wright-Patterson Air Force Base) on April 27, 1949. Few civilian scientists had access to Air Force files, and so no one disputed Hynek's analysis until Donald Menzel decided to write about Arnold's sighting in his first book on UFOs, titled *Flying Saucers* (1953). This was the first UFO book by a scientist, and because of its author's stature in astrophysics, it was treated seriously. It received favorable reviews, though some atmospheric scientists questioned Menzel's use of weather phenomena to explain sightings. Libraries and scientific organizations throughout the United States and in other countries ordered the book, and it became the principal reference for scientists for years to come.

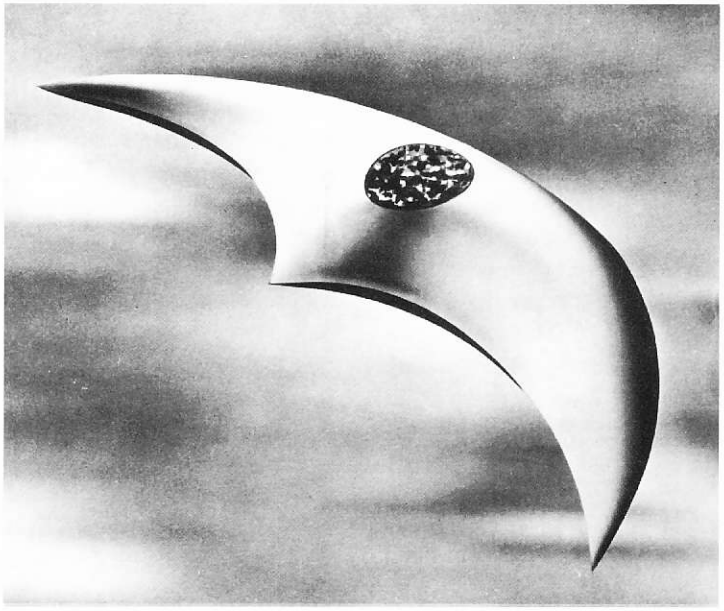
This is unfortunate. As I will demonstrate, Menzel did not provide accurate descriptions of the sightings, and he slanted the data as necessary to get his explanations to fit. He certainly did so with the Arnold sighting.

Though an avowed skeptic, Menzel criticized the Air Force for accepting Hynek's explanation. He briefly recounted Arnold's sighting and mentioned Arnold's estimate of distance and total observing duration (three minutes). Menzel wrote, "He clocked the speed at about 1200 miles an hour, although this figure seems inconsistent with the length of time that he estimated them to be in view. From his previous statement they could scarcely have traveled more than 25 miles during the three minutes that he watched. This gives about 500 miles an hour, which is still a figure large enough to be startling." Menzel did not tell the reader that Arnold had timed the flight of the objects between two points. Instead Menzel substituted a travel distance which he got out of thin air, 25 miles, and implied that this distance was covered in three minutes (180 seconds). Therefore he assigned a much lower, albeit "startling," speed of 500 mph.

Menzel went on to say:

> Although what Arnold saw has remained a mystery until this day, I simply cannot understand why the simplest and most obvious explanation of all has been overlooked. . . . [T]he association of the saucers with the hogback [of the mountain range] . . . serves to fix their distance and approximate size and roughly confirms Arnold's estimate of the speed.

Note that Menzel, unlike Hynek, accepted Arnold's distance estimate. Menzel then suggested that Arnold saw "billowing blasts of snow, ballooning up from the tops of the ridges" caused by highly turbulent air along the mountain range. According to Menzel, "These rapidly shifting, tilting clouds of snow would reflect the sun like a mirror . . . and the rocking surfaces would make the chain sweep along something like a wave, with only a momentary reflection from crest to crest."



This first explanation by a scientist with Menzel's stature is unconvincing, but only until one realizes that (a) the sighting occurred at 3 p.m. when the sun was high in the sky and to the west of Arnold; (b) snow cannot reflect light rays from the overhead sun into a horizontal direction "like a mirror" to create the brilliant flashes Arnold reported; (c) there are no 1200 mph or even 500 mph winds on the surface of the earth to transport clouds of snow (fortunately for all of us); (d) there are no winds that would carry clouds of snow all the way from Mount Rainier to Mount Adams (Arnold saw the objects pass Mount Adams before they were lost to view); (e) Arnold flew south of Mount Rainier minutes later, and surely his plane would have been strongly buffeted (and perhaps destroyed) by such high winds, but he reported, instead, calm conditions; (f) an atmospheric oscillation wave can't bend or reflect light over an angle of nearly 90 degrees, which would be necessary to make it appear as if the sun had been reflected by objects nearly at Arnold's altitude; and (g) an atmospheric oscillation wave with a phase velocity of 1200 mph is unlikely, but in any case, when traveling southward its crests would be oriented east-west, so if it reflected any sunlight at all (highly unlikely), the reflection would be in the north-south direction and not westward toward Arnold's plane.

Furthermore, even if such amazing atmospheric phenomena had occurred, it is difficult to imagine how Arnold could have failed to realize that he was just seeing snow blowing from the mountain tops, especially since he flew over the mountains about 12 miles south of Mount Rainier on his way east only a few minutes after the sighting.

In case the first explanation failed to convince, Menzel offered "another possibility." He suggested that perhaps there was a high layer of fog, haze, or dust just above or just below Arnold's altitude. This fog or dust was caused to move violently by air circulation. Menzel claimed that such layers can "reflect the sun in almost mirror fashion"—an assertion for which he produced no substantiation. Perhaps he was thinking in terms of a reflection from an atmospheric layer when the sun is so low on the horizon that the light rays make a grazing angle with the layer. If so, then that explanation as applied to the Arnold sighting is nonsensical, since the sun was high overhead (and slightly behind) Arnold. Furthermore, layers form under stable conditions, and violent air circulation would tend to break them up, so there would be no "reflections" of sunlight. Again, one wonders how Arnold could have failed to notice that he was just seeing the effects of a haze layer.

Ten years after his first book, Menzel came forth with his third, fourth, and fifth explanations in *The World of Flying Saucers* (1963, with Lyle G. Boyd): mountain-top mirages, "orographic clouds," and "wave clouds in motion." To support the third explanation, he presented a photograph of mountain-top mirages taken many years earlier. The photographer suggested that these may have been what Arnold saw. The mirages appear as vague images above the tops of the mountains. (Actually the mirage is an inverted image of the mountain top.) These mirages can be seen under proper atmospheric conditions (requiring a stable atmosphere) when the line of sight from the observer to the mountain top is tilted by no more than one half of a degree above or below horizontal. Unintentionally (or intentionally?) Menzel failed to report the following information in Arnold's report: As the objects traveled southward, he saw them silhouetted against the side of Mount Rainier, which is 14,400 feet high, much higher than the altitude of the saucers. Since mountain-top mirages occur above the mountain peaks, these objects were far below any mirage of Mount Rainier. Of course mountain-top mirages stay above the tops of the mountains, so the mirage theory cannot explain the lateral high-speed movement of the objects

reported by Arnold.

In his fourth explanation Menzel proposed that Arnold saw orographic clouds which can assume circular shapes and often form in the lees (downwind of) mountain peaks. These clouds would, of course, be large but, as Menzel notes in his book, they "appear to stand more or less motionless." The lack of motion, as well as the lack of bright reflections, rules them out. So why did he mention them? Also Arnold would have realized they were just clouds as he flew past Mount Rainier only minutes later.

Menzel's fifth explanation, wave clouds, is comparable to his first suggestion of "billowing blasts" of snow except that this time he proposed clouds of water vapor instead of snow. This explanation was supported by a photograph, taken by a newspaper employee, of such a cloud. But this explanation, too, fails to account for the brilliant reflections Arnold spoke of, for distinct semi-circular shapes, and for the high lateral speed. Once more, Arnold surely would have recognized a cloud as he flew past Mount Rainier.

In his third and last UFO book, *The UFO Enigma: The Definitive Explanation of the UFO Phenomenon* (written with Ernest H. Taves and published posthumously in 1977), Menzel again discussed Arnold's sighting and put forward his sixth and last explanation: Arnold saw water drops on the window of his aircraft.

In arguing his case, Menzel related a personal sighting which turned out to have been caused by water drops which had condensed on the outside of the window of an aircraft in which he was flying. They moved slowly backwards from the front of the window. They were so close to his eyes as he looked out the window that they were out of focus and he thought they were distant objects moving at a great speed until, after a few seconds, he refocused his eyes and discovered what they were. Comparing his "sighting" with Arnold's, Menzel writes:

> I cannot, of course, say definitely that what Arnold saw were merely raindrops on the window of his plane. He would doubtless insist that there was no rain at the altitude at which he was flying. But many queer things happen at different levels in the earth's atmosphere.

Though no one would dispute Menzel's claim that "queer things" happen at different levels of the atmosphere, this is irrelevant. Had Menzel bothered to read Arnold's report to the Air Force with any care, he would have seen Arnold's statement that he turned his plane sideways and viewed the objects through an open window to be sure that he was getting no reflections from window glass. (Fortunately Menzel did not propose water drops on Arnold's eyes.)

The Air Force in the early 1950s settled on the mirage theory for Arnold's sighting, and that is the official Blue Book explanation—this in spite of the fact that the mirage explanation is clearly contradicted by the information in Arnold's report.

## An excessive urge to explain

Skeptics sometimes claim that an inner desire for extraordinary explanations keeps UFO proponents from accepting reasonable explanations for sightings. No doubt there is some truth in this where it applies to extreme believers. Nonetheless the fact of the matter is that UFO investigators have explained more sightings than have the skeptics, probably because they have investigated more. On the other hand, this statement can be turned around: skeptics have an inner desire for a conventional explanation, an excessive urge to explain, which is so great that they will propose, and other skeptics will uncritically accept, almost any explanation, even one that conflicts with information in the sighting report. The Arnold sighting is a case in point.

Moreover, if one explanation does not seem persuasive (though there is no admission of this unpersuasiveness), the avowed skeptic will propose another. Menzel proposed no fewer than six explanations when in principle only one explanation should have been necessary. It is as if he believed that the probability that the sighting was explained increased with the number of potential explanations. Actually, the probability is either independent of the number of explanations, or else it even decreases as the number of proposed explanations increases. After all, there should be only one explanation: the correct one. Whenever one or more experts offer different explanations for a sighting, you can assume that it probably has not been explained after all.

Keep in mind that whereas it may not be possible to determine whether a particular explanation is correct, it is possible to decide whether or not a proposed explanation is convincing. To me none of the above explanations is convincing. I would go so far as to say none of the above explanations is correct. Should someone come up with an explanation that is so convincing it seems to be correct, I would like to hear it.

Skeptics have long argued that UFOs are a "modern myth." This argument is based, ultimately, on the claim that all sightings can be explained. Obviously that claim is not universally accepted. Why not?

My investigations and studies of numerous sightings have shown that the problem certainly does not lie with the convincingly explained sightings. Nor does it lie with those sightings that have not been explained because of a lack of relevant information. Instead the problem lies with those well-reported sightings, such as Arnold's, that contain a lot of information about the sighted objects, information that conflicts with each suggested conventional explanation.

## Skeptical of the skeptics

Since "explanation in terms of what is already known" (in terms of the existing paradigm) lies at the heart of science, skeptics have a fundamentally appealing argument when they claim that all sightings can be explained. After all, we

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# THE LOST WORDS OF EDWARD RUPPELT

BY MICHAEL D. SWORDS

The acquisition of the Edward Ruppelt papers by the collaborative interests of the Center for UFO Studies, the Fund for UFO Research, and the Mutual UFO Network has allowed us to know more about this important figure in UFO history and the times he wrote about. We will occasionally present small nuggets of this material to you as time and space permit.

One source of lost words in the Ruppelt collection is the draft copy of his 1956 book. This draft has many paragraphs crossed out (but still readable) that were not included in *The Report on Unidentified Flying Objects.* Some are worth rescuing from oblivion.

Most intriguing are the lost words involving the missing *Estimate of the Situation.* This *Estimate* referred to the conclusions of the study of flying disks conducted by the Intelligence Division of the Air Materiel Command and sent to the Pentagon in late September 1948. The following extract is from the draft manuscript of *The Report on Unidentified Flying Objects;* paragraphs in italics never appeared in the published book.

> In intelligence, if you have something to say about some vital problem you write a report that is known as an "Estimate of the Situation." A few days after the DC-3 was buzzed, the people at ATIC decided that the time had arrived to make an Estimate of the Situation. The situation was the UFO's; the estimate was that they were interplanetary!
>
> It was a rather thick document with a black cover and it was printed on legal-sized paper. Stamped across the front were the words TOP SECRET.
>
> It contained the Air Force's analysis of many of the incidents I have told you about plus many similar ones. All of them had come from scientists, pilots, and other equally credible observers, and each one was an unknown.
>
> *It concluded that UFO's were interplanetary. As documented proof, many unexplained sightings were quoted. The original UFO sighting by Kenneth Arnold; the series of sightings from the secret Air Force Test Center, Muroc AFB; the F-51 pilot's observation of a formation of spheres near Lake Mead; the report of an F-80 pilot who saw two round objects diving toward the ground near the Grand Canyon; and a report by the pilot of an Idaho National Guard T-6 trainer, who saw a violently maneuvering black object.*
>
> *As further documentation, the report quoted an interview with an Air Force major from Rapid City AFB (now Ellsworth AFB) who saw twelve UFO's flying a tight diamond formation. When he first saw them they were high but soon they went into a fantastically high speed dive, leveled out, made a perfect formation turn, and climbed at a 30 to 40 degree angle, accelerating all the time. The UFO's were oval-shaped and brilliant yellowish-white.*
>
> *Also included was one of the reports from the AEC's Los Alamos Laboratory. The incident occurred at 9:40 A.M. on September 23, 1948. A group of people were waiting for an airplane at the landing strip in Los Alamos when one of them noticed something glint in the sun. It was a flat, circular object, high in the northern sky. The appearance and relative size was the same as a dime held edgewise and slightly tipped, about 50 feet away.*
>
> The document pointed out that the reports hadn't actually started with the Arnold Incident. Belated reports from a weather observer in Richmond, Virginia, who observed a "silver disk" through his theodolite telescope; an F-47 pilot and three pilots in his formation who saw a "silver flying wing," and the English "ghost airplanes" that had been picked up on radar early in 1947 proved this point. Although reports on them were not received until after the Arnold sighting, these incidents all had taken place earlier.
>
> When the estimate was completed, typed, and approved, it started up through channels to higher-command echelons. It drew considerable comment but no one stopped it on its way up.

Several pages later in his book, Ruppelt speaks of the *Estimate* as being turned back (perhaps emotionally, as he uses the phrase "batted down") at the highest levels, perhaps by General Vandenberg himself. A group from Project Sign was called to the Pentagon to defend the *Estimate.* No one has verified who they were, but the likely

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candidates are civilian technical intelligence engineers Lawrence H. Truettner, A. B. Deyarmond, and Alfred Loedding. (Truettner and Deyarmond were the authors of the Project Sign report that contains many of these same cases and sympathies; Loedding was a frequent Pentagon liaison in 1947 and considered himself the "civilian project leader" of Sign.

On the military side, the most probable defender was the official project officer, Captain Robert Sneider, who might have written the *Estimate.* But it is not impossible that big wheels (or "gears" as colonels were then called—the generals were the wheels) such as Howard McCoy or William Clingerman, who would have had to sign off on the *Estimate,* were also summoned. Not only was their defense unsuccessful, but all of the above named persons were reassigned shortly afterwards. So great was the carnage that only the lowest grades in the project, civilian George Towles and Lieutenant H. W. Smith, were left to write the 1949 Project Grudge document about the same cases. The significance of all this was obvious to Wright-Patterson project personnel until Ed Ruppelt showed up, with his honest naiveté, in 1951.

I find the lost words of Ed Ruppelt interesting because they add an air of concreteness to the lost *Estimate.* Major Donald Keyhoe knew of the document by hearsay and was constantly hassled by government people telling him that it was a myth, it never existed. The famous Armstrong Circle Theatre fiasco of 1958, where Keyhoe was cut off the air in mid-sentence, was partly due to the fact that he was about to mention this document. Well, Keyhoe was right. This all *had* happened. A letter from the Pentagon admitted it much later. Now, thanks to Ed Ruppelt, we have a pretty good idea of what was in it. ✦

# ADMIRAL HILLENKOETTER: FROM BELIEVER TO SKEPTIC

BY CHRISTOPHER D. ALLAN

Vice-Adm. Roscoe H. Hillenkoetter had a distinguished career in the U.S. Navy, rising through the ranks to become Pacific Commander of Intelligence in World War II. Awarded the Legion of Merit for his work with personnel, he retired with many medals and honors. He is best known to ufology, however, for two contrasting reasons:

(1) Being appointed by President Truman as Director of Central Intelligence in Washington, D.C., on May 1, 1947; this group became the Central Intelligence Agency (CIA) later that year. He held this post until November 1950, when he returned to Naval duties.

(2) Being on the Board of Governors of the National Investigations Committee on Aerial Phenomena (NICAP) for a five-year period from 1957 to 1962. (He had retired from the Navy in June 1957 and became head of a shipping line in New York.)

Hillenkoetter had clearly developed an interest in UFOs, though we do not know exactly when this interest began. It is likely that his appointment to the NICAP board resulted from an invitation from its director, retired Marine Corps Maj. Donald E. Keyhoe, who had known Hillenkoetter personally since they were students together at Annapolis. Keyhoe undoubtedly deemed it a great boost to NICAP's prestige to have someone of Hillenkoetter's standing on his governing body. This was especially so in the battles between NICAP and the Air Force over UFO secrecy; these battles were still to come.

In November 1957, following a big wave of UFO sightings in the wake of the two Russian Sputniks, Hillenkoetter spoke out on his belief in UFOs and his hopes of a quick resolution of the UFO problem using satellite and space-exploration programs, then in their infancy. (The first U.S. satellite was still two months in the future, and the National Aeronautics and Space Administration [NASA] was not inaugurated until October 1958.)

In early 1960 Hillenkoetter spoke out publicly again, quoting a December 24, 1959, statement by the Air Force Inspector General, Maj. Gen. Richard E. O'Keefe, who had issued a regulation about UFO sightings, calling them "serious business." As reported in the *New York Times* of February 28, Hillenkoetter declared that "it is time for the truth to be brought out in open Congressional hearings." He added, "Behind the scenes high-ranking Air Force officers are soberly concerned about the UFOs, but through official secrecy and ridicule, many citizens are led to believe the unknown flying objects are nonsense."

These public statements have been quoted before but are worth recalling. Later Hillenkoetter's name appeared in the *Congressional Record* when the Hon. Leonard G. Wolf spoke in the House of Representatives (August 31, 1960) on a recent report submitted to Congress by NICAP, *The NICAP Report on Secrecy Dangers.* Hillenkoetter, as a

*Christopher D. Allan, a frequent contributor to* IUR, *lives in England.*

NICAP board member, had endorsed this 11-page report, which provided the impetus for Keyhoe's long-hoped-for Congressional hearings, in which the "truth" about UFOs, coupled with the Air Force's long suppression of this truth, would emerge. The battle for these Congressional hearings had occupied NICAP, involving a lot of administrative work and using up much of its funding, for at least three years. It now looked as if it might at least come to fruition.

Keyhoe writes in his *Aliens from Space* (1973) that he and NICAP seemed in fact to be involved in two battles regarding UFO secrecy: one with the Air Force, the other with the CIA. During the 1960s Keyhoe gradually became convinced that the CIA was the real culprit behind the secrecy (see chapters five and six). But the public battles were entirely between NICAP and the Air Force.

Hillenkoetter's position vis-a-vis UFOs seems clear enough, and there can be no doubt of his commitment to getting the Air Force to be more open. Keyhoe claims that "the CIA takeover of the AF investigation occurred in 1953"—an obvious reference to the Robertson Panel—but that Hillenkoetter was not involved since this was after his term as CIA director. Nonetheless Hillenkoetter did say that "the CIA had been keeping a close watch on the UFO problem" since 1948 (*Aliens from Space*, chapter five).

## Second thoughts

In 1961 a privately published book, *The Challenge of Unidentified Flying Objects*, by NICAP board member Charles A. Maney and NICAP secretary Richard Hall, appeared. The first page contains a printed statement by several board members to the effect that "the unknown devices reported by reliable observers are intelligently controlled machines from outer space." Curiously, Hillenkoetter's name is absent from this list.

When I asked Hall about this omission several years ago, he said the book was produced by a small publisher, and the omission may have been due to a printing error. Otherwise he could offer no explanation. I then looked at NICAP's June 1960 *Confidential Report to Congress* which he had sent me, in the section entitled "Plan to Reduce Danger." Several board members are listed as supporters of the "interplanetary machine" hypothesis, but again Hillenkoetter is not among them. Yet his public statements seemed to support the spaceship answer. Why the strange omission? Was Hillenkoetter having second thoughts?

In his book Keyhoe relates how, in the run up to hearings in Congress, he was relying heavily on Hillenkoetter's support and the big influence he would have in backing NICAP's effort to force the Air Force to open its files. But suddenly, out of the blue in early 1962, came a short letter from Hillenkoetter. The text, quoted by Keyhoe in *Aliens*, reads:

> Dear Don:
>
> In my opinion, NICAP's investigation has gone as far as possible. I know the UFOs are not US or Soviet devices. All we can do now is wait for some action by the UFOs.
>
> The Air Force cannot do any more under the circumstances. It has been a difficult assignment for them, and I believe we should not continue to criticize their investigations.
>
> I am resigning as a member of the NICAP Board of Governors.

Keyhoe was stunned and naturally put Hillenkoetter's action down to pressure from above: "persuasion at a very high level," as he put it. Even in retirement it seemed Hillenkoetter was not immune to these mysterious "persuaders." Despite this Keyhoe did admit that "the cause of the admiral's action was still a mystery." Never once did he hint that Hillenkoetter resigned through disenchantment with NICAP. After this Hillenkoetter dropped out of ufology and made no more public statements.

The story now takes a different turn. In late 1964 Harvard University astronomer and militant UFO debunker Donald H. Menzel told Boston radio station WEEI that Hillenkoetter had repudiated his belief in UFOs and had fully accepted all of Menzel's negative explanations as expounded in *The World of Flying Saucers* (1963, with Lyle G. Boyd).

This was too much for Keyhoe to stomach, and he asked NICAP members to be on the lookout for further Menzel statements in this vein. Meanwhile Keyhoe wrote to Hillenkoetter seeking clarification. A few months later, in a Chicago broadcast, Menzel repeated his claim in a discussion with a NICAP member.

By now Keyhoe was so incensed at Menzel's apparent attempt to discredit NICAP that he decided to publish Hillenkoetter's earlier response to his letter. Keyhoe assured readers that "when [Hillenkoetter] left the Board there was no ill feeling." Hillenkoetter's response, dated January 8, 1965, was published in the August/September 1965 issue of NICAP's *U.F.O. Investigator*:

> Dear Don:
>
> I apologize for the delay in answering your letter of December 13th but for part of the time over the holidays I was up in Massachusetts.
>
> I think you were misinformed about some of the things you mention. First, as far as I can remember, I never talked to Major Hart nor, also as far as I remember, I have never met him and would not know him if he walked in the door.
>
> I saw Dr. Menzel at a dinner in December but other than saying "Good Evening—Merry Christmas" there was no conversation and I have never carried on any conversation with Menzel about NICAP or UFO. He did send me a copy of his book for which I thanked him but took no position on the statements he made.
>
> Please take my apologies for being so long in answering your letter and with best personal wishes to you, believe me, as ever

Sincerely,
Roscoe

Keyhoe followed this by saying of Menzel: "We could only assume that he had confused Hillenkoetter with someone else." A displeased Menzel wrote to Keyhoe on November 10, 1965:

Dear Major Keyhoe:

In the *UFO Investigator* for August-September, 1965, you have published a statement under the heading "ADM. HILLENKOETTER DENIES MENZEL CLAIM." You question the validity of statements I have made in various radio broadcasts, in reply to assertions by NICAP members concerning Admiral Hillenkoetter's views on UFOs and NICAP. You suggest that I might have "confused Hillenkoetter with someone else."

In view of your stated desire "to get the facts on record," I enclose herewith the copy of Admiral Hillenkoetter's letter to me, dated September 19, 1963. I fear that the Admiral was guilty of the absent-mindedness you attributed to me.

Your statement that when the Admiral "left the Board, there was no ill feeling, as Dr. Menzel has implied," stands at variance with the third paragraph of the Admiral's letter to me. Further, I find it hard to accept your statement that "the reference to Major Hart was not concerned with Menzel," since it was Major Carl R. Hart, Project Blue Book Information Officer, United States Air Force, who wrote a glowing tribute to *The World of Flying Saucers*, written by myself and Mrs. [sic] Lyle Boyd and published by Doubleday.

Sincerely yours,
Donald H. Menzel

Dear Dr. Menzel:

Please accept my deepest apologies for the delay in answering your letter of 2 August, as well as the acknowledgement of the receipt of your book. I was away for some time during the summer and the Navy Department forwarded your letter to my home where I was a long time receiving it.

Thank you very much for your book. To my mind, it was very well done and I enjoyed it and found it of great interest. I should say that you have effectively put to rest all surmises about flying saucers being from "outer space." You have done a thorough and praiseworthy job.

As I told you at the last "Ends of the Earth," I resigned from NICAP about 20 months ago feeling that it had degenerated from an organization honestly trying to find out something definite about possible unknowns, into a body bickering about personalities. The Air Force, too, could have helped by not being so secretive.

At all events, you have done a fine job and I am very grateful you were so kind as to send me your book.

Again, with thanks and the hope of seeing you at the next "Ends of the Earth," please believe me

Most Cordially,
R. H. Hillenkoetter

In short, by 1963 Hillenkoetter had become a virtual skeptic. Menzel's book had certainly caused him to have serious doubts about UFOs. Even if he was at one time a believer, he still seemed to stop short of actually endorsing the extraterrestrial hypothesis (ETH), at least in public. However, since he never pronounced on UFOs after 1963, we do not know if he became a complete skeptic.

But his reasons for leaving NICAP are clear. After five years he was, quite simply, fed up with the organization and wanted out. These letters lay to rest any notion that Hillenkoetter and Menzel had been, since 1947, colleagues on some supersecret cover-up committee such as Majestic-12, as alleged in Bruce Maccabee's "What the Admiral Knew" (November/December 1986 *IUR*) and in numerous papers by Stanton T. Friedman. Hillenkoetter and Menzel were obviously not even on first-name terms with each other. They were barely better than casual acquaintances.

Almost certainly Vice-Adm. Hillenkoetter joined NICAP because he was a long-standing personal friend of Keyhoe. His decision had nothing whatever to do with either his former CIA connections or some top-secret knowledge of UFO reality. He left NICAP five years later after growing disillusioned with its internal conflicts. No evidence of any ulterior motive exists. ✦

## Clarification

**by Donald R. Schmitt**

Recently several parties have raised questions concerning my educational background and place of employment. Although these matters should not, and do not, have any bearing on the Roswell investigation that Kevin Randle and I have conducted, I thought it best to offer these clarifying comments.

I have been an employee of the U.S. Postal Service since 1974. I worked part-time until 1983, when I became a full-time rural letter carrier. During all this period, I have been a freelance commercial artist. I will soon receive a bachelor's degree from Concordia College with a major in Liberal Arts, and I've been accepted into a newly-established graduate program in criminal justice studies at Concordia.

I would like to offer my sincerest apologies for any false or misleading statements I made about my background. I regret any misunderstandings that may have sprung from this.

As a consequence, I have resigned, effective April 13, 1995, as Director of Special Investigations of the Center for UFO Studies. I will continue, with the support of my colleagues, as a CUFOS board member. I want to thank all those who have offered their support and friendship to me during the past few months.

# LETTERS

## TAKING LIBERTIES WITH A LEAVE

To the editor:

Re Kevin Randle's "When a Leave Is Not a Leave: Col. Blanchard and the Roswell Timeline" (*IUR* July/August 1994): Whether Roswell Army Air Field and 509th Bomb Group commander Colonel William H. Blanchard formally began his leave sometime on July 8, 1947, or at the beginning of the business day on July 9 is, as Randle notes, a minor matter with little or no bearing on a solution to the Roswell mystery. What counts is why Blanchard went on leave at a seemingly critical juncture.

I agree with Randle that those portions of the official record currently available to us establish that Blanchard handed over the reins of command to his deputy, Lieut. Col. Payne Jennings, on July 8. That same record, the testimony of Bob Shirkey and Walter Haut, and a contemporaneous Associated Press story about Blanchard's leave strongly suggest this took place late that afternoon, likely even at the close of the regular business day, with Blanchard departing Roswell on July 9 for 21 days of "ordinary" leave (Roswell AAF headquarters morning report July 9, 1947), "three weeks leave in Santa Fe and Colorado" (Associated Press, *Albuquerque Journal*, July 10, 1947).

I do not share Randle's view that Jennings would not have assumed command while Blanchard was still on the base. This was and is common practice when a commanding officer is preparing to go on leave, especially for an extended time "out of area." As for why Blanchard's leave began in the middle of the week, I believe the July 9 morning report reveals the reason Lieut. Col. Robert I. Barrowclough, the base executive officer, returned to duty from a 30-day leave on July 9. Blanchard would have wanted the number three man in his command back on base before his departure, to be available as Jennings's "deputy."

As for the "why" of Blanchard's leave, based on the fact that the general (not special) order under which Jennings took command cites as authority an 8th Air Force TWX message dated July 6, Randle infers that the recovery of a crashed flying saucer began before Mac Brazel reported his find to Sheriff Wilcox and Blanchard's leave was part of the cover story. Randle's inferences depend upon acceptance of far from credible testimony about alleged events on July 4 and 5 (see my *Roswell in Perspective*, available from the Fund for UFO Research). Without this testimony, nothing exotic can reasonably be inferred.

The TWX has not yet been unearthed and may no longer exist. All we know with any certainty about it we know from the general order. It authorized transfer of command, and it was transmitted on a Sunday, a day when operational message traffic usually is light and low-priority messages are sent. Based upon common military practice, it is reasonable to assume the TWX also provided authorization for Blanchard's leave. In other words, absent credible information to the contrary, there is no basis for concluding the TWX was anything more than a routine administrative message providing official sanction for a routine leave informally approved earlier.

*Karl T. Pflock*
*Placitas, New Mexico*

*Kevin Randle responds:*

Karl Pflock is right about one point: This is such a trivial matter that it shouldn't take up any more of our time. It is clear that Blanchard began his leave on July 8, as the documentation suggests. Besides that, the Air Force, the final authority on this, has published the same thing. Blanchard's leave began on July 8. This is a matter that we should now "leave."

## ROSWELL QUESTIONS

To the editor:

After rereading Randle and Schmitt's second book *The Truth About the UFO Crash at Roswell*, I am impressed with the amount of information they have managed to uncover. The problem with overturning stones, however, is that sometimes there are more stones underneath.

Some curiosities: Glenn Dennis claims he knew a nurse stationed at Roswell who said the bodies looked as if they had been exposed to the high desert. But if the crash occurred late on Friday, July 4, and the bodies were recovered sometime the next morning, would there have been enough time for such exposure to occur?

When the deputies returned to Sheriff Wilcox's office after trying to find the debris field, they reported that they had found a curious circular patch of burned ground. But the object, according to witnesses, wasn't circular. So what caused the burned patch?

As to the question of why the Roswell case does not appear in the Blue Book files, I think I have the answer. It's pure speculation, but it makes sense.

On page 96 of *The Report on Unidentified Flying Objects*, Edward Ruppelt states that as Project Grudge was being closed down all the project files were "yanked out of their filing cabinets, tied up with string, and chucked into an old storage case. I would guess that many reports ended up as 'souvenirs' because a year later, when I exhumed these files, there were a lot of reports missing."

As one of the more interesting cases up to that time, it is not too surprising that the Roswell clippings wound up in someone's private collection and disappeared without the aid of sinister forces.

The Roswell case is an enduring riddle. When the full story is known, these and other questions will one day be answered.

*Jeff Tarbell*
*Gaithersburg, Md.*

## MOGUL—*continued from page 9*

Schmitt/CUFOS assertion (see *IUR*, May/June 1992, p. 18) that Randle and Schmitt's "files, notes, and audio and video tapes are open to outside scrutiny at the CUFOS office in Chicago," when I asked for copies of Randle and Schmitt's interviews with Bill Rickett, neither Randle nor Schmitt replied to my repeated requests. Queries directed to CUFOS were answered by Mark Rodeghier, who told me the Roswell materials deposited at CUFOS by Randle and Schmitt belong to them and that I would need their permission before being granted access. He added that Randle and Schmitt "are not disposed to cooperate with" me. Likewise, when I requested access to other documentation which supposedly supported other dubious claims made by Randle and Schmitt, neither man responded to my requests, and Rodeghier stated that the materials I sought were not on file at CUFOS. In short, defenses of the quality and reliability of CUFOS's investigation are meaningless, as is the claim that the documentation is open to outside scrutiny.

In another, related claim, Rodeghier and Chesney say, "Edwin Easley, Provost Marshal at Roswell in 1947, admitted that he was still sworn to secrecy about the event (*which would not be true for Project Mogul after all these years*) [emphasis added]." It isn't clear what expertise allows Rodeghier and Chesney to so declare. In any case, they are wrong. One of the former Air Force personnel mentioned in the Air Force report was Col. Marcellus Duffy. At the time of the Roswell incident, Col. Duffy was one of the heads of the Electronic Plans Section of the Electronic Subdivision, Engineering Division, Air Materiel Command (AMC), at Wright Field. His office had overall responsibility for plans related to Project Mogul, as well as the other electronic and geophysical research projects assigned to AMC.

I contacted Col. Duffy and questioned him about Project Mogul balloons that may have fallen into civilian hands in July 1947. He steadfastly refused to discuss the project and said he would not do so unless he personally received a communication directly from the Secretary of the Air Force telling him that the project had been declassified. Duffy persisted in his refusal to discuss the project, even after I furnished him with copies of declassified government documents which clearly showed that at least parts of the project were declassified.

When I persisted with Duffy, he asked why I wanted to know, and I explained that I was looking into the Roswell incident. He then informed me that he thought he could tell me what I wanted to know without his risking the disclosure of classified information. He stated that while he was stationed at Wright Field, he was called at his quarters one evening and told that the flying saucer being reported in all the newspapers was being flown into Wright Field and that it would be brought to his quarters for him to identify. He further stated that he identified the material as a weather observation device and that he was reasonably sure it was the one found by the rancher near Roswell. He attached little significance to the event at the time.

Why was Duffy called upon to identify the debris? During World War II he was the Army Air Force's meteorological liaison officer at the Signal Corps Engineering Laboratories. His responsibility was to oversee the research into and development of the meteorological equipment needed by the Air Force. Duffy assembled a group of skilled people, including Charles B. Moore and Albert Trakowski. As Trakowski notes in the Air Force report, Duffy was intimately familiar with all meteorological equipment. In fact, he had a hand in the research and development that produced much of the meteorological equipment during the war. He was *the* expert on meteorological equipment at Wright Field, and the final authority on any identification of such equipment.

Rodeghier and Chesney observe that the Air Force "couldn't find any physical evidence that proves or documentation that clearly states that a balloon from Project Mogul was recovered by rancher Mac Brazel or officers from the 509th Bomb Group." They go on to assert that "without such confirmation, the Air Force explanation relies upon inference from verbal testimony, not solid, hard evidence."

My response: So what? The case for the alien-spaceship explanation relies exclusively on verbal testimony (or, more often than not, Randle and Schmitt's questionable characterizations of that testimony) and newspaper accounts from the period, from which they pick and choose bits of information they wish to believe, rejecting the rest as mere reflections of the alleged cover-up. Significant discrepancies and conflicts between witness statements are brushed aside as understandable and insignificant, unless the witnesses are those interviewed by the Air Force.—*Robert G. Todd*

### MARK RODEGHIER RESPONDS:

I very much appreciate Professor Moore's response to the article that Mark Chesney and I wrote. He has clarified several points, such as the level of classification of Project Mogul, the effect of sunlight on neoprene balloon film, and other aspects of the Project Mogul operation. However, none of his comments refute the thrust of our critique of the Air Force explanation for the Roswell event, as I explain below.

Robert Todd spends an inordinate amount of space recounting the testimony of Besse Brazel Schreiber and finds it consistent with the Air Force explanation (and Professor Moore's version of events). Schreiber's testimony can, though, easily be shown to be in disagreement with other witness statements. Todd also complains about his access to Randle and Schmitt's investigative materials deposited at CUFOS. To clarify this latter point, and to respond directly to Todd's use of Schreiber's testimony, I

have asked Kevin Randle to offer a brief reply (which follows mine).

It is tempting to engage Moore and Todd in the minutiae of Roswell, arguing over such "facts" as the existence of a gouge on the crash site, the date of the crash, and so forth. I believe, at least in this instance, that such debate will ill serve those interested in the truth about Roswell. Faithful readers of *IUR* have been deluged with dozens of articles about Roswell that have, in an analogy, taken a microscope to examine the smallest of details about the event.

Instead, I suggest that we step back and take a much broader overview of Roswell, concentrating, as do all good investigators, on how far logic and common sense can take us in understanding the actions of Army Air Force personnel and others.

Common sense tells us the following: trained military personnel are not just unlikely to misidentify a Project Mogul balloon array as something extraordinary, i.e., a flying saucer. No, trained military intelligence officers *would not* misidentify a bunch of neoprene balloons as anything but a bunch of balloons. The Project Mogul balloon arrays were simply complex sets of balloons, with instrument packages on the working flights, designed to fly at high altitudes for extended periods of time. They didn't look "hi-tech," in the sense that a high-performance aircraft looks highly technological and exotic. The arrays were composed of balloons and radar reflectors, period.

Those who would defend a conventional explanation for the Roswell crash have never successfully overcome this basic, reasonable objection. Claims that the balloon arrays were Top Secret and highly classified and therefore unknown to the officers of the Eighth Air Force are irrelevant to this point. Moreover, the idea that military intelligence officers would have easily identified balloon debris as conventional is reinforced by how quickly Warrant Officer Irving Newton was able to identify the material in Brig. Gen. Roger Ramey's office as balloons and radar targets.

You see, the skeptics want to have it both ways. They claim that Major Jesse Marcel and others at Roswell could not identify the debris, even after it was in their possession for two days (remember that everyone agrees that Mac Brazel brought the debris to Roswell on Sunday, July 6, two days before the press release). But the skeptics simultaneously claim that the debris was easily and immediately identified when brought to Fort Worth. Both these things cannot be true, unless something is missing from this simple account.

What is missing, of course, is Jesse Marcel's contention that the debris found near Roswell is *not* what was displayed and photographed in Brig. Gen. Ramey's office, because balloons and radar targets were substituted for the real material. Although skeptics have rejected Marcel's contention as either the result of a flawed memory or, worse, the overheated imagination of a UFO enthusiast, the above analysis shows that, independent of Marcel's testimony, it is *extremely unlikely* that the officers of the 509th Bomb Group misidentified a bunch of balloons for two whole days. As a corollary, what was found near Roswell must have been quite extraordinary.

There are other logical and commonsensical particulars to consider. Defenders of the conventional explanation who rely upon Sheridan Cavitt's testimony about how conventional the debris appeared to him are behaving, as Moore accuses Chesney and myself, in a "partisan and narrowly focused" manner. The reason is obvious upon reflection. Can anyone seriously believe that if Cavitt had truly recognized the debris as conventional, while he and Marcel were at the crash site, he wouldn't have forcefully told Marcel of his opinion? I can't, because it isn't logical that he would have withheld his opinion while the two of them spent all day picking up debris. And if Cavitt had argued with Marcel, events would likely have run a very different course.

Continuing in this vein, after Marcel and Cavitt returned to the base, common sense tells us that they would have shown the debris to Blanchard and other personnel. When they did so, Cavitt would have had another chance to convince all those present that the debris was from a balloon of some type. If so, it is hard to believe there would have been a press release on July 8.

Concerning the press release, Moore continues to believe, as do other skeptics, that 1st Lieut. Walter Haut issued the press release without receiving authorization from Blanchard. Thus he writes that "Haut repeated the rancher's belief that he had found a crashed saucer." This is nonsensical. First, Haut has claimed, from the first, that Col. Blanchard *dictated* the press release to him. His testimony has consistently been ignored by skeptics who find it inconvenient (but are quick to use other testimony that they feel bolsters their position). Second, can anyone seriously believe that on a matter of such importance a mere 1st Lieut. issued such a blockbuster press release? That is hardly common practice in the military, so why should procedures have been different in this instance? There is no evidence that Haut issued the press release on his own, and if Blanchard authorized it, then he, too, must have been stumped by the debris from a set of balloons.

There are many other logical flaws in the hypothesis that a Project Mogul balloon array was the cause of the Roswell crash, but I mention only one more. Marcel said very clearly that he and Cavitt spent all day July 7 picking up and consolidating the debris at the crash site. However, bundling up a set of balloons should not have taken all day, especially if, according to the interview with Mac Brazel that appeared in the *Roswell Daily Record*, he and his daughter Besse had already gathered some of the debris on July 4. The debris could not have been from a set of Project Mogul balloons and have taken so long to collect. This is a simple point that should be evident to all.

Let me finish by responding to Todd's defense of the

effort the Air Force put into their report issued last year. Chesney and I complained that the Air Force didn't request copies of interviews with Bill Rickett and Edwin Easley. Todd writes that "the Air Force wasn't required to conduct *any* interviews." That may well be true, but once again, the skeptics are missing the broader point. When the Air Force decided to conduct interviews, i.e., to dig deeper into the Roswell crash, it became incumbent upon them—if they truly wished to do a complete and thorough investigation—to look for as much information as was readily available. That they did not do so is one of the serious failures of Col. Weaver's report.—*Mark Rodeghier*

**KEVIN RANDLE RESPONDS:**

Just a few comments on Robert Todd's latest analysis of the Roswell situation. For example, he wonders why we have not mentioned the testimonies of Bessie Brazel Schreiber in our work about the case. He seems to believe that we have ignored it because it refutes the idea of a spacecraft and underscores the belief that it was a balloon and array train.

Bessie has said that she, her brother and her father cleaned all the debris from the field. She said that she, her mother and brother accompanied Mac Brazel into Roswell. She said that no one followed them home. She said that her father didn't return to Roswell and that he wasn't held at the base for a number of days. She has said many things about the situation in July 1947 that is in direct conflict with the testimony offered by so many others and the "hard" evidence of the July 9 article from the *Roswell Daily Record.*

Both Jesse Marcel and Sheridan Cavitt have given testimony that they picked up debris in the field which she said had already been collected. Marcel talked of the trip back out to the ranch, following Brazel. He did not mention that Brazel's family was with him. Bill Brazel said the rest of the family was living in Tularosa that summer so that when he arrived at the ranch around July 12 or 13, no one was there. He knew his dad needed help.

Bessie said that her dad didn't return to Roswell, yet the newspaper article confirms that he was in the offices of the *Daily Record* on July 9. Major Edwin Easley said that Brazel was held at the guest house on base. Jud Roberts confirms that Brazel stayed one night at the home of Walt Whitmore before he was found by the military.

What we have is a wide body of testimony that is in direct conflict with what Bessie has said. No, I don't think she's lying, but I believe she is mistaken. As the skeptics are so fond of reminding us, memories from more than 45 years ago are often flawed and confused. We must look for corroboration before we accept them as accurate. We cannot accept those which underscore our point of view and reject those which don't simply because it is what we believe.

Bessie Schreiber is a kind woman who is relating the incidents as she truly believes they happened. It seems that her memories are inconsistent with the established facts. Rather than bring this up publicly, we decided it was best to let it lie. Nothing productive could be gained from this. Her testimony, while interesting, and certainly suggestive of a balloon, did not square with a vast body of conflicting data from a wide number of sources, both documents and private testimonies. We believed that nothing positive would be gained from this debate but when it is all that is available to suggest one side of an argument, it is believed, regardless of the facts.

Todd also complains that we have not made copies of our notes and tapes as he wanted and mailed them off to him. What we have said, repeatedly, is that the material is available at the CUFOS offices for review, not to be copied and mailed out to all who request it be sent.

First, CUFOS has neither the staff nor the money to make copies. Sure, the requester could pay such costs, but that still doesn't provide the staff to do it.

Second, and most important, I don't want it done that way. When I supplied Stan Friedman a copy of the taped interview with Bill Brazel, I found it incorporated into Friedman's book with neither credit nor attribution. Further, Friedman altered the interview so that it would corroborate the nonsense told by Gerald Anderson. Friedman has never explained why that was done.

Interviews that we had conducted with others, tapes of which had been supplied to FUFOR, found their way into Friedman's book with neither credit nor attribution. He did mention that I had located Barbara Dugger, Sheriff Wilcox's granddaughter, when it was Don Schmitt who located her. But interviews with other witnesses including Robert Slusher and Robert Smith were quoted with no mention that the interviews had been conducted and recorded by Schmitt and me.

To prevent this from happening again, I have asked that CUFOS not duplicate the material to be sent to researchers. I have no objection to those researchers reviewing it in the Chicago office, after they have signed an agreement that states they will not use any of it without written permission. This is merely to protect the copyright of the material. For those who believe this is somehow unreasonable, direct your comments to Friedman. This is in response to his actions.

So the material is available, and I will take steps to make sure those records at CUFOS are complete. However, I will not allow it to be copied and mailed out. The researcher will have to review it in the CUFOS office at the staff's convenience. Please notice that most others guard their research and allow few third parties to review it.

The data that I have collected over my years of Roswell research has been made available to many people. I do, however, reserve the right to place whatever protective restrictions on the use that I deem appropriate. Todd might consider it unfair, but I learned my lesson with the unrestricted access that was given to Friedman. His thanks

for the help was to write negative reviews of my work, suggest I made false statements about the material, and then alter the transcripts so that they endorsed his position when they didn't.

There are other comments that Todd makes that are more the result of his opinions and beliefs than the facts, but the reader can sort those out. Placing all the data in the public arena allows those who have not investigated completely to make an intelligent decision about the truth. We all should be grateful for that.—*Kevin D. Randle* ✦

# Vladimir Godic (1926–1995): A tribute

BY BILL CHALKER

Vladimir Godic passed away suddenly on Sunday, January 29, at Cairns, Queensland, Australia. His passing has taken from us a fine person and a great contributor to UFO research. His impact will be felt for years to come.

Born in Yugoslavia, Godic was part of the Resistance during World War II. He emigrated to Australia in 1949. After working on the railways he eventually chose a career in electronics. He also took an interest in the early film industry in Adelaide.

Godic began a serious interest in the UFO mystery during the late 1940s shortly after the first modern wave of UFO sightings. He became senior vice president of UFO Phenomena Investigation Australia (UFOPIA) from 1964 to 1968 and an investigation officer from 1965 to 1968. When an occult perspective crept into UFOPIA's philosophy, Godic decided that there were better ways to approach the UFO subject.

In December 1968, he founded, with Crystal Walsh, UFO Research (SA) Inc. The primary focus of this group was to promote a serious, scientific approach to the subject, something Godic saw as lacking in other groups. UFO Research (SA) Inc. also pioneered a more businesslike approach to UFO research as opposed to the "UFO club syndrome" in vogue at the time. He produced 37 issues of the *UFO Research (SA) Newsletter* from 1976 to 1980.

By 1980 Godic saw that the time was right to launch a new publication with higher research standards. The *UFO Research Australia Newsletter (UFORAN)* first appeared under his editorship in early 1980 and went on to provide an outstanding outlet for UFO investigation and research. To read through the 23 issues that he edited is to realize his remarkable achievements.

In 1982 Godic became the administrator for the Australian Centre for UFO Studies (ACUFOS). He helped ACUFOS adopt measures that improved the organization's research capabilities. However, he and others ultimately withdrew from ACUFOS, frustrated by the politics and impediments that affected much of Australian ufology at that time.

In 1984 Godic established UFO Research Australia (UFORA), which championed a scientifically oriented network approach. Those of us who embraced this approach recognized its advantages and have seen measurable progress in Australian ufology.

Godic early on utilized electronic bulletin boards to pass UFO information on to other Australian researchers. Access to the Internet, the Paranet bulletin board, and electronic mail have allowed a growing number of ufologists to tap into an ever-widening UFO database in cyberspace.

With his wife Pony he coordinated the development of a digital book on UFO research in Australia and New Zealand—essentially the best of UFORAN's fine publishing record. Anyone who examines the *UFO Research in Australia and New Zealand* digital book, published by Dynamo House in 1992, will recognize the depth of research the Godics distilled into it. Although it contains the research endeavors of many authors, it was Vladimir and Pony Godic who had the vision to complete it.

The Godics also coauthored, with Keith Basterfield and Mark Rodeghier, "Australian Ufology: A Review," in the *Journal of UFO Studies*, new ser., 2 (1990): 19–44, and with Keith Basterfield, "The Abduction Phenomenon in Australia," *IUR* 14 (January-February 1989): 11–13, 24.

Godic also enjoyed classical music, opera, ballet, egyptology, and ancient philosophy. He had a great love for animals, especially dogs. He is survived by his wife Pony, his daughter Kaye, and his son Grant.

Godic's legacy of extraordinary efforts liberates and assists us to contemplate the mystery of UFOs more fully. Einstein wrote: "The most beautiful experience we can have is the mysterious—it is the source of all true art and science."

Vladimir has now embraced that ultimate mystery. ✦

*Bill Chalker, an* IUR *contributing editor, is coordinator of the New South Wales UFO Investigation Center.*

## ROSWELL DEBRIS—*continued from page 6*

to be comprised entirely of flat pieces lying on flat ground. Other types of debris such as I-beams, "balsa wood," etc., which possess small surface areas, were neglected.

Assume that $\rho(x,y)$ can be defined as the product of a constant $\rho_0$ and two independent, orthogonal shape functions $\rho(x)$ and $\rho(y)$, i.e.:

$$\rho(x,y) = \rho_0\rho(y)\rho(x) \tag{2}$$

The parameter $\rho_0$ specifies the average ground cover density in a *small region* surrounding the *location of maximum shell fragment concentration.* It can range between $\rho_{min} \leq \rho_0 \leq 1$, where $\rho_{min}$ represents a lower-bound estimate.

The y-direction shape function approximates the debris field characteristics described in the text:

$$\rho(y) = 10\frac{ey}{a}e^{-10y/a} \tag{3}$$

where $a$ is the length of the field, $e \approx 2.718$ is the base of natural logarithms, and $e^{-10y/a}$ is an exponential function of y.

The x-direction shape function provides for a rapid decrease in shell debris away from the longitudinal centerline (the y axis) of the field:

$$\rho(x) = e^{-9x^2/b^2} \tag{4}$$

where $b$ is the maximum half-width of the field. The two shape functions are depicted in Figure 4.

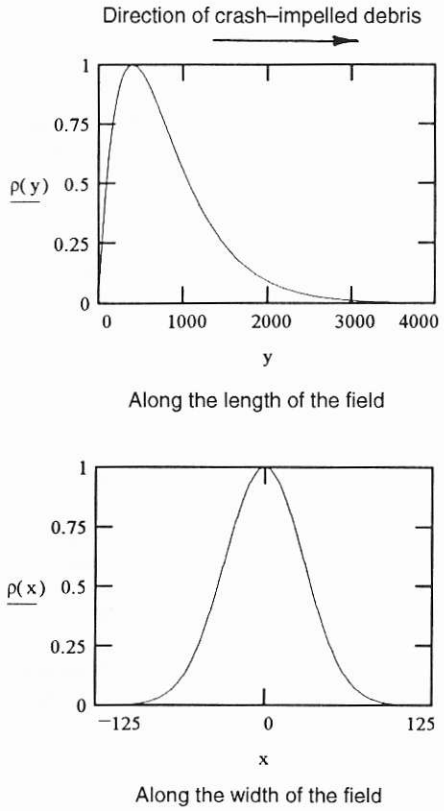


*Figure 4. The shape functions* $\rho(y)$ *and* $\rho(x)$ *were selected to provide a conservative and plausible idealized two-dimensional representation of the shell fragment distribution on the Roswell debris field.*

Substitution of Equations 3 and 4 into Equation 2 yields the two-dimensional form of the distribution function:

$$\rho(x,y) = 10\rho_0\frac{ey}{a}e^{-10y/a}e^{-9x^2/b^2} \tag{5}$$

Substitution of Equation 5 into Equation 1 gives us the total shell debris surface area in integral form:

$$A_S = 10\rho_0\frac{e}{a}\iint_A e^{-9x^2/b^2}ye^{-10y/a}dxdy \tag{6}$$

Noting the symmetry of the x-direction shape function, we can multiply Equation 6 by two and evaluate the x-integral over half the field:

$$A_S = 20\rho_0\frac{e}{a}\iint_A e^{-9x^2/b^2}ye^{-10y/a}dxdy, \quad (x \geq 0) \tag{7}$$

Equation 7 can be easily evaluated in closed form for the case where the limits of integration are constant. This condition exists for a rectangular-shaped debris pattern:

$$A_S = \frac{\rho_0}{30}eab\sqrt{\pi}(1-11e^{-10})erf(3) \tag{8}$$

where $erf(3) = 1$ is the error function $erf(u)$ evaluated at $u = 3$. Substitution of numerical values for the known and assumed parameters in Equation 8 provides an estimate for the total shell surface area contained within the boundaries of a 250-foot wide by 4000-foot long rectangular-shaped field (see Figure 2):

$$A_S = 80{,}300\rho_0 \quad \text{(rectangle)} \tag{9}$$

Equation 7 can be integrated numerically over the variable boundaries defining the triangular-, parabolic- and half-ellipse-shaped debris patterns in Figure 2 to yield the following results:

$$A_S = 16{,}500\rho_0 \quad \text{(triangle)} \tag{10}$$
$$A_S = 34{,}400\rho_0 \quad \text{(parabola)} \tag{11}$$
$$A_S = 45{,}400\rho_0 \quad \text{(half ellipse)} \tag{12}$$

Finally, we can approximate the shell material surface area $\Delta A_S$ contained in a small debris field area $\Delta A$ centered on any point $(x,y)$ via:

$$\Delta A_S = \rho(x,y)\Delta A \tag{13}$$

Implicit in this equation is the assumption that the value of $\rho(x,y)$ remains constant throughout $\Delta A$.

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## ARNOLD—*continued from page 13*

do know a lot about the world and universe in which we live. And UFOs don't seem to be a prominent part of it. In fact, to the great masses of the human population, they don't seem to play a role in human life at all. Therefore a scientist who is just beginning a study of the UFO problem is likely to accept the skeptical point of view, at least initially. This acceptance will lead the scientist, as it led me, to try to explain sightings.

I like explanations when they are convincing, and especially when they are correct. I like to make a UFO sighting go away with a good explanation. I always begin a sighting investigation by assuming that it can be explained in some way or other. I immediately start forming candidate explanatory hypotheses as soon as the data become available. These hypotheses help me formulate key questions which can identify the true nature of the reported phenomenon. Over the last 25 years or so I have provided a number of explanations for visual and also for photographic "sightings." Thus I accept the general idea of trying to explain UFO sightings. To that extent I agree with the skeptics. After a careful study of many "explained" sightings, however, I realized that some of the explanations simply were not correct. I realized as well that in some cases no conventional explanation seemed to fit the sighting.

I also discovered where the skeptics went wrong: they failed to follow the scientific method. Typically a skeptic would propose an explanation and leave it at that. Either the skeptic would not go back and test the explanation against all the information contained in the sighting report, or—if the skeptic did test the explanation—he would first modify, reject, or simply ignore some of the information in order to make the explanation fit the sighting. (Hynek and Menzel used these techniques to "explain" Arnold's sighting.) When I discovered this, I became skeptical of the skeptics. ✦