

due to chance.

Staff of the Shanghai Observatory also said it could have been some natural phenomenon occurring in the upper levels of the Earth's atmosphere.

There was a great sensation in Shanghai over an unidentified flying object in 1985. On that occasion the Shanghai Observatory decided that it was a fiery meteor.

THE AWFUL TRUTH AT LAST

(Translation)

"FLYING SAUCER REVIEW. Over thirty years old and the most venerable institution of the Ufological world. When it was edited by Charles Bowen, it was the most respected UFO journal in the world. A few years ago, Bowen retired for health reasons, and Gordon Creighton took over, introducing many bizarre ideas into the Review. It is now regarded as totally superseded, although still supported by leading figures in world Ufology (which worries the British Ufologists). It scarcely ever publishes any interesting reports, and the native British experts give it a wide berth."

J. Randles, in an obscure
French-language UFO magazine
(July 1987).

Since 1986, the Shanghai region has had about twelve sightings of unidentified flying objects.

NOTE BY EDITOR

IDENTIFICATION OF PLACE-NAMES

NAME IN CURRENT "PINYIN" SYSTEM	NAME IN WADE/GILES OR OLD CONVENTIONAL SYSTEM
LANZHOU	LANCHOW, LAN-CHOU
SHANGNAN XINCUN	SHANG-NAN HSIN-TS'UN
PUDONG	POOTUNG, P'U-TUNG
ZHONGGUXIANG	CHUNG-KU—HSIANG
QINGPU	CH'ING-P'U
JIANGWAN	KIANGWAN, CHIANG-WAN
CAOJIADU	TS'AO-CHIA-TU
YUSHAN	YÜ-SHAN
ZHEJIANG PROVINCE	CHEKIANG PROVINCE
SHENGSI ISLAND	SHENG-SSU ISLAND
BAILIANJING	PAI-LIEN-CHING
NANHUI	NAN-HUI
HANGZHOU	HANGCHOW
CHONGMING ISLAND	CH'UNG-MING ISLAND
JIADING	CHIA-TING, KIATING
FUZHOU	FOOCHOW, FU-CHOU
FUJIAN PROVINCE	FUKIEN PROVINCE, FU-CHIEN PROVINCE
ZHENGHE	CHENG-HO
SONGQI	SUNG-CH'I
TUORONG	T'O-JUNG

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THE BOGOTÁ SPECIMEN: A NEW PHYSICAL INVESTIGATION

Dr Jacques Vallée, PhD., FSR Consultant

We have much pleasure in publishing this article which we have just received from Dr Vallée. And he states that he will naturally be very interested in any comments that FSR Consultants or Correspondents or Readers are able to make, and that all suggestions will be welcome. — EDITOR

SCIENTISTS interested in the UFO Phenomenon have long hoped that some sort of physical evidence would be found in connection with a well-documented sighting. Such evidence could be analyzed in the laboratory and it would provide, if not proof of the

reality of UFOs, at least a good basis for a fruitful dialogue among the supporters of various theories about them.

In real life things are not so simple. The combination of a good sighting with a physical specimen is

rare. And given such a specimen, it is often difficult to find competent laboratories to analyze it. Not only is the cost of such an analysis significant, but it is a complex task to determine what questions should be asked and what equipment should be used. A fascinating book could be written about the mistakes that have been made over the years in the handling of such samples, from careless labelling to outright destruction, as was the case in the first "analysis" of the Ubatuba magnesium sample by the U.S. Air Force!

Over the years a number of cases have been found in which a physical specimen was in fact recovered. A short summary includes:

- A. The Maury island (Washington) case of 21 June, 1947
- B. The Ubatuba (Brazil) case of 1957
- C. The Swedish case of 11 October, 1959
- D. The Alaska (Kiana) case, date unknown
- E. The Council Bluffs (Iowa) case of 17 December, 1977
- F. The Jopala (Mexico) case of 1978
- G. The Campinas (Brazil) case of 14 December, 1954

None of these cases has provided conclusive evidence for any particular theory of UFOs, although the Ubatuba material has successfully resisted "explanation" at the hands of the Condon committee - after surviving partial destruction at the hands of "Project Blue Book..." That particular sample is now under active and very competent analysis at a large American University.

The new case I am introducing here is likely to fall into the same category: intriguing enough to deserve study, yet frustrating in investigation techniques and research methodology than in terms of its implications. Indeed it may teach us more in terms of the physics of the phenomenon. My hope is that we will eventually have enough cases of this type for a pattern to emerge.

Background

The Bogotá specimen was brought to my attention in October 1985 by two respected Latin American researchers, Messrs Enrique Castillo (director of the Venezuelan Institute for Research on Extraterrestrial Phenomena) and Ricardo Vilchez (of the Costa Rican Institute for Scientific and Exo-biological Investigation). The occasion was an international congress on paranormal research held in San José, Costa Rica.

Sr. Castillo, who had conducted the initial investigation in Colombia, told me that he had secured a piece of some physical evidence the witnesses had found at the site of a UFO sighting. He had subsequently given it to Sr. Vilchez, who was kind enough to turn it over to me for further study. They mentioned that a preliminary analysis had already been performed in Central America.

The Sighting

Two students who were walking on the campus of the University of Bogotá, Colombia, at about 4 a.m. one night in 1975 or 1976, heard a metallic sound overhead. Looking up through the rain that was falling heavily at the time they saw a disc swinging in the air as if it were in difficulty. They estimated its diameter at 4 metres and its altitude at 1000 to 1200 metres.

While this object seemed about to go out of control, they observed four other discs that flew to the vicinity of the first one as if to assist it. They were of the same shape and size.

It is at that point that, according to the witnesses, some spouts of liquid were ejected from the central disc. The students took refuge under a tree and saw the bright fluid fall into the rainwater puddles in the street, producing a vapour. The five objects then rose and disappeared into the low rain clouds.

The witnesses recovered two metal chunks, about 4 inches by 1 1/4 inch in size, after letting the material cool down for about ten minutes.

Preliminary Analysis

The first analysis was performed at the request of Sr. Castillo by a mechanical engineer employed by a petroleum company. He concluded that the sample was an aluminium alloy with magnesium and tin. It was non-magnetic, seemed to contain no iron, no nickel and no molybdenum, but included traces of other materials that were unidentified. He also stated that the metal was soft (easily cut) and presented a very fine granulation.

Analysis in the United States

When the sample was turned over to me by Sr. Vilchez I initiated a "chain of evidence" by sealing it inside an envelope and having him place his signature next to mine on the flap of that envelope. I carried it back to the United States and placed the envelope in a secure location after summarizing the case for the record at the office of my attorney and signing an affidavit. The envelope was not opened until arrangements had been made with a high-technology company whose executives were interested in the case. They provided access to the required tools for a detailed investigation. After witnessing that the original signatures were present on the intact envelope, the group extracted the sample and made the following observations:

1. The sample is approximately 51 mm long, tapering in width from 39 mm to 33 mm with a 7 mm thickness. It shows signs of melting, with a rough surface on one side. We observed a crude cut, apparently made by a shop saw during the

first analysis.

2. The process of metal solidification on the "top" side shows violent activity with bubbling of the metal. Some embedded organic material, possibly from the road asphalt, was also noted. The sample is quite light, with low density and little corrosion. It flakes easily when attacked with a sharp scalpel.
3. The sample is an excellent electrical conductor. An ohmmeter test across the narrow dimension of 36 mm shows only a fraction of an ohm in resistance. The sample must be purely metallic in composition, and aluminium is suspected.
4. A small corner of the sample was cut with a hand jewelry saw, except for a small distance which was bent by hand. This remaining "bridge" broke after six bends, showing the metal to be very ductile, with very strong grain growth. We noted that the sample showed weld marks and clamp marks, probably from an earlier analysis.
5. We designated the small portion we had cut off as "Sample A". It is on that portion that all subsequent tests were conducted.

Scanning electron microscope analysis

This is a technique which produces an X-ray fluorescence spectrum. It was applied to the small part of the sample which had been broken by hand and thus represented a typical, uncontaminated section of the inside matter of the specimen. Microphotographs showed a rather sizable cavity which was probed further during the analysis.

The results of this test showed the sample to contain over 90% aluminium, with small amounts of phosphorus and iron. There was no tin and no magnesium.

The metallurgical experts doing the analysis commented that the sample was "melted through and through" and that nothing would have survived of the initial structure. The appearance, in fact, is typical of an "overheat". Such heat would have ruined a casting and is consistent with the blow-up of a machine.

The tests produced agreement about the following composition:

Aluminium	93.72 %
Phosphorus	4.75 %
Iron	0.91 %
Trace elements	0.62 %

Auger Analysis

In this technique a scanning ion mass spectroscopy is used to explore the material by boring deeper and deeper from its surface layer into its interior. Placed in a very high vacuum, the sample is hit by an electron beam. The measurements are repeated at several points for consistency. The average of five points was

used.

This analysis surprised us in that it showed no aluminium at first. The surface layer was composed of carbon, oxygen (not combined with aluminum) and nitrogen.

Beyond this layer appeared the following elements: aluminum, magnesium, potassium, sulphur, sodium, and silicon. Phosphorus and iron also show up in this analysis, in small amounts.

Summary of the analysis

The Bogotá specimen is a sample of aluminium with a high degree of purity, combined with phosphorus and iron, with trace elements including sulphur, magnesium, and silicon, and an oxy-carbide layer.

The sample is unusual in what it *does not contain*. In particular there is no fluoride, a common by-product of the aluminium refining process. Aluminium fluoride is very stable and would be expected in this material. The absence of heavy materials is also noteworthy. Another substance whose absence is intriguing is *water*.

The significance of the oxy-carbide layer that was found in the sample is unknown at this point. This layer goes deeper than a surface contaminant would.

Questions for follow-up tests

The analysis of this specimen is continuing. Although its composition has now been established, a number of questions remain.

1. We have not investigated the list of all possible aluminium alloys this material could match.
2. Tests of radioactivity need to be performed.
3. We have not had the opportunity to consult an aluminium production expert to find out if the absence of fluoride and of water were truly significant.
4. It would be interesting to determine just how hard an average laboratory would have to work in order to duplicate this sample.
5. A neutron activation analysis and an attempt at carbon-14 dating of the organic material have been suggested to us.
6. A microscopic examination of the surface, followed by chemical analysis of surface contaminants such as asphalt would be useful in completing our assessment of the case.
7. An attempt should be made to locate the witnesses in Colombia and to document their story in greater detail.

Conclusions

The most useful result of this work has been to refine our methodology and give us greater experience in the testing of alleged UFO material. We have also put into place a procedure for the preservation of a

"chain of evidence" that would have validity in the legal sense, although it does not completely eliminate any possibility of trickery on the part of the scientists involved in the tests. The probability of such manipulation of the data decreases, of course, as the tests are repeated by independent laboratories.

The range of explanations for the Bogotá sample has now been narrowed down to three hypotheses. It could have come from a UFO, as claimed by the witnesses. But before we can definitely "prove" this conclusion, we must eliminate the possibility that we are dealing with satellite re-entry material, or with a hoax. It is difficult to exclude the satellite hypothesis as long as the date remains imprecise, hence the high priority on finding the witnesses again. Unfortunately the file containing the original interviews has been lost, and we do not know the exact year of the observation.

The hoax hypothesis can only be eliminated through the internal consistency of the test results and their match with the witnesses' story. So far we have noted several facts that seem to indicate that the case is genuine: the sample is very clean and does not seem to have been formed by pouring aluminium over the ground or over a factory floor. Aluminium picks up dirt very easily and the sample would have been contaminated.

Also, the impurity level is quite different from what would be expected from slag. These observations encourage us to continue with our program of tests, but they do not constitute final proof that the case is genuine.

In coming months we hope to be able to determine whether this sample is truly unusual. It will then be interesting to correlate its composition with that of other alleged UFO samples.

SPANISH MOTORISTS CHASED FOR FIVE HOURS

ONE of FSR's Spanish Consultant/Correspondents, Sr. Juan Plana Crivillén (who himself lives in Sabadella, just outside the city of Barcelona, in Catalunya) has sent us details of a remarkable recent case which he has investigated, and which was reported at length in "Claxon", Sabadella's local newspaper, in its issue of December 8-14, 1986. In its account, this newspaper used a report on the affair that had been compiled by Josep Guijarro, Director of the Spanish review "Mundo Misterioso".

The episode dates from a Friday in August 1980. The family involved are residents of Terrassa, another small town, lying slightly to the south of Sabadella, which has been mentioned in a number of important UFO accounts in recent years, especially that of the enormous UFO detected over that area in November 1985, and reported on by Sr. Crivillén in FSR 32/1.

The family had been away on holiday, visiting friends in Ciudad Real, in south-central Spain below Madrid. Juan _____, aged 35, employed as a foreman in an enterprise at Sabadella, was at the wheel of his *Morris 1100*. His wife Maria-Dolors, aged 37, was in the passenger seat beside him, asleep, while their two daughters and grandmother were in the rear seats. The time was about midnight. They were travelling northwards along the coastal road, the N-340, and had passed through Valencia (39°27' N., 0°23' W.), when Juan caught sight of a brilliant white object which he took to be a mercury lamp on some nearby tower. When they had driven on a few more kilometres, the light appeared to have taken up position

right above the top left corner of the rear window. Juan began to be alarmed, and his wife awoke. She suggested that the thing must be a UFO, but Juan insisted on running through a series of rationalizations, saying finally: "Well, now ... if it was a UFO ... I've heard that they change colour!"

Instantly it turned into a dense cloud, and then grew smaller and took on a very leaden-bluish shade. And it underwent this particular set of transformations four or five times.

It was a very clear night, the sky full of stars, and the temperature around 20°C. The moon lay to their right.

Next, the UFO began to shuttle from one side of the road to the other, sometimes ahead of the car, sometimes behind and at times shooting across overhead or taking up position there.

And this "toing and froing" went on throughout the whole of their five-hour car journey!

But when they arrived at the toll-post at Martorell the UFO began to change its ways again. It grew smaller and now became an intense blue colour. Immediately after that, it turned into a cloud which proceeded to settle right down on top of the car. Says Juan: "I had no visibility whatever, and pulled up in a real fright. Then, a few instants later, the cloud grew smaller again and rose again into the air."

One feature not mentioned so far in this story is that, moving along beside it, the UFO had a smaller object like a sort of scout-ship.

Shortly before the party reached the restaurant