

# WHITEPAPER REPORT

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## **Relevant and Reliable Evidence Shows the Cornerstone of UFOlogy was a Program Developed by United States Entities**

**By**

**Dr. Bob Wenzel Gross**

**June 27, 2021**

**Note:** This whitepaper report is an authoritative description of a 1947 Roswell, New Mexico Unidentified Aerial Phenomenon (UAP) incident. The report presents an analysis and synthesis of an excessively documented Unidentified Aerial Phenomenon commonly known as a UFO. The main purpose of this whitepaper is to inform readers about the finer details of the 1947 Roswell Incident.

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A handwritten signature in black ink, reading "Robert W. Gross". The signature is written in a cursive, flowing style with a large, stylized 'R' and 'G'.

# **Relevant and Reliable Evidence Shows the Cornerstone of UFOlogy was a Program Developed by United States Entities**

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## **Preface**

We learn from history. By revisiting and reflecting upon renowned enigmas from the past, curious human beings may effectively re-evaluate unexplained phenomena. Exploratory trips into the history of Unidentified Aerial Phenomena, commonly known as UFOs, may reveal patterns unnoticed decades earlier. Studying UFOs is known as UFOlogy.

On June 25, 2021, a preliminary assessment on Unidentified Aerial Phenomena (UAP) was released by the Department of Defense Unidentified Aerial Phenomena Task Force (UAPTF). The UAPTF's analysis of the data supports the construct that individual UAP incidents fall into one of five potential explanatory categories: airborne clutter, natural atmospheric phenomena, USG or US industry developmental programs, foreign adversary systems, and a catchall "other" bin. After reading the above mentioned UAPTF release, I wrote this whitepaper report.

As a scientific researcher who has a special interest in writing about the UFO phenomenon, I believed 2021 was the opportune year to deeply engage my readers. And so, what I am about to share is based on many years of extensive research. This paper represents decades of scientifically analyzing the most famous UFO mystery in history. In fact, the Roswell Incident is considered by many to be the cornerstone of UFOlogy.

Moreover, while reviewing pertinent data and relevant literature related to the 1947 Roswell event, a preliminary pattern emerged. The Roswell UFO case had several elements in common with other UFO cases I had investigated. The Roswell pattern embodied, but was not limited to, the following elements:

1. Debris, including unfamiliar futuristic metallic material, was observed and recovered near the alleged UFO crash site.
2. The US government was involved.
3. At least two contemporary covert government projects that involved various agencies were entangled.
4. At least one of those covert projects had a lengthy multiple year research and development cycle.

5. The government, UFOlogists, skeptics, and others contributed to a complex approach to information warfare that utilized misinformation and disinformation to disseminate a rare combination of unreliable and conflicting data.
6. At some point, an extraterrestrial hypothesis was proffered to the public.
7. At the time of the incident, the threat of war was causing nervousness.
8. A failure of imagination permeated initial and subsequent investigations into the event.
9. Important data was missing from relevant reports.
10. The alleged UFO event was eventually commercialized by making it marketable in character, methods, or spirit to emphasize the profitable aspects of a genuine UFO event at the expense of quality.

## **Introduction**

According to the Drake equation, extraterrestrial intelligence ought to exist somewhere in the Universe. In or about November 2013, based on the Kepler space mission data, astronomers reported that there could be as many as 40 billion Earth-sized planets orbiting in the habitable zones of Sun-like stars and red dwarf stars within the Milky Way Galaxy. The nearest planet to Earth in a habitable zone is Proxima Centauri b, which is about 4.2 light-years away (“Drake Equation,” n.d.). Keeping the above facts in mind, I regularly use the scientific method to study the UFO phenomenon with rigor. I am also a hopeful believer. Consequently, I will accept earnest proof of extraterrestrial intelligence on Earth—but only on a case by case basis.

All UFO cases must withstand scientific scrutiny. Scientists learn from history. Thus, science becomes less wrong over time. By studying times gone by, devout scientific investigators can examine and evaluate credible examples of the UFO phenomenon from a unique vantage point. That vantage point—the past—is an excellent place for spotting patterns. Recognizing and reflecting upon distinct and subtle patterns makes it possible for human beings to learn from history and grow from past mistakes.

Existential intelligence is a concept that Dr. Howard Gardner explored in the late 1990s. The term intelligence itself deals with how people effectively and efficiently solve problems and create products valued in a given culture (Gardner, 1999). Existential intelligence is the capacity to readily envision the *big picture*. People with a strong existential intelligence have the distinct ability to think about why things exist. We all possess existential intelligence to some degree.

Further, people with a dominant existential intelligence may wonder if intelligent life exists in the Universe. Individuals with a well-developed existential intelligence also need the freedom to ponder, conceptualize, and hypothesize. These distinctive characters enjoy analyzing and thinking about questions that don’t have clear answers.

Existential intelligence can be cultivated. Those humans who have nurtured their existential intelligence wonder about how variables interact. They also willingly evaluate how concepts

relate to one another (Gangi, 2011). People with a robust existential intelligence naturally detect patterns that connect phenomena.

Perhaps because of my own enduring existential intelligence, when I view images of unidentifiable aerial phenomenon, I don't immediately think aliens from another planet are visiting Earth. Similarly, when I actually encounter an object in the air or space that seems to defy contemporary science, it doesn't automatically mean to me that the object originated from beyond this world.

The Department of Defense (DOD) is an executive branch department of the federal government of the United States. The DOD was created in 1947. It was charged with coordinating and supervising all agencies and functions of the government concerned with national security. *Project Blue Book* was a US government project that investigated UFO reports between 1947 and 1969. The project was initiated to determine if anomalous aerial vehicles threatened national security (Federal Bureau of Investigation, n.d.). Under *Blue Book*, the US Air Force looked at thousands of reported UFO sightings. Many of those sightings remain unidentified.

Studying history is germane to truly understanding UFOs. Looking at aerial anomalies from a historical perspective makes it possible to learn from the endeavors of early UFO researchers. Today, UFO enthusiasts cannot afford to repeat processing errors made in the past. UFOlogy must improve. Therefore, to increase the depth and breadth of knowledge related to the total UFO phenomenon, I revisited the cornerstone of UFOlogy—the 1947 Roswell Incident.

## **The 1947 Roswell, New Mexico UFO Conundrum**

### **The Roswell Story Overview**

New Mexico is the fifth largest state in the United States with a total area of approximately 121,700 square miles. Much of New Mexico is sandy, undeveloped, and desolate. The state's wide open spaces and clear blue skies make it an ideal location for working on rockets, launching experimental balloons, and testing atomic bombs ("New Mexico," n.d.).

In addition to its distinctive landscape, New Mexico has a unique culture. More specifically, New Mexico has an unparalleled cowboy culture. It mixes hard work, innovation, and individualism with a love for adventure. Its inhabitants call New Mexico the Land of Enchantment (Visit Albuquerque, n.d.).

I was first introduced to New Mexico in 2001. Up to that time, my professional career had been rewarding. It encompassed a wide continuum of jobs mostly in the realm of education. But, the tragedy of September 11, 2001 provoked me to rethink my calling.

I placed my life's work on hold and joined AmeriCorps. While in AmeriCorps—the Domestic Peace Corps—I served as a volunteer in New Mexico. Living and working there, I traveled extensively and learned as much as I could about that entrancing southwestern state and its inhabitants.

I was an AmeriCorps volunteer in Las Cruces, New Mexico. The AmeriCorps project I volunteered for was a not-for-profit endeavor that incorporated safe after school programs, interdisciplinary arts education programs, and community projects. I helped teams of visual and performing artists coach public school teachers about integrating the arts into their core curriculums. I also worked with members of street gangs.

After a rewarding stint in AmeriCorps, I accepted an administrative position in Oklahoma City—only to be drawn back to New Mexico after two years away. In 2004, I was hired as the chief licensed administrator and community liaison for a new charter school in Las Cruces, New Mexico. My responsibilities included making sure all of the enrolled students received instruction that exceeded state standards. In addition to leading course development and program evaluation, I coordinated school assessments, delivered staff development workshops, and wrote grants. In my spare time, I produced and participated in informational television programs to help market the new charter school.

Later, from 2005 to 2007, I lived on the Navajo Reservation near Crownpoint, New Mexico. There, I was employed by the US Department of the Interior and served as a turnaround specialist, educational consultant, headmaster, and executive director. I oversaw all aspects of a grant school located on the Eastern Navajo Agency.

The Navajo's tasked me with establishing an education system built on the Navajo language and culture. To accomplish my task, I quickly learned how to interpret and implement federal, state, local, and tribal laws. In addition, I was required to represent and lobby for the Navajo Nation at state and national meetings. Conjointly, I spoke on behalf of the Navajo Tribe at Tribal Budget Advisory Committee meetings in Washington, DC. In short, I was busy.

Following that job, I served as a turnaround administrator for a small school district situated between Albuquerque and Las Cruces, New Mexico. From 2007 to 2010, I lived and worked in the small resort town of Truth or Consequences. In that place, I functioned as part of an administrative team to improve the local schools' education programs.

In addition to administrative duties, I served on the New Mexico Gang Task Force (NMGTF). The NMGTF trained in Roswell, New Mexico. In Roswell, I participated in crisis intervention programs as a member of a forensic intervention consortium. I helped develop and initiate anti-gang projects in conjunction with detectives, law enforcement officers, youth centers, judges, gang members, and community stakeholders. We collaboratively developed cross-system truancy prevention programs. Thus, I met and spoke with a lot of people in and around the Roswell, New Mexico area.

Roswell was famous for an alleged UFO incident that took place in that southwestern city during 1947. On or about July 8, 1947 a press release was issued stating personnel from Roswell Army Air Field (RAAF) had retrieved the remnants of a crashed flying disk (Mutual UFO Network [MUFON], n.d.-b). Although nobody actually saw the disk in the air, a press release conveyed that a flying disk had crashed on a ranch near Roswell (Rudiak, 2001a).

Accounts of what took place back then were based on official and unofficial communications. The original released report indicated that a flying disk, possibly similar to the disk-shaped objects sighted in June of 1947 around Mt. Rainier in the state of Washington, had crashed on a New Mexican ranch. The ranch was near Roswell.

Allegedly, the flying disk wrecked after it was damaged during a powerful storm. Debris from the crash was salvaged and flown to General Roger Ramey in Fort Worth, Texas to be officially inspected. As might have been predicted, a military whitewash of sorts followed (Olmsted, 2009).

After the crash, remains were examined. General Ramey declared that RAAF personnel had actually retrieved a damaged weather balloon—not a flying disk. A press conference was ultimately held so the ruins could be displayed and then photographed by the media. For all intents and purposes, the wreckage appeared to have been bits and pieces of a weather balloon (MUFON, n.d.-b). However, the Roswell balloon was not being used strictly for weather purposes. On the following day, the flying disk story was retracted and the shattered object officially became a weather balloon.

In due course, the incident faded from public attention. Then, in 1978, UFOlogist and nuclear physicist, Stanton T. Friedman, interviewed Major Jesse Marcel who was involved with the original 1947 debris retrieval. Marcel expressed his belief that the military had covered up the salvaging of an alien spacecraft. Marcel's story quickly spread through UFO circles. His account was featured in UFO documentaries and publications. In 1980, the *National Enquirer* magazine ran an interview with Marcel that brought national and worldwide attention to the Roswell Incident.

As a result, UFO proponents pressed the ideas that an alien craft was found, its occupants captured, and the military covered it up. Conspiracy theories clearly fomented the original event. The Roswell incident grew into a popular UFO mystery.

In or about 1995, the General Accounting Office released the results of a report stating the debris retrieved from a Roswell ranch in 1947 was from Project Mogul (MUFON, n.d.-b). Project Mogul was a US Military Air Force surveillance balloon experiment classified TOP SECRET in 1946. Mogul employed experimental high-altitude surveillance balloons.

Apparently, when a Mogul balloon smashed into the sands of a New Mexican ranch, the military decided to hide Project Mogul's real identity. Unlike a typical weather balloon, Project Mogul's



gear was enormous and contained unusual types of materials. According to research conducted by the *New York Times*, Project Mogul employed big balloons, radar reflectors, lightweight sticks, and sharp pieces of metal foil (Broad, 1994). Today, Roswell continues to be the most publicized of all alleged UFO incidents (MUFON, n.d.-b). Too, since the late 1970s, the Roswell occurrence has been the subject of much controversy.

## **Prediction**

In 1946, as a result of research conducted for project Mogul, Charles B. Moore, a New York University graduate student working under contract for the United States Army Air Forces, made a significant technological discovery: the use of polyethylene for high altitude balloon construction. Polyethylene is a lightweight plastic that can withstand stresses of a high altitude environment that differed drastically from, and greatly exceeded, the capabilities of standard rubber weather balloons used previously. Moore's discovery was a breakthrough in technology. For the first time, scientists were able to make detailed, sustained studies of the upper atmosphere. Polyethylene balloons, first produced in 1947 for Project Mogul, are still widely used today for a host of scientific applications. High altitude polyethylene balloons and standard rubber weather balloons differ greatly in size, construction, and utility.

From January 1, 1947 through July 7, 1947, research studies and experiments regarding constant level balloon sizes, materials, degradation, shrouds, and coatings were conducted by Watson Laboratories and New York University (Headquarters United States Air Force, 1995). Such balloons were often coated or laminated with aluminum to protect the balloon's surface from the hot New Mexico sun. Sunlight's photo-chemical action upon the fabric of a balloon results in decreased strength and deterioration. In addition, the Watson Laboratories and NYU contract required balloon tracking. Aluminum coated balloons track well.

By May 1948, polyethylene balloons coated or laminated with aluminum were regularly being launched from Holloman AFB in New Mexico and the surrounding area (McAndrew, 1997). After a review of the existing literature, I predicted that a US government experimental prototype of a high altitude constant level balloon—not necessarily a precursor of a specific Project Mogul balloon, weather balloon, or passive communications satellite—was responsible for the debris deposited on a ranch near Roswell, New Mexico in 1947.

Several accounts of the "Roswell Incident" often described thin, metal-like mystery materials that when wadded into a ball, returned to their original shape. These interpretations are consistent with the properties of polyethylene balloons laminated with aluminum. Such balloons were typically launched from an area west of the White Sands Proving Ground, drifted over the range, and descended in the areas northeast of White Sands Proving Ground where the "strange" materials were allegedly found.

### **1. Unfamiliar Space Age Metallic Debris Retrieved Near Crash**

Eyewitnesses maintained that some fragments retrieved near Roswell, New Mexico in 1947 had an aluminum-like dull finish on one side, but appeared shiny on the other. The stuff was thin, lightweight, and would flex—not dent—when struck. The peculiar metal seemed to be cut and perforation proof. Most pieces were jagged and seemed as if they had been exploded. Although the shards had burn marks on them, they were not scratched. These metallic bits could be folded, but they would quickly go back to their original shapes (Rudiak, 2001b). Although not scientifically analyzed, none of the debris was determined extraterrestrial in origin (Korff, 1997).

## **2. US Government Involvement**

The state of New Mexico played a significant part in developing the US government's early space program. For instance, New Mexico is home to the White Sands Missile Range that established its headquarters near Las Cruces. Also, the Trinity Site in Alamogordo is the location of the world's first atomic bomb that was detonated in 1945. Moreover, New Mexico houses an Air and Space Park. On display in this park is a spacecraft that is 86 feet tall—allegedly the largest rocket ever launched from New Mexico. The park also features an outdoor track once used to test the human body's tolerances. For more than eighty years, New Mexico has been on the cutting edge regarding new developments in aerospace and rocketry. Much of the early work that paved the way for the United States to become a world leader in space happened in the state of New Mexico (The New Mexico Museum of Space History, n.d.).

The Roswell crash was perhaps the greatest of all US government cover-ups. However, the cover-up involved Project Mogul—Not a UFO. Project Mogul was not brought to the public's attention until approximately 1995. The complete story of the US government's Project Mogul can be pieced together from extensive US Air Force reports and other documents.

The Mogul spying system was the brainchild of Dr. Maurice Ewing. Early in his career, Dr. Ewing worked at conducting naval research on the transmission of sound. In 1944, Dr. Ewing theorized that the Earth's atmosphere might contain a sound channel. As a result, he proposed a surveillance system to the US Air Force that could monitor distant nuclear blasts. In 1946, Project Mogul was given TOP SECRET classification. Soon, numerous Mogul-related balloon test flights were launched from Alamogordo, New Mexico—a short distance from Roswell. The United States Armed Forces maintained that the debris from the 1947 Roswell crash was the remnants of an experimental high-altitude balloon belonging to Project Mogul. Back then, the US government was required to protect all TOP SECRET surveillance-related information at any cost (Broad, 1994).

During the late 1940's and 1950's, the newly invented, polyethylene balloons, were often misidentified as flying saucers or UFOs. During this time, polyethylene balloons launched from Holloman AFB, generated flying saucer reports on virtually every flight. Balloons launched

from Holloman AFB generated a high number of reports due to the superb visibility in the New Mexico region.

Once they received sunlight, the plastic balloons appeared as large bright objects. Also, because of the refractive and translucent qualities of polyethylene, the balloons appeared to change color, size, and shape. The large balloons generated UFO reports based on their radar tracks. This was due to metallic coatings or large metallic payloads that echoed radar returns not usually associated with balloons. In later years, balloons were equipped with altitude and position reporting transponders and strobe lights that greatly diminished the numbers of both visual and radar UFO sightings.

### **3. At Least Two Contemporary Covert Projects Entangled**

#### **Project Mogul.**

Project Mogul, a TOP SECRET project of the US Army Air Forces, essentially involved flying high-altitude balloons with microphones attached. The project's primary purpose was long-distance detection of sound waves generated by Soviet atomic bomb tests. The Mogul venture was officially carried out from 1947 until early 1949. The project's mission was moderately successful, but it was expensive. It was superseded by a network of seismic detectors and air sampling devices for measuring nuclear fallout. The early Mogul balloons consisted of large clusters of rubber meteorological balloons; however, these were quickly replaced by enormous balloons made of polyethylene plastic. The replacement balloons were more durable, leaked less helium, and held a constant altitude better than the early rubber balloons ("Project Mogul," n.d.).

#### **Passive Communications Satellites.**

As mentioned above, Project Mogul ended in 1949. If so, then why was the US government involved with Mylar balloons made by General Mills in 1950 (Headquarters United States Air Force, 1995)? In 1942, George O. Smith proposed the concept of Earth-Venus relay communications satellites (Whalen, n.d.). A description of a passive communications satellite system was detailed by science fiction writer Arthur C. Clarke in 1945. Passive communications satellites were intended to be inflatable spheres with a thin metal-coated plastic skin.

A panel was developed to study experiments worthy of being launched by V-2 rockets. The Upper Atmosphere Rocket Research Panel was formed in 1946 to help select the most launch-ready, viable experiments to be carried aboard captured and renovated German V-2 rockets. During 1946, Project Echo was a top candidate for being launched aboard a V-2 rocket. In order for the passive communications satellite system to get funded, it was imperative the project be endorsed by this esteemed panel. Prototype development was encouraged.

Project Echo eventually became the USA's first official passive communications satellite experiment. Each Echo spacecraft was a metalized balloon satellite that functioned as a passive reflector for microwave signals. Communication signals were bounced off these metalized balloons from one point on Earth to another.

From 1959 to 1964, three refined Project Echo passive communications satellites were launched. Regrettably, the initial 1959 test of a full-sized 110-foot-diameter inflatable sphere (the Echo 1 Passive Communications Satellite Project) ended abruptly with the sphere exploding as it inflated ("Project Echo," n.d.).

Initially, each Echo spacecraft was designed to be a 30.5 meter diameter metalized balloon made of thick Mylar polyester film. A set of beacon transmitters would be carried for telemetry. The transmitters were powered by nickel-cadmium batteries charged by solar cells mounted on the balloon. Eventually, a 41.1 meter diameter Mylar balloon was used with an improved inflation system to increase the balloon's smoothness and sphericity. Instrumentation was added which included temperature sensors to monitor the balloon's skin temperature and pressure sensors to monitor the balloon's internal pressure. A beacon system, consisting of two transmitter assemblies, provided tracking and telemetry signals. The beacon system used solar cell panels for power (Jet Propulsion Laboratory National Aeronautics Space Administration, n.d.).

#### **4. Research and Development Cycle**

During the 1930s and 1940s, Roswell was the home of Dr. Robert H. Goddard. On a ranch near Roswell, New Mexico, Dr. Goddard and his team established a rocket research site and conducted rocket experiments (The New Mexico Museum of Space History, n.d.). For the most part, Dr. Robert Goddard's rocket work predated the technology used for the German V-2 missiles.

John Whinfield and James Dickson developed and patented polyethylene terephthalate (PET) in 1941 (Johnson, 2017). In 1946, a panel was convened to study experiments-in-progress that had the potential of sooner or later being launched by V-2 rockets. Also in 1946, an independent study of Earth satellites by Project RAND observed that a satellite launch would have a dramatic effect on world opinion. The study also found satellites might have a promising future if used as communications relays (Whalen, n.d.).

The research and development cycle for the passive communications satellite project encompassed untried experiments in at least four major arenas: 1. The use of polyethylene balloons that stay at a constant height arena—polyethylene lessens the up-at-day, down-at-night cycle for high altitude balloons (Broad, 1994). 2. The *satelloon* or metalized balloon development arena—including tensile stress testing. 3. The rocket development arena—involving the process of using rockets to inject *satelloons* into orbit around the Earth. 4. The

inflation arena—flawlessly inflating the folded *satelloons* as they were jetissoned from small payload canisters (NASA, 2011).

The Echo Passive Communications Satellite Project had a relatively long research and development cycle. Essentially, the project's complete cycle—from inception to Echo IA's successful launch—lasted from about 1945 to 1961. It was approximately sixteen (16) years from the onset of the passive communications satellite project's design, development, and test period to its decline and take over by the Echo II Project and other satellite programs.

## **5. US Government, UFOlogists, Skeptics, and Others Contributed to Rare Mixture of Unreliable and Differing Information**

### **US government.**

Project Echo was designed to be a significant step in the United States' space program. Echo was intended to be used for peaceful purposes. It would, in due course, benefit all mankind (Swenson, Grimwood, & Alexander, 1989). Therefore, it may have been better for the US Air Force to claim that another top secret balloon operation—Project Mogul—or an alien flying disk had crashed near Roswell during 1947 than to tell the truth and expose Project Echo. Thus, around 1995 the United States Armed Forces announced that the debris from the Roswell crash was bits and pieces of a Project Mogul experimental high-altitude surveillance balloon. Maybe it was; maybe it wasn't.

### **UFOlogists.**

A recent *Amazon.com* search for books written about the Roswell UFO incident yielded 622 results. It would be rare, if all 622 books contained the exact same information and arrived at a common conclusion. Conflicting information readily exists for UFO enthusiasts and UFO researchers to examine.

As mentioned earlier in this whitepaper, conflicting information tends to inhibit creative thought and decreases the ability to innovatively solve problems. Conflicting information causes confusion and makes it difficult for even the most atypical sages to effectively explain the UAP/UFO phenomenon. Some of those who study and contemplate UFOs—UFOlogists—are pseudoscientists. Traits of pseudoscientists include, but are not limited to: not adhering to good science, stressing ambiguous scientific claims that lack evidence, using jargon, intimidating others, and demanding whatever hasn't been verified as false must be accepted as true. In this fashion, pseudoscientists fail to disseminate factual material to their audiences.

Fake stories are sometimes circulated by pseudoscientists. Such stories embody a mixture of fact, science fiction, fantasy, rumor, and disinformation. In the twenty-first century, a majority of the public hungers for factual answers about UFOs—not fake news or alternative facts.

Regrettably, UFOlogy sometimes serves people who appear adept to those who believe alien spacecraft currently exist on Earth. But, spreading unproven assertions about UFOs conceals the true nature of the phenomenon. It also affords government officials the necessary cover and additional time to figure out what is really going on.

My recent research shows that the US government, UFOlogists, skeptics, and others may be responsible for bringing about a massive cover up. In short, where there is no evidence, there is no science. To many researchers today, absence of evidence is strong evidence of absence. True scientists cannot afford to automatically disregard observations, information, and experiments that refute a certain theory (Stanford Encyclopedia of Philosophy, 2008).

We are living in a post-truth era. Alternative facts and fake news vie with peer-reviewed research (Birkinshaw, 2017). A post-truth or post-factual civilization makes decisions regardless of what is true and proven. Such a society follows only the beliefs of their members—not factual information. Today more than ever, truth must be factual, or at least hint at a correspondence with reality (Brown, 2016). In a post-truth world, assaults on science must be repelled.

Scientific UFOlogists are a necessity. UFO literature should not be aimed at the general public alone. Instead, contemporary UFOlogists' writings must stand for accuracy, align with established standards, and withstand a stringent peer review process. Results of research must be verified. Failures can't be ignored, excused, hidden, lied about, discounted, explained away, rationalized, forgotten, or avoided. When a preponderance of evidence contradicts old ideas, the proof must be accepted and assimilated. The job of scientific UFOlogists is to convince—not convert (Coker, n.d.).

### **Skeptics.**

Soon after the 1947 Fourth of July holiday, a New Mexican rancher reported to the local sheriff that he might have recovered the remains of a flying saucer. Unfortunately, no one saw the saucer while it was airborne (Rudiak, 2001a). Over the years, UFO researchers claimed to have interviewed numerous witnesses. But, only a few claimed to have seen the suspected saucer debris. Of those few people, only a handful said to have actually held the material. At least one of the handlers was positive that the remnants were not from an extraterrestrial spacecraft (Korff, 1997).

Major Jesse Marcel from the Roswell Army Air Field was assigned to look into whatever crashed on a ranch near Roswell that summer in 1947. Marcel drove to the ranch, and then he examined and collected the wreckage. It was General Roger Ramey who ordered Marcel to bring the found wreckage to him at Carswell Air Force Base in Fort Worth, Texas. There, General Ramey held a press conference with Marcel present. It was General Ramey who first announced that the wreckage was from a weather balloon.

Colonel Thomas J. DuBose was present when the alleged Roswell wreckage arrived at Fort Worth in 1947. DuBose was brought into General Ramey's office where he viewed Marcel's rubble. Decades later, during an interview, DuBose was asked if the original debris in General Ramey's office had been switched with the remnants of a weather balloon. DuBose answered that the material was never switched. Still, DuBose insisted that there was indeed a cover up of some sort.

DuBose never knew what those Roswell fragments were really from. However, contrary to what was claimed in 1947, DuBose did know the pieces were not from an ordinary weather balloon. So, what was the object that crashed near Roswell?

In his book, *The Roswell UFO Crash: What They Don't Want You to Know* (1997), Kal K. Korff presented previously unpublished photos and drawings of various components of Project Mogul. Korff claimed that from his photos and drawings, it was clear that Project Mogul was made of the same material as the rubble DuBose saw in Ramey's office. Thus, Korff concluded that wreckage found at Roswell was indeed from a Project Mogul constant-altitude-level balloon train equipped with various instruments. Korff goes on to conclude that the whole Roswell UFO hysteria was caused by people who did not know the true identity of the retrieved material (Korff, 1997).

The crux of the whole Roswell UFO mystery has to do with a few firsthand witnesses' inability to accurately identify the exceptional metallic shards and other scraps strewn throughout a rather large debris field on a patch of sandy New Mexican property. I agree with Korff that there was a cover up at Roswell. Furthermore, I maintain that the cover up did fundamentally involve an extraterrestrial flying disk. But it did not involve the remnants of an alien flying saucer.

### **Others.**

Lee Spiegel is a writer and reporter who is the only person in history to produce a major presentation at the United Nations on the subject of UFOs. Spiegel conducted an interview with Major Jesse Marcel more than 30 years after the 1947 Roswell incident happened. During the interview, Marcel stated that when he got to General Ramey's office in Fort Worth, the general told him to put some of the Roswell debris on the floor and let the media take a picture of it. Supposedly, the debris was made up of all sorts of materials. A lot of the fragments were made from materials Marcel had never seen before. So, Marcel put pieces of stuff out on the floor, but he did not display anything odd or something with detail on it. The media took pictures and one picture appeared in the newspapers.

General Ramey allegedly told the news reporters that the debris was nothing but a crashed weather balloon. Later, Ramey wanted to cover up his weather balloon statement because he personally didn't know what the debris was. Essentially what they did at Fort Worth that day

was to present a mock display featuring a battered weather balloon. They also let the press photograph it. The whole thing was essentially a cover-up (Speigel, 2017).

Charles B. Moore was one of three surviving Project Mogul scientists identified in a 1994 Air Force report about the Roswell event. Moore maintained that many of the materials used in New York University Project Mogul Balloon Flight 4 bear striking similarities to pieces of the 1947 Roswell crash debris. After Flight 4 was launched from Alamogordo, it was tracked as far as Arabela, New Mexico—approximately seventeen miles from the location of the debris field. No diagram is available for Flight 4 because no data were obtained for it in formal New York University reports (Thomas, 1995). What is more, the prominent meteorologist, Dr. Spilhaus, who was hired to develop high altitude balloons for Project Mogul, was also associated with the New York University experiments (Broad, 1994).

Science is a body of knowledge acquired through curiosity by using a structured approach. More importantly, science is a process of becoming less wrong over time. Perhaps the most efficient and effective way to solve the UAP/UFO phenomenon may be to encourage genuine scientists to help fortify the masses of those who currently study aerial anomalies.

Today, effectively investigating UFOs requires that more genuine scientists (people who rigorously follow scientific methodology when investigating curious phenomena) join the current ranks of UFOlogists. These scientists must be able to utilize higher order thinking skills. Higher order thinking skills are intellectual abilities and skills considered to be advanced cognitive processes. Higher order thinking encompasses the abilities to analyze, evaluate, and create solutions by putting facts together in new ways (Anderson & Krathwohl, 2016).

Current UFO researchers must conduct rigorous scientific studies of unidentified aerial phenomenon commonly known as UFOs. Rigorous research involves using scientific methodologies to comprehensively study this age-old phenomenon. Furthermore, credible data ought to be shared with the public, the media, the government, and academic institutions to help foster a deeper understanding of this enigmatic singularity.

Science and pseudoscience represent opposed ways of viewing nature. Science relies on—and insists upon—self-questioning, testing, and analytical thinking that make it hard to avoid facing facts. Pseudoscience, on the other hand, preserves ancient, natural, irrational, nonobjective modes of thought that are thousands of years older than science (Coker, n.d.).

Scientists' findings about UFOs must be expressed through scientific journals that are peer-reviewed to maintain rigorous standards regarding honesty and accuracy. Experiments need to be precisely described so that they can be duplicated or improved upon. Failures should be sought out and studied closely. As time goes on, more and more will be gleaned about UFOs simply by adhering to scientific ethics (Coker, n.d.).



## 6. Extraterrestrial Hypotheses Proffered

The extraterrestrial hypothesis (ETH) proposes that some UFOs are best explained as being physical spacecraft occupied by extraterrestrial lifeforms from other planets visiting Earth (“Extraterrestrial Hypothesis,” n.d.). The 1947 Cold War hostility between the United States and the Soviet Union produced an initial surge of UFO sightings. The first report of a flying saucer over the United States happened in June of 1947. Kenneth Arnold, a private pilot, sighted several disk-shaped objects near Mt. Rainier in the state of Washington. Arnold's encounter was followed by a torrent of additional sightings from all over the United States. In 1948, Project SIGN was established to collect, collate, evaluate, and distribute—within the US government—all information relating to such sightings. UFOs seemed to have great potential for being a national security issue (Haines, n.d.).

On July 8, 1947 Roswell Army Air Field issued a press release stating that a flying disk had crashed on a ranch near Roswell, New Mexico during a powerful storm. Later, a press conference was held and the original story was restated to say that a weather balloon had crashed in the Roswell vicinity. Reporters were shown debris allegedly taken from the crash area. The debris included: foil, rubber, and wood, which seemed to confirm the object had indeed been a weather balloon. After initially reporting that the debris may have come from a UFO, the *Roswell Daily Record* submitted a correction on July 9, 1947 which included a USAAF statement that the wreckage was actually pieces of a weather balloon that had been picked up from a debris field on a ranch (Edwards, 2015).

During the following span of more than thirty years, the Roswell crash story all but vanished. Then, in 1978, *The National Enquirer* reported the original *Roswell Daily Record* story again. However, the follow-up correction was not reported in *The National Enquirer* piece. When that uncorrected version of the story was published, US government alien cover up theories spread like wildfire.

Around the same time, Stanton Friedman, a longtime UFO researcher, started interviewing several people supposedly connected with the Roswell incident. Two years later in 1980, a book entitled *The Roswell Incident* was published. Upon the book's publication, *The National Enquirer* interviewed Marcel again. As a result, all sorts of hypotheses were proposed. Soon assertions surfaced that the US government was indeed hiding an alien spacecraft (Dunning, 2007).

The 1980s produced renewed charges that the government was withholding documents relating to the 1947 Roswell UFO incident. Shortly following the original crash report, UFOlogists began arguing that the US government had recovered debris from a wrecked saucer and about four or five alien bodies as well. According to some, to this day the US government refuses to divulge the results of its UFO investigations (Haines, n.d.). Books about UFOs written between

1980 and 1992 told of alleged witnesses who described the crash of a flying saucer and alien corpses in the Roswell-Corona-Socorro vicinity (MUFON, n.d.-b).

However, an alien flying saucer with extraterrestrial lifeforms on board was neither the simplest nor the most prudent explanation for what had crashed in the Roswell Area during 1947. Many balloons and other experimental spacecraft were launched and flown on rockets from the White Sands area during the 1940s and 1950s. Several of those objects fell back to earth. Some objects were not recovered. During the summer of 1947, a New York University-sponsored high-altitude research balloon project was established in New Mexico. Balloon experiments were flown out of White Sands, near Alamogordo, New Mexico. Balloons of varying sizes and of different principles of construction were launched singly, in tandem, and in clusters. Many, if not all, of the experimental balloon flights contained payloads. Overall, more than 100 flights were made. (Headquarters United States Air Force, 1995).

In the 1930's, spherical, metallic gondolas (Figure #8) were built for stratospheric balloon experiments (Welter, 2010). The gondolas served as payloads for specific high-altitude balloon experiments. No rocket was capable of staying at a high altitude long enough to expose living subjects to cosmic radiation for more than a few minutes.

Balloons, on the other hand, could maintain high altitudes for prolonged periods of time to obtain the needed research data (National Aeronautics and Space Administration, n.d.-b). Various combinations of balloons and gondolas were sent up to very high altitudes, and they often came down in desolate areas. Therefore, it is conceivable that in 1947, some eyewitnesses may have mistaken gondolas that landed in the New Mexico desert for crashed flying saucers.



Figure #8. Associated Press Photo of Jean Piccard in unfinished gondola during 1933. (Welter, 2010).

The figure below (Figure #9) is a circa 1950 photograph depicting members of the Holloman Balloon Branch retrieving a high altitude balloon experiment. The balloon experiment depicted in the photo employed a shiny, metallic Aero Medical gondola. The gondola was recovered from a location around Holloman Air Force Base in New Mexico (McAndrew, 1997).



Figure #9. A US Air Force photo of technicians recovering an Aero Medical gondola from a location on Holloman AFB, New Mexico (McAndrew, 1997).

## **7. War Nervousness Existed**

The Roswell incident occurred in or about July 1947. World War II ended less than two years earlier in September of 1945. The events that ended the War included the United States dropping atomic bombs on Hiroshima and Nagasaki in Japan. The fear of death or anxiety about physical injuries would have been normal during a post-war America in 1947. A Cold War period of tension and anxiety lasted from 1947 to 1991.

## **8. Failure of Imagination Persisted Throughout Investigation**

A failure of imagination is a circumstance wherein something seemingly predictable and undesirable was not planned for. My research indicates that unknown unknowns existed throughout the course of the Roswell UFO incident. Specific to the 1947 Roswell crash, UFO researchers, skeptics, and the public did not seem to know that a passive communications satellite experiment had the special attention of the US government.

### **Backward Mapping.**

Backward design or backward mapping is a technique whereby a story is told in reverse to identify the root causes of an issue that needs to be resolved (Center for Theory of Change, 2017). Following is a backward mapped outline of factual information related to the Roswell UFO mystery:

1995: A US Air Force report concluded that the predecessor to the US Air Force, the US Army Air Forces, did recover material near Roswell, New Mexico in July 1947. The report explains that the Army Air Forces did not recover bits and pieces of an alien extraterrestrial spacecraft, but it did recover debris from an Army Air Forces balloon-borne research project. Project Mogul components clearly accounted for the claims of *flying saucer* debris recovered in 1947.

1964: NASA's Echo II satellite was sent into orbit around the Earth. The 135-foot rigidized balloon satellite was injected into orbit as a passive communications experiment (Figure #10).

1962: During a test of the Echo deployment in 1962, which was three years after Shotput's first failed deployment of the Echo satellite, a structural load problem caused the balloon once again to explode. A camera aboard the launcher captured the images. The earlier Shotput failure would have looked very much the same (Hansen, 1995).

1961: NASA's Echo IA satellite was successfully sent into orbit around the Earth.

1960: A Skin Stress Test of a 12-foot satellite built as a prototype of the full-scale Echo Satellite was carried out on May 1, 1960 (Figure #11).

1959: NASA's initial test launch of a 110-foot-diameter inflatable sphere for the Echo 1 Passive Communications Satellite Project ended abruptly with the sphere exploding as it inflated. Thousands of fragments of the aluminum-covered polyethylene balloon floated back into the atmosphere reflecting the light of the setting sun. It resulted in the sensation of flashing lights. Along the East Coast, reports of extraordinary sightings came pouring into the police, newspapers, television stations, and radio stations. Many people inquired if those mysterious specks of light were fireworks, a meteor shower, or UFOs. NASA did not claim responsibility for the mysterious specks of light in the atmosphere on October 28, 1959 (Hansen, 1995).

1958: A 100 foot Echo Satellite underwent inflation tests (Figure #12).

1957: By the middle to late 1950s, all the technologies necessary for satellite communications had been invented. All that remained was to demonstrate the technologies and to compare the different innovations discussed in the technical literature (Whalen, n.d.). During that time span, small passive communications satellite prototypes were under development (Figure #13). Prototypes included various sizes and varieties of flying spheres and flying disks that had been experimented with for several years (National Aeronautics and Space Administration, 1957).

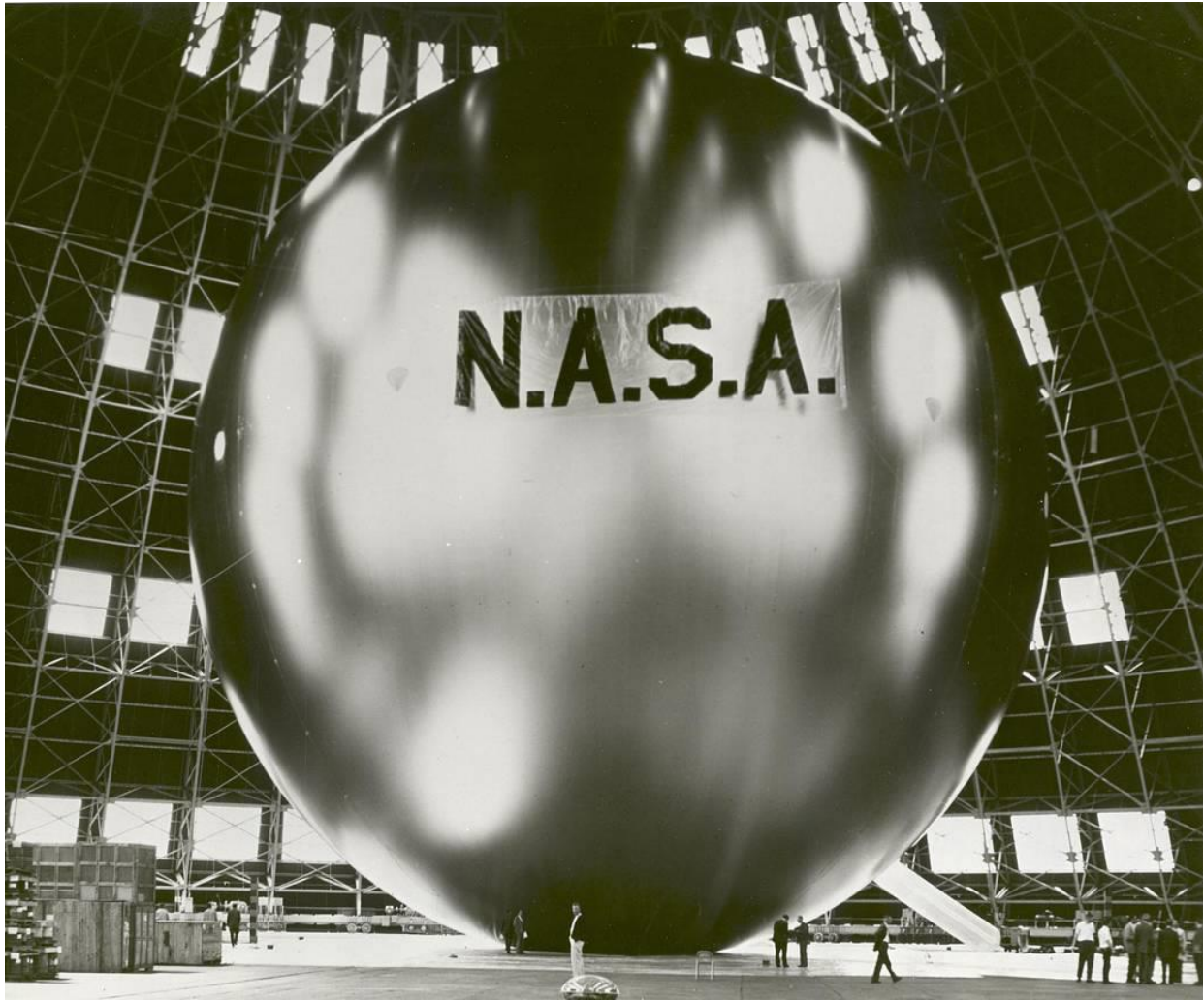


Figure #10. NASA's ECHO II Passive Communications Satellite  
(Courtesy of the National Aeronautics and Space Administration).



Figure #11. A scale prototype of an Echo Satellite, 12 feet in diameter (Courtesy of the National Aeronautics and Space Administration).

1956: As with many early NASA programs, Project Echo originated as a National Advisory Committee for Aeronautics (NACA) effort. NACA was formed in 1915. The original purpose of Project Echo was to measure the density of the air in the upper atmosphere, as well as to provide data related to the design of future aircraft, missiles, and spacecraft. As with many other experiments, the concept that led to Project Echo had modest beginnings. With persistence, it ended with memorable results. After years of developments, Project Echo was eventually placed on an official list of approved experiments to be launched into space.

1955: John R. Pierce of AT&T compared the estimated cost of satellite communications with the cost of the first transatlantic telephone cable. AT&T was in a better position to fund communications satellite research and development than NASA—whose entire budget was only a few hundred million dollars (Whalen, n.d.).

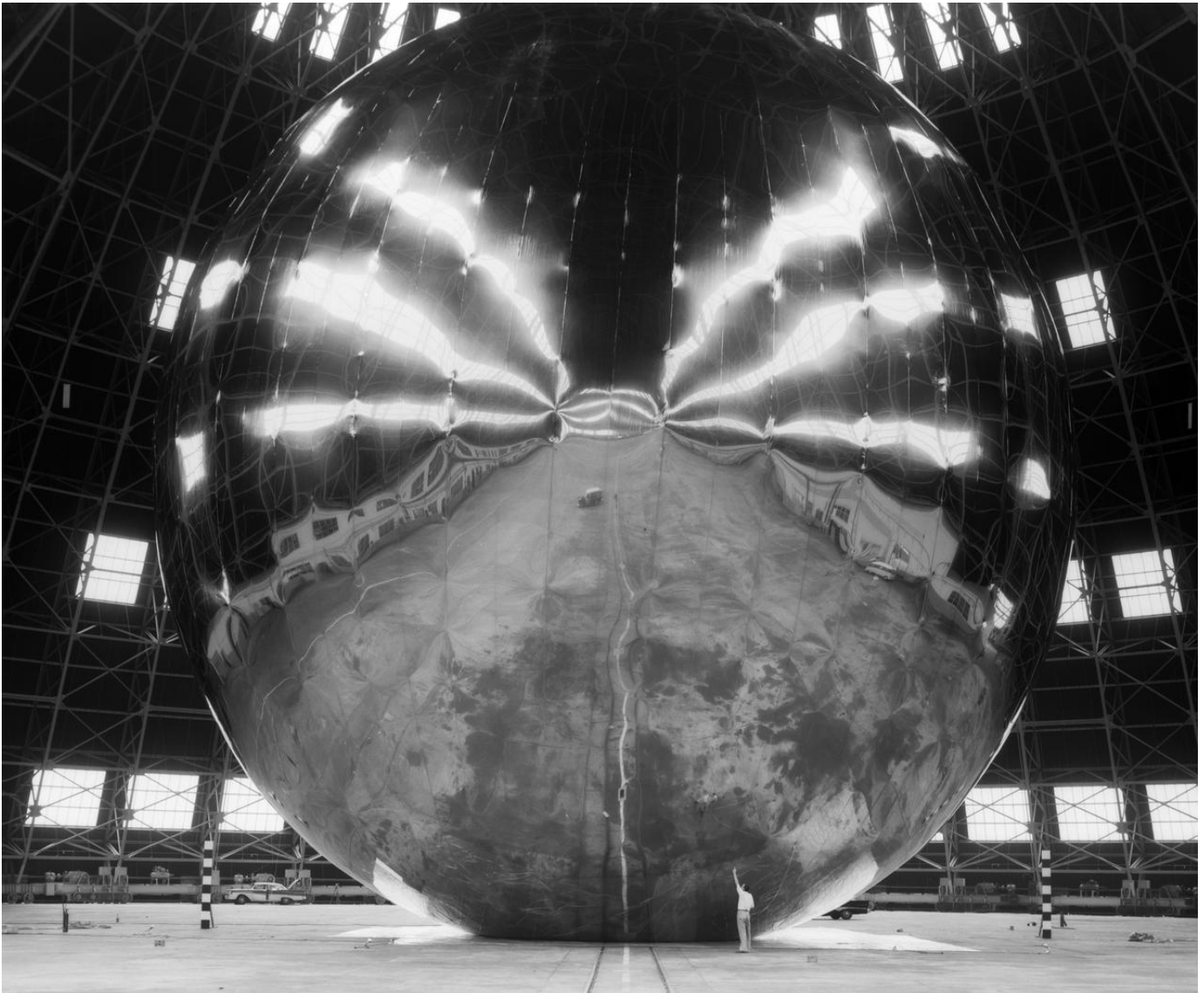


Figure #12. A 100 foot Echo Satellite  
(Courtesy of the National Aeronautics and Space Administration).

1952: BoPET balloons were not officially built before 1952 (Baluncore, 2016). BoPET, which evolved from polyethylene terephthalate (PET), was a prototype of Mylar. Passive communications satellites were made by constructing a balloon, or *satelloon*, of thick Mylar film bonded between layers of heavy aluminum foil. Mylar is an aluminum coated plastic material that was, in the long run, used for US passive communications satellites.





Figure #13. Engineer W.J. O'Sullivan, Jr. with a 20 Inch Sub satellite  
(Courtesy of the National Aeronautics and Space Administration).

1950s: Prior to the presence of Mylar film, prototype experimental balloons intended for use in Project Echo were made from BoPET film. BoPET is a polyethylene film made from stretched polyethylene terephthalate (PET). PET was developed in the early 1940s, several years before the Roswell crash (“BoPET,” n.d.).

Early experimental PET, BoPET, and Mylar balloons had a revolutionary surface. Unlike the spherical surface of a latex balloon, these balloons resembled a slightly flattened sphere. This innovative shape was realized by inflating a balloon made of two welded circular sheets of flexible, inelastic material—now known as Mylar (“Mylar Balloon,” n.d.). Therefore, early Mylar-like balloons would have resembled flying disks. They appeared to be more disk-like than sphere-shaped. In the air, the novel large experimental passive communications *satelloons* may have been perceived as extraterrestrial flying disks.

1948: By May 1948, polyethylene balloons coated or laminated with aluminum (Figure #14) were regularly flown from Holloman AFB in New Mexico and the surrounding area (McAndrew, 1997). Much in the same way the planet Neptune was predicted before it was directly observed, the July 1947 Alamogordo polyethylene balloon experiment flights predicted the existence of large, singular, metalized polyethylene balloon prototypes.





Figure #14. A US Air Force photo of Holloman Balloon Branch personnel preparing a polyethylene balloon laminated with aluminum at the White Sands Proving Ground, New Mexico (McAndrew, 1997).

1947: From January 1, 1947 through July 7, 1947, research studies and experiments regarding constant level balloon sizes, materials, degradation, shrouds, and coatings were conducted by Watson Laboratories and New York University (Headquarters United States Air Force, 1995).

1947: A flying disk crashed near Roswell, New Mexico. That same year, Project Mogul was being employed as a super-secret operation that involved the use of balloon trains that were equipped with devices for intelligence gathering purposes. Project Mogul was a classified operation begun by the US government after the end of World War II to determine the status of Russian attempts to build nuclear weapons. On July 8, 1947, the public information office at RAAF announced that they had recovered the remains of a flying disk. Only a few eyewitnesses claimed to have actually handled material from the disk. At least one of those material handlers was resolute that the stuff was not from an extraterrestrial spacecraft (Korff, 1997).

It is also highly probable that the Roswell flying disk, unbeknownst to the examiners and collectors of the Roswell wreckage, was a precursor of an extraterrestrial relay device made of a type of polyethylene terephthalate (PET) metalized with aluminum. Bits and pieces of materials from the Roswell crash were flown to General Ramey in Fort Worth, Texas. Descriptions of the wreckage shipped to Ramey's office seemed to describe a mixture of metalized polyethylene pieces from a Project Echo prototype as well as parts from a Project Mogul balloon train.

1946: An independent study of Earth satellites by Project RAND on behalf of the Army Air Forces observed that a satellite launch would have a dramatic effect on world opinion and that a satellite might have promising uses as a communications relay. In spite of a curtailment of military research and development funds under President Truman's administration, subsequent RAND studies of geosynchronous communications satellites and the political and psychological aspects of launching spacecraft continued (Whalen, n.d.).

1946: A panel was developed to study experiments worthy of being launched by V-2 rockets. Prototype development was encouraged. In order for a passive communications satellite system to get funded, it was imperative that such a project be endorsed by this esteemed panel. The Upper Atmosphere Rocket Research Panel was formed in 1946 to help select the most launch-ready, viable experiments to be carried aboard captured and renovated German V-2 rockets. The panel was originally known as the V-2 Panel. A balloon or satellite observation system utilizing space technology seemed promising as a top candidate for launching aboard a V-2 rocket. Passive communications satellites were designed as inflatable spheres with a thin metal-coated plastic skin. Project Echo was the United States' first passive communications satellite experiment. In the long run, Project Echo satellites ended up being large aluminum-coated Mylar balloons. Some information gathered through passive communication satellites was not classified as secret. However, information classified as secret proved helpful to US military planners concerned with the accuracy of intercontinental ballistic missiles. Thus, although initially conceived to tell the United States about the upper atmosphere, NASA's inflatable satellite program revealed much about the military buildup on Earth (Hansen, 1995).

1946: The Research Division of the College of Engineering of New York University (NYU) entered into a contract with Watson Laboratories of the Air Materiel Command. Under this contract New York University was commissioned to design, develop, and fly constant-level, high-altitude balloons. The contract required that such high altitude balloons be designed so that they could be tracked from the ground using radar and/or radio direction-finding. In 1946, as a result of research conducted for project Mogul, Charles B. Moore, a New York University graduate student working under contract for the United States Army Air Forces, made a significant technological discovery: the use of polyethylene for high altitude balloon construction. Polyethylene is a lightweight plastic that can withstand stresses of a high altitude environment that differed drastically from, and greatly exceeded, the capabilities of standard rubber weather balloons used previously. At that time, experts agreed that objects coated with metal could easily be tracked by radar and reflect radio waves as well. Also, experimenting with aluminum coated polyethylene balloons relieved some superheating balloon issues caused by solar radiation. For high attitude balloons, superheating is a serious problem because it weakens the balloons (Headquarters United States Air Force, 1995).

1945: The initial concept of a passive communications satellite system was inspired by science fiction writer Arthur C. Clarke. Clarke was the godfather of communications satellites and a

Royal Air Force officer who hoped to revitalize the British Interplanetary Society after WWII. In an October 1945 *Wireless World* magazine article, Clarke wrote about the development of a geosynchronous satellite. Clarke's article was entitled: "EXTRA-TERRESTRIAL RELAYS." He predicted the development of a telecommunications system based on artificial satellites orbiting Earth. For all intents and purposes, these satellites were extraterrestrial flying disks. Three fixed satellites would provide complete global communications coverage (Whalen, n.d.).

Passive communications satellite makers needed Dr. Robert H. Goddard's rockets to place their *satelloons* into orbit. Rocket scientist, Dr. Robert Goddard, died in August 1945. However, following his death, Goddard's widow, Esther Goddard, completed many of his projects (National Aeronautics and Space Administration, n.d.-a). By July 1945, Operation Overcast and Operation Paperclip, two secret programs, were established to exploit V-2 rocket knowledge.

1945-1942: Dr. Robert H. Goddard was Director of Research for the Navy Department Bureau of Aeronautics. He was developing and testing jet-assisted takeoff and variable thrust liquid propellant rockets in Roswell, New Mexico and Annapolis, Maryland (Goddard Memorial Association, n.d.).

1942: American science fiction author, George O. Smith, proposed Earth-Venus relay communications satellites (Whalen, n.d.). Also, in 1942, Dr. Robert Goddard was placed on contract at Annapolis, Maryland to develop rocket takeoff mechanisms (Roswell Museum and Art Center, n.d.)

1941: John Whinfield and James Dickson developed polyethylene terephthalate (PET). PET was patented in 1941 (Johnson, 2017). The 1947 Roswell balloon crash most probably involved a metalized version of a PET balloon (Baluncore, 2016). PET properties may have initiated precursory passive communications satellite balloon experiments by 1947. However, in 1941, BoPET inflatables were not yet totally developed.

1940-1930: During the 1930s and 1940s, Roswell, New Mexico was the home of Dr. Robert H. Goddard. On a ranch near Roswell, Goddard and his team established a rocket research site and conducted rocket experiments (The New Mexico Museum of Space History, n.d.). Scientists at this rocket science test facility collaborated with German scientists about the V-2 rocket program. During the post-WWII years, scientists from the Goddard team launched variations of the German V-2 rocket.

1939: For the most part, Dr. Robert Goddard's rocket work predated the technology used for the German V-2 missiles. Toward the beginning of WWII, German engineers and scientists occasionally contacted Dr. Goddard directly in New Mexico with technical questions. Thus, before 1939, many of Goddard's developments may have been copied by German engineers as they developed their V-2 rockets ("V-2 rocket," n.d.).

1923: Hermann Oberth speculated about the use of geosynchronous communications satellites (Whalen, n.d.).

## **9. Important Data was Missing from Relevant Reports**

On or about the night of Thursday, July 3, 1947, a balloon train service flight, Flight 9, was launched from Alamogordo, New Mexico. Service flights were not logged or fully accounted for in the published technical reports generated as part of the contract between New York University and Watson Labs. In all probability, Flight 9 contained: A cluster of meteorological balloons, a dummy payload, reflective radar targets, and a prototype metalized polyethylene balloon.

## **10. The Alleged UFO Event was Eventually Commercialized**

The alleged Roswell UFO crash was made commercial in character, methods, and spirit to emphasize the profitable aspects of UFOs. It was commercialized to make products and services available to the public. There are more than 660 books written about the Roswell UFO incident.

On July 8, 1947 Roswell Army Air Field issued a press release stating that a flying disk had crashed on a ranch near Roswell, New Mexico during a powerful storm. During the following span of more than thirty (30) years, the Roswell crash story all but vanished. Then, in 1978, The National Enquirer reported the original Roswell Daily Record story again. However, the original follow-up correction was not reported in The National Enquirer piece of 1978. When that uncorrected version of the story was published, US government alien cover up theories erupted.

Around the same time, Stanton Friedman, a longtime UFO researcher, interviewed several people supposedly connected with the Roswell incident. Two years later in 1980, a book entitled The Roswell Incident was published. Upon the book's publication, The National Enquirer interviewed Major Marcel. As a result, all sorts of hypotheses were proposed. Soon assertions surfaced that the US government was indeed hiding an alien spacecraft (Dunning, 2007).

The 1980s produced renewed charges that the government was withholding documents relating to the 1947 Roswell flying saucer incident. Shortly following the 1978 crash report, UFOlogists argued that the US government had recovered debris from a wrecked saucer and about four or five alien bodies as well. According to some, the US government still refuses to divulge the results of its UFO investigations (Haines, n.d.). Books about UFOs written between 1980 and 1992 told of alleged witnesses who described the crash of a flying saucer and alien corpses in the Roswell-Corona-Socorro vicinity (MUFON, n.d.-b).

An alien flying saucer with extraterrestrial lifeforms on board is neither the simplest nor the most logical explanation for what crashed in the Roswell area during 1947. Many balloons and other

experimental spacecraft were launched and flown on rockets from the White Sands area during the 1940s and 1950s. Several of those objects fell back to earth. Some objects were not recovered.

In the long run, New Mexico has profited from federal government disbursements related to military and scientific research institutions. As a result, New Mexico is the home for several well-known United States military bases. Moreover, New Mexico houses the White Sands Missile Range (the White Sands Proving Ground, was established in 1945 to test rocket technology), the federal research laboratories known as the Los Alamos National Laboratory, and the Sandia National Laboratories. The state's population grew rapidly after World War II ("New Mexico," n.d.).

In addition to books, movies, and federal government disbursements for scientific research, Roswell profits from a yearly UFO Festival. In 2018, more than 25 local organizations, groups and businesses assisted with the Roswell UFO festival. Tracked volunteer hours were worth \$91,257. The 2018 festival had an estimated 20,000 to 25,000 attendees. Also during 2018, the Roswell City Council approved \$21,100 in lodgers' tax funding for its 2019 UFO Festival (Penn, 2018).

## **Conclusion**

Following is a detailed summary of the 1947 Roswell UFO incident: Intelligence is the ability to solve problems and create products that are valued in a culture. Since about 1945, the US government valued passive communications satellites made of a flexible, inelastic material that was coated with metal. Polyethylene terephthalate (PET) had been invented in 1941. In addition, during 1946, experiments were being planned and conducted in New Mexico with polyethylene to develop high-altitude balloons.

After conducting select interviews, analyzing existing literature, and evaluating data, I arrived at the following conclusion: During the early, middle, and late 1940s, experiments essential to ultimately launching passive communications satellites into space were being conducted in New Mexico. In Roswell, from approximately 1942 to 1945, Dr. Robert H. Goddard and members of his rocketry team were developing and testing German V-2-like rockets. Such rockets would be used to launch passive communication satellites into orbit. A passive communications satellite system was proposed by science fiction writer Arthur C. Clarke in 1945.

In 1946, Dr. Athelstan F. Spilhaus, was developing high-altitude balloons that would stay at a constant height. Dr. Spilhaus's experiments pioneered the use of polyethylene balloons which were an important tool related to high-altitude research. Balloon teams from New York University and the Air Materiel Command were launching experimental balloon test flights from Alamogordo, New Mexico by 1947.

The type of rockets Dr. Goddard and his team were working on would be needed to inject passive satellite communications system-related metalized polyethylene balloons into orbit around Earth. Members of Dr. Goddard's rocketry team were living and working near Roswell in 1947. Therefore, it is highly probable that in July of 1947, experimental precursors of metalized inflated polyethylene balloons (intended for future use as US government passive communications satellites) and experimental high-altitude constant level balloon trains (developed for Project Mogul) were covertly being launched from New Mexico.

Thus, during the summer of 1947, a prototype metal-coated plastic balloon was launched as part of an experiment. Unfortunately, it was either torn to shreds by high winds or struck by lightning in the vicinity of Roswell, New Mexico during a severe storm. The inflatable metalized balloon ultimately exploded into pieces. Hundreds of shards from the metal-covered balloon, as well as other debris from the experimental balloon assembly, floated down upon a ranch near Roswell. A considerable amount of the debris retrieved from the ranch near Roswell, had an aluminum-like dull finish on one side, but appeared shiny on the other. The fragments were thin, lightweight, and would flex when struck. The fragments had the appearance of and behaved similar to today's Mylar.

In closing, I offer the following recap of the Roswell UFO mystery. My recap embraces no less than two viable options related to what happened in Roswell during 1947. Each option realistically outlines the essence of the Roswell crash of 1947.

Option 1: The Roswell incident began at approximately 3:00 AM Mountain Time on or about Thursday, July 3, 1947. Early that morning, a Balloon Project Team launched a cluster of experimental high-altitude, non-extensible, polyethylene balloons (Figure #15) from Alamogordo, New Mexico. The launch represented the first time an experimental high-altitude balloon cluster included non-extensible, polyethylene balloons. This particular cluster, research Flight 8, contained ten (10) polyethylene balloons. Each balloon was seven feet in diameter (Spilhaus, Schneider, & Moore, 1947). At least one of the flight's balloons was coated with aluminum. Unlike earlier experimental balloon flights, Flight 8 did not utilize radar reflectors to track the balloon trains. Therefore, it is reasonable that on this July 3, 1947, flight; traditional radar reflectors were replaced by metalized polyethylene balloons or polyethylene balloons with reflective panels affixed to them. In the long run, similar metalized polyethylene balloons would also be used as passive communications satellites.

In addition to the cluster of balloons on Flight 8, this particular balloon train included the following components: a radiosonde device, a plastic ballast reservoir, as well as a payload and transmitter. The components were linked together with nylon rope to form a balloon train. Also, "return to" tags were attached to this logged constant altitude flight which was fully acknowledged (Headquarters United States Air Force, 1995).

At about seventy-five (75) minutes into the balloon cluster's flight, a loss of lift began to occur. Lift was hindered due to balloon leakage. Then, approximately 197 minutes into Flight 8, the balloon cluster described above was reportedly observed from the air as it was bumping around the sandy desert in the Tularosa Basin.

A Balloon Project Recovery Team was dispersed to retrieve the balloon cluster. However, by that Thursday evening, the Balloon Project Recovery Team had not located the balloon cluster (Headquarters United States Air Force, 1995). A logical explanation for the Balloon Recovery Team's inability to locate this balloon cluster is that the balloons in the cluster were subject to a condition known as "superheating." Superheating may without difficulty result in the month of July when the hot New Mexico desert Sun beats down on high-altitude balloons. Superheating could cause the entire balloon cluster assembly to rise up into the air again (Spilhaus, Schneider, & Moore, 1947). Thus, the balloon cluster resumed its flight.

After being launched from Alamogordo, balloons often descended in the vicinity of Roswell, New Mexico (Headquarters United States Air Force, 1995). In effect, the duration of the flight may have been extended until late July 3<sup>rd</sup>, July 4<sup>th</sup>, or July 5<sup>th</sup> when the balloon train finally reached the vicinity of the Foster Ranch. As the experimental balloon cluster floated above the Foster Ranch, a powerful storm developed. The storm produced strong winds and lightning.

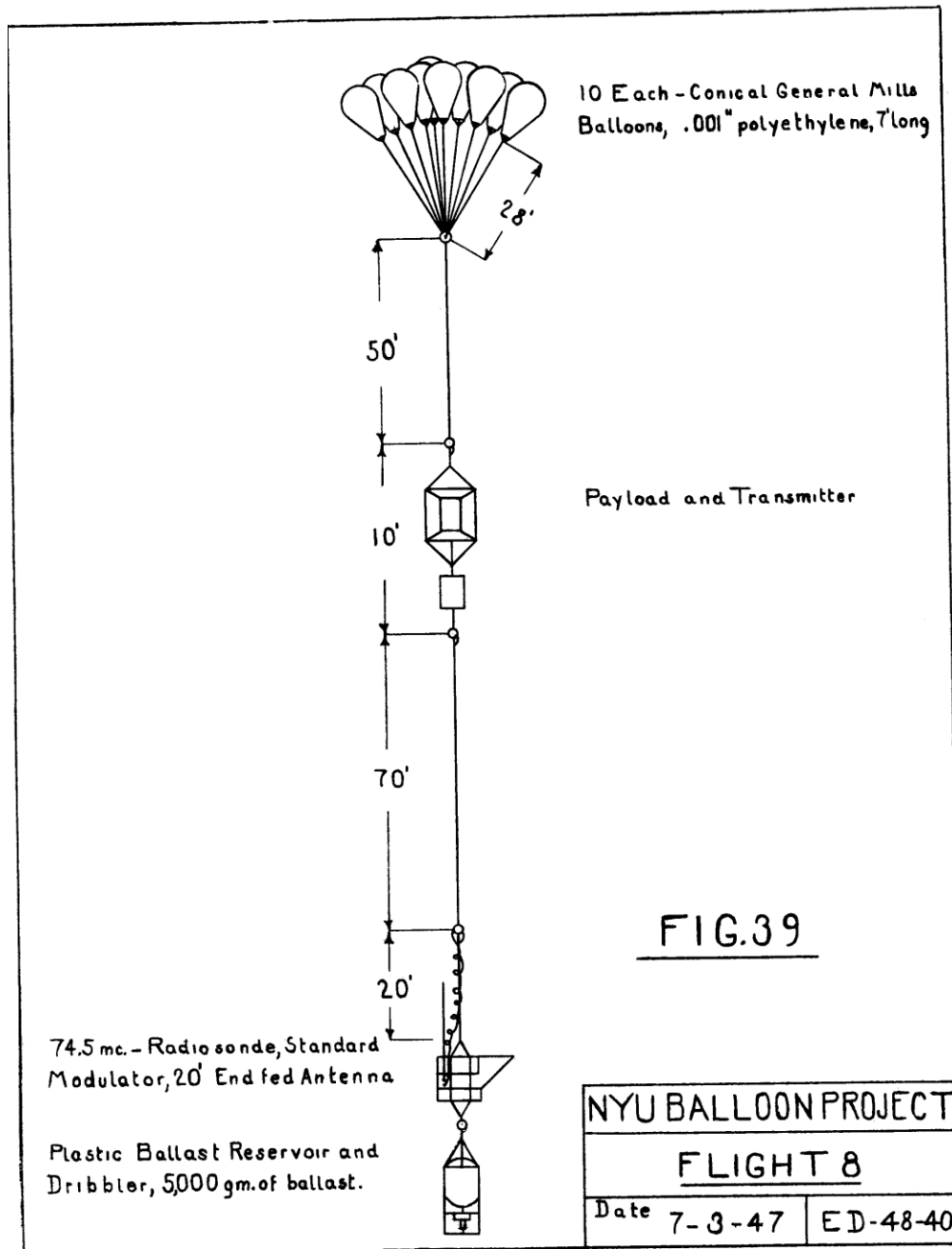


Figure #15. First launch of an experimental high-altitude balloon cluster that included non-extensible, polyethylene balloons (Headquarters United States Air Force, 1995).

In 1947, unlike the spherical surface of today's latex balloons, early aluminum-coated polyethylene balloons may have resembled a somewhat flattened sphere. Such a shape results when a balloon made of two welded circular sheets of flexible, inelastic material (similar to



Mylar) is inflated (“Mylar Balloon,” n.d.). Thus, early Mylar-like balloons physically resembled flying disks.

When high winds from the storm or lightning struck the metalized flying disk, hundreds of fragments of shredded aluminum-covered balloon floated down to the Foster Ranch. More importantly, the foil-like memory metal recovered from the Foster Ranch debris field near Roswell was direct evidence that by July 1947 scientists had invented a way to coat polyethylene with metal. A number of pieces of metalized polyethylene were included in the debris field. Other materials reportedly salvaged from the debris field that were germane to the 1947 experimental balloon trains included, but were not limited to: parts of reflective panels made of balsawood and reflective paper, purplish-pink reinforcement tape imprinted with symbols, and heavy-gauge nylon rope. On Saturday, July 5, 1947, a Balloon Project Recovery Team went out into New Mexico to again hunt for the experimental balloon cluster originally launched on the early morning of July 3, 1947. On July 5, 1947, the Balloon Recovery Team found the remains of the balloon cluster associated with Flight 8.

Option 2: The strange material attributed to the original Roswell debris field included balloon-related rubble that came from areas northeast of White Sands, New Mexico (Nickell, 2017). These balloons were made of polyethylene that had been coated with aluminum. The use of such material for high-altitude balloon construction was an outgrowth of research conducted by Charles B. Moore for Project Mogul (McAndrew, 1997). The pieces of silvery material were a novelty. Although the metalized plastic looked like aluminum foil when crumpled, it had the attention-grabbing ability of returning to its original shape. It had both metallic and plastic properties.

The Roswell incident began on or about the night of Thursday, July 3, 1947. That night, a balloon train service flight, Flight 9, containing a cluster of meteorological balloons, a dummy payload, at least one prototype metalized polyethylene balloon, and reflective radar targets, was sent up from Alamogordo, New Mexico. Service flights were not logged or fully accounted for in the published technical reports generated as part of the contract between New York University and Watson Labs.

After being launched from Alamogordo, balloons often descended in the vicinity of Roswell, New Mexico (Headquarters United States Air Force, 1995). While service Flight 9 was floating above the Foster Ranch, a powerful storm developed. The storm produced strong winds and/or lightning.

When high winds from the storm and/or lightning shattered balloons in Flight 9, numerous fragments of tattered aluminum-covered plastic and other rubble floated down to the Foster Ranch. The foil-like memory metal recovered from the debris field near Roswell was direct evidence that scientists had at last invented a way to effectively coat polyethylene balloons with metal. Shards of metalized polyethylene were included in the debris field. Other materials

reportedly salvaged from the debris field that were germane to the 1947 experimental balloon trains included, but were not limited to: pieces of rubber, parts of reflective panels made of balsawood and heavy reflective paper, purplish-pink reinforcement tape imprinted with symbols, and heavy-gauge nylon rope. The simplest explanation is usually the best one.

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