IN THIS CHAPTER

- Coming to terms with the terminology
- Recognizing how UFOs and UAPs look and act
- Looking at common misidentifications
- Sharing what you saw

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Chapter 1

What's a UFO (or UAP)? Identifying the Unidentified

As I write this, about half of Americans think some UFOs might be alien spacecraft. The other half think UFOs are always the result of human or natural activity from Earth. Many form these beliefs based primarily on decades of sci-fi films and TV shows without ever learning about the real-world phenomena behind the fictional Hollywood depictions. Wherever your opinion currently falls on the topic, if you're here searching for fundamental truths about one of humanity's enduring mysteries, you've landed in the right place!

In this chapter, I break down what UFOs and UAPs really mean, what they look like, and how they behave, drawing on hundreds of thousands of reports since the 1940s. You also discover what isn't a UFO or UAP, plus how to report a sighting if you're unsure. By reading this chapter, you're taking one small step toward a giant leap in understanding UFOs and UAPs.

Demystifying the Definitions

UFO stands for *unidentified flying object* — but I'm guessing you already knew that. It's a term recognized around the world, which is a bit ironic seeing as it describes something people don't recognize.

UAP is less familiar. It can stand for *unidentified aerial phenomena* or *unidentified anomalous phenomena.* People often use these terms interchangeably with *UFO,* but they don't all mean the same thing. This section breaks the terms down so you can tell them apart with confidence.

Understanding unidentified

To understand UFOs and UAPs, begin with the word *unidentified.* It's the only word all three terms have in common and the one that causes the most confusion. The definition, "not recognized or identified," sounds simple enough, but it's actually pretty vague. Not identified by who, exactly? After all, you probably don't want to hear about the blimp my nephew thought was a UFO at a baseball game last year.



REMEMBER

In this book, I use the word *unidentified* in a stricter sense often preferred by UFO researchers. It's not just something you don't recognize; it's something humans haven't made and isn't the result of a scientifically accepted natural process. In this sense, if someone says they saw an unidentified flying object, it's considered a *reported* UFO.

Breaking down the abbreviations

The preceding section covers *unidentified,* but as for the other words that make up UFO and UAP, these standard definitions work well:

- **Flying:** Moving in the air
- **Object:** A material thing
- **Aerial:** Occurring in the air
- **Phenomena:** Observable facts or events
- **Anomalous:** Deviating from what's standard, normal, or expected

Combining those terms gives you the following definitions:

- **Unidentified flying object (UFO):** A material thing moving through the air that isn't the result of a scientifically accepted natural process or a human-made creation
- **Unidentified aerial phenomena (UAP):** Observable facts or events occurring in the air that aren't the results of a scientifically accepted natural process or a human-made creation
- **Unidentified anomalous phenomena (UAP):** Observable facts or events that deviate from what's standard, normal, or expected and aren't the results of a scientifically accepted natural process or human-made creation



REMEMBER

Keep in mind that the plural of *object* is *objects*, and the plural of *phenomenon* is *phenomena*. But abbreviations get an "s" when referring to more than one instance. Hence UFOs and UAPs.

Determining the different meanings

The first major difference among the three terms comes down to the distinction between objects and phenomena. Think of *objects* as physical things you can touch, while *phenomena* are what you can observe with any of your senses (or detect with technology).

Because objects are a type of phenomenon, all UFOs fall under the broader category of UAPs. However, not all UAPs are UFOs. Table 1-1 illustrates the distinction. It provides examples of phenomena you're familiar with that aren't objects and lists phenomena reported in UAP cases.

TABLE 1-1 Phenomena, Not Objects

Source	Known Example	Examples Reported in UAP Cases
Light	Aurora borealis	Luminous orbs
Sound	Thunder	Breaking the sound barrier without producing any sound
Gravity	Earth's orbit around the sun	A local distortion of space-time causing time in the vicinity to move faster or slower than surrounding areas
Magnetism	A compass pointing north	Magnetic interference with electronics

The second difference among the terms comes from swapping out *flying* and *aerial* for *anomalous.* Both *flying* and *aerial* are confined to something occurring in the air (atmosphere), but *anomalous* removes those limitations.

That makes unidentified anomalous phenomena the broadest of the three terms. It includes anything in the air, underwater, in space, or in between domains. Anomalous phenomena can even occur on the other side of the universe or in a different dimension altogether!



REMEMBER

I use UFOs and UAPs both individually and together at times and also refer to them collectively as "the UFO phenomenon" or simply "the phenomenon."

Reviewing a Brief History of the Terminology



TOP SECRET

You can trace the terminology for UFOs and UAPs back to the U.S. government. After the Air Force launched its first official UFO program — Project Sign — it received its classified mission directive on February 11, 1948, titled "Evaluation of Unidentified Flying Objects." The term *unidentified aerial phenomena* has been around nearly as long. On January 31, 1949, the director of the FBI received a secret memo confirming that the Army and the Air Force considered all records pertaining to unidentified aerial phenomena top secret.



IN THEIR WORDS

Back in the Project Sign days, the public and the press referred to the UFO phenomenon as flying saucers. But the military already realized that name was a misnomer. As Captain Edward Ruppelt, the director of Project Blue Book (the government's longest-running UFO program) stated, "Obviously the term *flying saucer* is misleading when applied to objects of every conceivable shape and performance. For this reason, the military prefers the more general, if less colorful, name 'unidentified flying objects.'" (I cover Project Sign and Project Blue Book in Chapter 11.)

However, UAP didn't become well known until 2017, when the *New York Times* revealed that the Pentagon had been running a secret program investigating what it called "unidentified aerial phenomena." (Chapter 16 goes over this *New York Times* story.)

That article got Congress asking some serious questions. As senators dug deeper, they realized these unidentified phenomena weren't just seen in the skies; they were also being observed in space and underwater. So in 2022, they included the term *unidentified anomalous phenomena* in legislation to cover all unexplained sightings. (You can read about UAP legislation in Chapter 13.)

Observing the Five Observables



REMEMBER

In 2023, the year after Congress first introduced unidentified anomalous phenomena into law, senators drafted new legislation to disclose information about UAPs to the American public. In that bill, they listed five flight capabilities that separate UFOs and UAPs from familiar objects. Known as *the five observables*, these criteria were first categorized by the government's AATIP program (covered in Chapter 12) in 2009 and include the following:

- **Positive lift:** Overcoming Earth's gravity without known means of propulsion
- **Instantaneous acceleration:** Transitioning from standstill to extreme speeds without any ramp-up
- **Hypersonic velocities (without signature):** Accelerating to hypersonic speeds (five times faster than the speed of sound) without creating sonic booms, vapor trails, or other signs of interacting with the atmosphere
- **Low observability:** The ability to obscure or evade detection, including optical invisibility, silent movement, and remaining hidden from sensor systems
- **Transmedium travel:** Travel among environments (water, atmosphere, and space) without a change in performance

I refer to the five observables regularly when addressing UFO reports. A credible case involves at least one of these observables, supported by multiple sources, such as radar, infrared, and eyewitness accounts. Strong cases involve a couple of the five observables. The really high-quality cases involve at least three. You find many examples of high-quality cases in Part 2 of this book.

Uncovering How UFOs and UAPs Look

When most people think of a UFO, they still picture a flying saucer like the one in Figure 1-1. In fact, if you type "UFO" into your phone's messaging app, you'll see a flying saucer emoji. However, as the studies in Table 1-2 demonstrate, disk-shaped objects are only a fraction of UFO reports overall. Notice the distribution of shape categories varies from study to study. As Robert Powell and his coauthors, who compiled the studies in the table, point out, that's partly because interpretations of shapes depend on factors such as the observer's viewing angle, the lighting conditions, and the terminology used. For example, you might report a UFO as round, while others would say it's shaped like a ball, an orb, or a disk when seen from below.



FIGURE 1-1: A computer-generated flying saucer image.

Source: ktsdesign/Adobe Stock Photos

In this section, I detail what UFOs and UAPs look like based on worldwide reports.



TIP

Old newspaper clippings are a good source of UFO reports. One of the best sites to find them is `www.newspapers.com`. Narrow results down by keywords, dates, and location. For example, to see an article featuring one of the earliest witness sketches of the black triangle UFO (explained in the sidebar "Black Triangles"), input the month (September 1960), location (Connecticut), and keyword "flying triangle."

TABLE 1-2 UAP Shape Analysis Studies

Reference	Report Count	Data Source (Years)	Region	Predominant Shape Categories (5% or More)
NICAP 1964	575	NICAP (1942–1963)	Primarily U.S.	Disk 26% Round 17% Oval 13%
UKMoD 2000	2,780	U.K. government (1987–1997)	U.K.	Ball 30% Triangle 7%
Johnson and Saunders 2002	146,000	UFOCAT 2002 (1947–2002)	Global	Disk 62% Ball 5% Light 5%

Reference	Report Count	Data Source (Years)	Region	Predominant Shape Categories (5% or More)
Teodorani 2009	5,369	NUFORC, Hudson Valley (1949–2009)	Ontario, New York, Connecticut	Starlike 13% Triangle 8% Disk 7% Oval 5%
Dittman and Rutkowski 2014	14,541	Private and government organizations (1989–2013)	Canada	Starlike 50% Sphere 15% Disk 10% Triangle 10% Cylinder 5%
AARO U.S. Senate 2023	650	Unknown (1996–2023)	Global	Orb, round, sphere 47% Light 16%

Source: Adapted from Powell et al. (2023)

Noticing nebulous lights

Nebulous lights are luminous UAPs without a visibly distinct structure. The UAP my wife and I witnessed, for instance, falls into this category. These sightings are one of the main reasons for the shift in terminology from *objects* to *phenomena.* In Table 1-2, they're represented as "light," "starlike," and "orb" shapes, but they've also been called "plasmas," "nocturnal lights," "balls of fire," and "foo fighters." And yes, that's where Dave Grohl got the name for his band the Foo Fighters. Expect to see "orb" used the most — especially with close-up sightings at ground level.

People report these phenomena in sizes ranging from a baseball to a water tower and in a wide spectrum of colors. Most often, it's red, orange, yellow, white, green, and blue.



WARNING

If you see a blue orb, keep your distance. Although anecdotal, scientists who investigated UAPs for the government's AAWSAP program (which I cover in Chapter 11) report that health issues can follow close encounters with blue orbs. (I go over these health problems in Chapter 2.)

Could an orb sighting actually be the rare atmospheric phenomenon known as ball lightning? Although their appearances are similar — glowing orb-like phenomena — ball lightning usually lasts only a few seconds and almost always

occurs during or around thunderstorms. Orbs, however, are seen on perfectly clear nights and for much longer durations, sometimes hours.

Seeing structured craft

If a UFO appears to have a physical structure, witnesses often describe it as a *craft*. Besides flying saucers, high-quality cases frequently include metallic spheres, black triangles, and enamel-like eggs or capsules. But even within these categories, you see variations. For example, flying saucers are reported in many different configurations, most notably with or without a dome. The most common black triangle configuration is depicted in Figure 1-2.

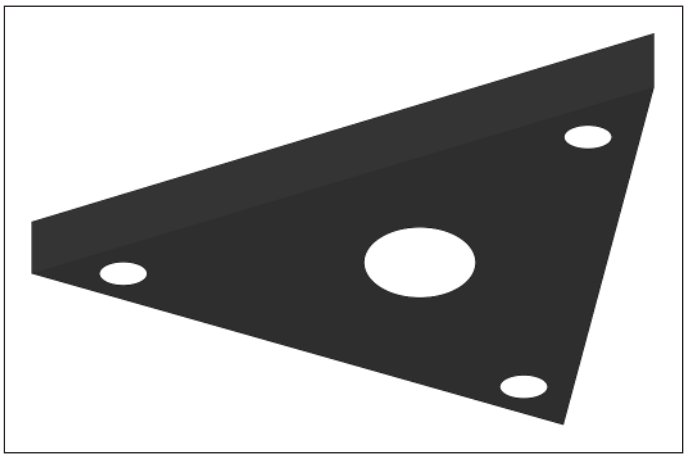


FIGURE 1-2: An illustration of the famous "black triangle" configuration reported since the 1950s.

Source: Shutterstock

BLACK TRIANGLES

Although pop culture obsesses over flying saucers, it treats the black triangles shown in Figure 1-2 like the black sheep of the UFO family — even though they're just as significant. These dark crafts with lights at each corner (and often a larger red one in the center) are seen hovering silently and slowly at low altitudes for extended periods while interfering with nearby electrical equipment.

In June 2025, Timothy Phillips, the former acting director of AARO (the Pentagon's UAP office, covered in Chapter 12), said the black triangles were the most puzzling of all UFO cases he investigated during his tenure. He reviewed videos, images, and military intelligence reports but couldn't figure out where they came from, though he thought they might be an adversary's technology.

If black triangles do indeed come from an adversary, they've had them for a long time. I examine many credible black triangle cases from the 1980s onward later in this book, but the following list details several incidents documented in earlier decades from around the world:

- **November 12, 1957 (Pennsylvania):** Residents of Hazleton, Pennsylvania, reported a large, triangular UFO with a light at each corner hovering above the town as streetlights and television sets flickered on and off.
- **September 8, 1960 (England):** Residents in Newcastle watched an object with a triangular formation of lights and one red light in the center circle above the city for 20 minutes.
- **August 24, 1965 (Sweden):** Three men reported a triangular UFO illuminated at each corner flying above rooftops. They said it went from hovering to "lightning" fast in a split second while executing instantaneous 90-degree turns.
- **December 8, 1977 (France):** Multiple witnesses in the Lorraine region of France reported a large, triangle-shaped craft flying silently at low altitude with lights at each corner and an amber light in the middle.
- **February 3, 1979 (Netherlands):** A dozen security guards at Soesterberg Air Force Base in the Netherlands reported a triangle UFO lingering a few hundred feet above them without a sound for about five minutes. The object had a bright light at the three corners and a pulsating red one in the center (which they said emitted laser-like beams into the base below).

In addition to the common UFO profiles, the following shapes have consistently shown up in reports over the years: acorn, arrowhead, boomerang, cigar, cone, crescent, cross, cube, cylinder, diamond, dumbbell, football, jellyfish, manta, oblong, oval, pyramid, rectangle, rocket, Saturn-like, Tic Tac, shapeshifting, teardrop, and V-shaped.



TIP

You can search thousands of UFO reports according to their shape by visiting `nuforc.org/ndx/?id=shape`. After selecting a shape, you can further narrow reports by selecting only those with images, in a specific geographical location, or close up sightings of highly anomalous craft.

Getting to Know What Isn't a UFO or UAP



REMEMBER

Perhaps the most important part of understanding what UFOs and UAPs are is realizing what they're not. UFO and UAP reports are *not* UFOs and UAPs. As you read case studies and witness statements, watch videos, and look at images, you're analyzing records of reported UFOs and UAPs. But records aren't flawless.

They can be fraudulent, corrupted, misleading, or misunderstood. These situations are known as *misidentifications* or, in Congressional language, "temporarily non-attributed objects."

Identifying (mis)identified phenomena

Scientific studies have repeatedly shown that anywhere from 80 to 95 percent of reported UFO sightings have down-to-earth explanations. Does this stat mean you should assume the other 5 to 20 percent fall into this misidentified category? History indicates that doing so is unwise.

If Arno Penzias and Robert Wilson chalked up the odd, annoying hum their antenna was picking up in 1964 to a neighbor's microwave, they never would've discovered the *cosmic microwave background radiation* (the oldest electromagnetic radiation in the universe) or received the 1978 Nobel Prize in physics for doing so. Their discovery helped science determine the universe is about 13.8 billion years old.

Groundbreaking scientific discoveries often begin with observing anomalies. But before you can understand them, you must first eliminate the background noise. The better equipped you are to recognize and rule out misidentifications, the more effectively you can evaluate whether something is truly anomalous. Table 1-3 provides examples of objects and phenomena most often misinterpreted as UFOs and UAPs.

TABLE 1-3 Commonly Misidentified Phenomena

Type	Definition	Typical Examples
Meteorological	Occurring naturally in the atmosphere	Clouds, *sun dogs* (halos around the sun), meteors
Celestial	Positioned in, or relating to, outer space	Planets, stars, comets
Biological	Relating to living organisms	Birds, bats, insects, marine bioluminescence
Human-made	Made or caused by human beings	Balloons, aircraft, drones, satellites, the International Space Station, rockets, *contrails* (condensation trails from aircraft)

Diagnosing the causes of misidentifications

What causes misidentifications? Tommy Lee Jones's Agent Kay explains in *Men in Black*, "The flash of light you saw in the sky was not a UFO. Swamp gas from a

weather balloon was trapped in a thermal pocket and reflected the light from Venus."

This quote is obviously meant to be tongue-in-cheek, but it does have some truth to it. Misidentifications happen for a variety of reasons. The following sections guide you through some of the most common causes.

Parallax

Parallax is the apparent movement of an object when observed from different perspectives. Imagine a plane and a balloon flying side by side. The plane is filming the balloon with a camera mounted on a rotating platform. As both continue on parallel paths, the camera rotates, making the balloon appear to quickly change course. This illusion can be tricky even for government scientists to detect, which is why this exact scenario has led many balloons to be misidentified as UFOs.

Follow these steps to see for yourself how parallax works:

1. **Extend your right arm straight out in front of you and give a thumbs-up.**
2. **Close your right eye and focus on your thumb with your left eye.**
3. **Quickly open your right eye while simultaneously closing your left eye.**
4. **Repeat Steps 2 and 3 several times quickly.**

See how your thumb appears to jump? That's the parallax effect.

Depth perception illusions

Even without a moving platform, viewers can misinterpret objects when key depth-perception cues are missing. This situation usually occurs in nighttime videos, where out-of-focus insects, birds, or bats near the camera can appear as large, distant objects performing dramatic maneuvers.

Atmospheric conditions

Temperature inversions are another common cause of UFO misidentifications. Normally, air gets colder as you go higher, but in a *temperature inversion,* a layer of warm air sits above cooler air. Light warps as it passes through this pocket, making objects appear to move erratically or shine brighter than usual. This effect often leads people to misidentify Venus (the second brightest object in the night sky behind the moon).

Sensor artifacts

Sensors can be tricked just as easily as humans. For example, the temperature inversions I discuss in the preceding section can extend radar beams farther than expected, making objects appear to travel across great distances at unbelievable speed. Here are some other sensor artifacts responsible for false UFO reports:

- **Lens flare:** Bright light sources reflect inside the lens and distort the captured image.
- **Motion blur:** Fast-moving objects or camera shaking cause objects to appear as streaks.
- **Bokeh effects:** Out-of-focus light sources appear oddly shaped.
- **Blooming:** Oversaturated light sources create halos around an object or distort its size.
- **Multipath reflections:** Radar signals bounce off various surfaces, creating an echo effect.
- **Clutter and noise:** Birds, weather, or other objects produce false returns.
- **Compression artifacts:** Video or image compression can distort or obscure objects.

Sociopsychological factors

As they say, sometimes it's all in your head. The human mind can misinterpret phenomena thanks to a range of both internal and external factors. The following are some of the main culprits at play:

- **Pareidolia:** Perceiving meaningful patterns in ambiguous objects
- **Mass hysteria:** A spontaneous outbreak of unorthodox beliefs within a social group
- **Social contagion:** When other people's beliefs influence how someone perceives something
- **Memory reconstruction:** Incorrectly recalling events as accurate memories
- **Confirmation bias:** Subjectively interpreting information to conform to preexisting beliefs
- **Perceptual errors:** Misjudging or misinterpreting objects or events in an environment
- **Hallucinations:** Seeing or hearing something that isn't there

Avoiding cases of mistaken identity

So how can you separate a truly unidentified anomalous phenomenon from a swamp gas–filled weather balloon? You start by approaching observations with healthy skepticism, logic-based reasoning skills, and the following phone apps:

- **FlightRadar24:** This app shows aircraft in the sky based on federally required transponders. Point your camera at the aircraft to see details, such as its flight number, aircraft type, altitude, and speed.
- **Stellarium Mobile:** This app displays objects in space, such as planets, stars, constellations, meteor showers, and satellites (including the International Space Station and Starlink satellites).


TIP

If your unknown object doesn't match anything in the apps, search online for rocket launches. Rockets are visible from hundreds of miles away and look majestic, but they're widely publicized, so they're easy to rule out.


REMEMBER

Just because you don't immediately recognize something doesn't mean it's a UFO or UAP. Lights far off in the sky are difficult to identify under the best circumstances. Unless they're performing extraordinary maneuvers, you can safely assume they're something normal.

Reporting Your Sighting

When submitting a UFO report, you want to include some basic information. But in the excitement of the moment, people often panic and don't know where to begin. Unfortunately, that was the case for me during my own sighting (when I was still skeptical that anything in the sky could be truly unidentified). I did little more than express expletive-laced confusion. Before I knew it, it was over.


TIP

If you want to handle your sighting better than I did, it doesn't involve shouting obscenities, texting your mom, or broadcasting live on social media. Instead, here's how to respond in a safe, smart, and useful way:

1. **Always think safety first.**

   If you're driving, pull over safely.

2. **Start filming — fast!**

   Quickly start recording with your phone. Here are some tips to capture the best footage:

   - Keep shaking to a minimum by bracing your arm on something for support.
   - Use the zoom function cautiously because it can blur the image.
   - Frame the object with trees, buildings, or the moon for scale.
   - Narrate what you see by describing how the object moves, its size, its color, whether it has lights, and whether any sound is coming from it.
   - If someone else is with you, have them film from a different location. Multiple perspectives can help determine distance, speed, and size.

3. **Take detailed notes.**

   After you finish filming, write down as many details as possible. Note the date, time, location, direction of your sighting, and anything else that stood out to you or wasn't captured on video.

4. **Speak with other witnesses.**

   Exchange notes, videos, and images with other witnesses.

5. **Try to identify it yourself (optional).**

   I discuss how in the preceding section.

6. **Submit your report.**

   A few major organizations collect and investigate UFO and UAP reports:

   - **National UFO Reporting Center (NUFORC):** To submit a UAP report to NUFORC, visit `nuforc.org/reportform/`.
   - **Americans for Safe Aerospace (ASA):** To submit a UAP report to ASA, visit `https://www.safeaerospace.org/report-uap/`.
   - **Mutual UFO Network (MUFON):** To submit a UAP report to MUFON, visit `www.mufoncms.com/public_report/`.