

FROM ANGELS TO ALIENS: HUMANKIND'S ONGOING ENCOUNTERS WITH, AND EVOLVING INTERPRETATIONS OF, THE GENUINE CELESTIAL UNKNOWN

by Tim Lomas  and Brendan Case

Abstract. Throughout history, people have observed aerial events that appeared extraordinary and anomalous. In earlier eras, these were often interpreted through a lens that invoked special classes of divine beings, such as angels (who, compared with gods, are regarded as more likely to interact with humans). Today, in our ostensibly secular scientific age, there is a tendency to assume such observers were mistaken, and that with the benefit of modern knowledge, these events can be “debunked” and attributed to conventional naturalistic explanations. However, recent years have seen a burgeoning interest and even concern over the issue of unidentified aerial phenomena. Through the lens of our “space age,” these are sometimes interpreted using notions such as extraterrestrial agents. Ultimately though, this article suggests that both categories of explanation, from angels to aliens, may be the perennial human quest to render comprehensible, through the prism of prevailing beliefs and traditions, an ongoing encounter with celestial phenomena that remain genuinely unknown but deeply significant.

Keywords: extraterrestrial; philosophy; science; ultraterrestrial

INTRODUCTION

Throughout human history, people have reported witnessing aerial activity that appeared extraordinary and anomalous, challenging their expectations about the nature of celestial phenomena, and even of existence itself. Seen through the lens of “traditional” religious frameworks, these were liable to be interpreted as events involving an encounter with a divine being. Today, in our more ostensibly secular scientific age, skeptics often assume such observers were mistaken, and that these events can be easily attributed to conventional naturalistic explanations. However, recent

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years have seen a burgeoning concern with unidentified aerial phenomena (UAP), previously/also referred to as unidentified flying objects (UFOs). This consternation is even shared by the U.S. military, which in 2020 established a UAP Task Force to investigate an accumulating body of incidents involving military personnel that resisted identification. In its initial 2021 report, of 144 events studied, in 143 cases it determined we “lack sufficient information in our dataset to attribute incidents to specific explanations.” Moreover, an updated report in January 2023 considered a further 366 events, of which 177 similarly eluded definitive conclusions, with the publicly available text noting the phenomena “demonstrated unusual flight characteristics or performance capabilities, and require further analysis.” Thus, even with all the knowledge, data, and technology at the disposal of organizations like the U.S. military, these phenomena remain genuinely unidentified and unexplained. Such developments cast earlier historical reports of comparable events in a different light, not least because these apparently share significant similarities with modern UAP encounters. Indeed, scholars like Vallée (1969, 1990, 2008) suggest there is a through-line between historical and modern observations, and in some fundamental sense, they may represent the same phenomenon (or at least share considerable overlap).

This article explores the continuities and discontinuities between these two classes of interpretation (angels versus aliens). In terms of continuities, we contend that, throughout history, humankind has continually: (1) engaged in scientific activity and analysis—though of course we also recognize that these endeavors have been refined and improved over the centuries—including regarding the cosmos (see Lomas and Case 2023); (2) interpreted scientific observations through the prism of prevailing beliefs, traditions, and mythologies; and (3) encountered aerial phenomena that were anomalous in the context of prevailing scientific theories and knowledge at the given time, and more relevantly, might *still* be deemed anomalous even in light of *current* scientific technology and understanding. However, there are also apparent discontinuities between the interpretations: earlier ages tended to appraise these extraordinary phenomena through ideas which modern people might regard as explicitly religious, such as angels; by contrast, in our contemporary “space age,” people are more likely to invoke seemingly secular notions like extraterrestrial agents. That said, as scholars like Pasulka (2019) have articulated, contemporary ostensibly-scientific interest in UAP can take on qualities and functions of a religion for some people, fitting into a broader phenomenon of myriad “New Religious Movements.” As such, we do not wish to imply a sharp division between earlier ages as religious/mythological and the modern eras scientific/rational. These considerations do not mean the relativistic claim that humans have not *progressed* scientifically; knowledge of the cosmos genuinely has increased over time. However, per

points (1) and (2), both science and religion/myth are continua stretching back into history, emerging and evolving on their own interlinked trajectories.

Nevertheless, we can still note a meaningful distinction in interpretations of unusual aerial phenomena, shifting in recent decades away from notions like angels and toward those such as aliens, as for example observed by Thompson (1993) in *Angels and Aliens: UFOs and the Mythic Imagination*. This statement is not a revisionist claim that historical accounts of angels are really aliens, or vice versa in the modern era. Rather, both constitute attempts by humans to grapple as best they can—with the cognitive tools, belief systems, and social practices at their disposal—with phenomena that may fundamentally elude our comprehension, at least for now. After all, despite advances in our knowledge of the cosmos, our enquiries are really only in their infancy as a civilization, and so much still remains mysterious, from “known unknowns” (e.g., the nature of dark matter) to “unknown unknowns” (i.e., possibilities currently entirely outside our ken). By definition, activities in this article fall into the former class, being technically unidentified. Moreover, the true nature of “the phenomena”—whatever being(s) or process(es) may be really behind these encounters—might even fall into the latter category of unknown unknowns: not “merely” intelligent aliens from other planets (which, even if revolutionary, is within the boundaries of current scientific understanding and probability), but something we cannot presently begin to comprehend. (Indeed, the two possibilities are not mutually exclusive: even if some UAP turn out to be attributable to extraterrestrial civilizations, others may yet have a more mysterious and even unfathomable nature.) We explore these ideas over two sections. The first considers experiences and interpretations of our forebears, while the second looks at the present day, with the dividing line set somewhat arbitrarily but also meaningfully as 1947 (for reasons explained below).

HISTORICAL ENCOUNTERS

This first part explores reports of anomalous celestial phenomena that occurred before our contemporary era. We begin by setting the epistemological context for such reports, namely: earlier ages developed highly sophisticated astronomical knowledge, which was embedded within cosmologies that included actions of divine intelligences, as we have discussed elsewhere (Lomas and Case 2023); however, despite such knowledge, phenomena occurred that were truly extraordinary and hard to explain. We then explore how such observations were often interpreted using a special class of explanations involving ideas like angels.

Astronomy and the Anomalous

Science as a formalized process of knowledge acquisition is usually not viewed as becoming established until the scientific revolution in the early modern era (i.e., fifteenth-century onward). However, people have engaged in practices we would call scientific—carefully observing their environment, testing theories about how it worked, and so on—from as early as the fourth millennia BCE. Indeed, from another perspective, humans have engaged in such endeavors for hundreds of thousands of years, right back to the domestication of fire. Most relevantly, these efforts included astronomy and cosmology, with evidence of astrocartography dating back tens of thousands of years (Wolodtschenko and Forner 2007). As a result, people in earlier ages developed a highly sophisticated understanding of celestial dynamics (Magli, González-García and Aviles 2019). To give one example, such was the quantity and quality of astronomical data available to Eratosthenes in second-century BCE Greece that he calculated the circumference of the Earth—with considerable accuracy—as well as the Earth’s axial tilt and created the first global projection of the world (Nicastro 2008). In this way, over the millennia, people across cultures developed the ability to chart and moreover predict movements of celestial bodies with real accuracy. This knowledge was interpreted—as is our understanding today—through prevailing beliefs, mythologies, and traditions. Although these differed considerably across cultures, at the risk of generalizing, most cosmologies included beings which we in the modern age might call divine, sacred, or transcendent, given labels such as gods. Given this background, celestial phenomena tended to be personified as deities; indeed, the planets’ names in our solar system reflect their origins as polytheistic gods in the classical world.

However, throughout history, humans have also experienced phenomena which did not align with their expectations, perceived as extraordinary or unusual in some fundamental way. The general perspective of the cosmos would have involved a relatively stable and predictable set of bodies and processes, from the daily revolutions of the sun and moon to slower moving changes to star patterns. But amidst this general stability were occasional events that were more unique. We suggest these fell into two main classes. The first class comprises events which, although they may have appeared anomalous at the time to most observers, would not to us today, including dramatic occurrences such as comets and eclipses. From our modern perspective, with our advances in scientific understanding, these have a mundane natural explanation. By contrast, in earlier ages, such atypical events were often interpreted through the prevailing divine lens as portents or signs given by the gods. There may be good reasons for such conclusions; Baillie (2006) suggests comets have hit Earth throughout history with greater frequency than is appreciated today, and more

pertinently tended to precipitate severe environmental—and hence economic and societal—downturns and even catastrophes. For such reasons, societies were keenly attentive to these phenomena. Ancient Chinese astronomy for example excelled in recording comets—with the first confirmed observation in 613 BCE—which were generally considered a disastrous omen, implying something fundamental was awry with society, and frequently influenced civic decisions (Emperor Ruizong of Tang, for instance, abdicated after a comet in 712 CE) (Sun 2015).

From our modern perspective, we understand comets as natural material objects; scientific advances have rendered them conventional and expected. However, throughout history there has also been a second class of phenomena: occurrences that were not only unexpected but deeply *strange* in some way. After all, even if the appearances of comets were surprising to earlier generations, their *behavior* was not necessarily distinct from other celestial objects, usually maintaining a standard speed and trajectory rather than these changing in odd ways. By contrast, some observations were highly peculiar, not merely rare or surprising. Crucially, accounts suggest these phenomena might be anomalous even to *us*, with all our advances in science and technology. The key point is this: as articulated by Vallée (2008), there may be a continuum of UAP activity throughout history which has *always* appeared unusual and extraordinary. Vallée (pp. 22–23) for example offers several cases from Japanese records, including: “three round objects of unusual brilliance ... later they joined together” (August 3, 989 CE); an “unusual luminous object described as an ‘earthenware vessel’ flew from a mountain in the Kii province beyond the northeast mountain of Fukuhara at midnight. After a while, the object changed course and was lost to sight at the southern horizon, leaving a luminous trail” (October 27, 1180); “a bright object resembling the full moon was seen in the sky, and this apparition was followed by ‘curious signs’ in heaven and on earth. People were ‘amazed’” (January 2, 1458); “five stars appeared, circling the moon. They changed color three times and vanished suddenly” (March 17, 1458); “a dark object, which made a ‘sound like a wheel,’ flew from Mt. Kasuga toward the west” (March 8, 1468); fireballs were reported continuously over Kyoto, and one night a “whirling ball of fire resembling a red wheel hovered near the Nijo Castle and was observed by many of the samurai” (May 1606); and “three round objects ‘like the moon’ appeared and were seen for four days. Such a state of social unrest developed, linked with the objects, that the government executed riot participants; confusion then became total when people observed three ‘moons’ aligned in the sky and, several days later, two ‘suns’” (January 2, 1749).

Such events were by no means limited to Japan. In Europe, for instance, Vallée quotes Pierre Boaistuau in 1575, who remarked: “The face of heaven has been so often disfigured by bearded, hairy comets, torches, flames, columns, spears, shields, dragons, duplicate moons, suns, and other

similar things, that if one wanted to tell in an orderly fashion those that have happened since the birth of Jesus Christ only, and inquire about the causes of their origin, the lifetime of a single man would not be enough.” The 1594 edition of his book cites the following as occurring near Tübingen, Germany, on December 5, 1577: “About the sun many dark clouds appeared, such as we are wont to see during great storms: and soon afterward have come from the sun other clouds, all fiery and bloody, and others, yellow as saffron. Out of these clouds have come forth reverberations resembling large, tall and wide hats, and the earth showed itself yellow and bloody, and seemed to be covered with hats, tall and wide, which appeared in various colors such as red, blue, green, and most of them black.” Such events are recorded as extraordinary and anomalous, causing great consternation, and are clearly distinct from other celestial phenomena that, even if novel and unexpected, such as comets, still behaved in conventional ways (i.e., with regular speed and trajectory). These strange occurrences were often similarly interpreted through the prevailing divine lens, though not always, as evident in the quote above referring in bewilderment simply and revealingly—given the parallels with descriptions of some modern UAP—to “hats.” Other such events though did incur divine explanation, but rather than the deification that often occurred with stars and planets, were often understood in different spiritual terms, as we consider next.

The Strange or Miraculous

Most religions feature a class of beings known in English as angels (from the Greek *angelos*, meaning messenger or envoy), or cherubim (from the Hebrew *kērūbīm*, or winged angel). From a theological perspective, their nature has been much debated. Most relevantly here though, they are often regarded—per their etymology—as intermediaries between gods and humans. Significantly, it is clear that many religious texts mean this role *literally*. In many traditions, God or the gods rarely appear directly to humans. Instead, these interactions often occur by the mediation of angels (in the Old Testament, for instance, cf. Gen. 16:7–11; Exod. 3:2, 23:20; Num. 22:22–35; Judg. 2:1, 13:18–20). Most relevantly, many such encounters take the form of anomalous celestial events. From our standpoint, we cannot know whether the phenomena produced the concept of angels, or whether the concept predated and was overlaid upon the phenomena. Either way, as charted by Vallée (2008) and others, throughout history and across religions, the concept and these occurrences are closely intertwined. On this reading, invoking angels to explain extraordinary aerial events constitutes a *special* case within the overall divine cosmology of earlier ages. As elucidated above, most cultures interpreted astronomical observations through a divine lens, such as personifying planets as deities. Despite this divine interpretation though, these observations were usually prosaic and

predictable, with celestial bodies generally observing regular patterns of movement. In one sense, these distant deities were as remote and detached from human affairs as are the stars themselves.

However, some aerial events were far more unusual and strange, jarring with expectations and knowledge about celestial dynamics. Moreover, these events were usually more immediate and immanent, with more direct forms of interactions with humans. As such, one frequently finds interpretations involving special entities like angels, given their theological role as divine intermediaries. (That said, to return to the reports of “hats” above, not all occurrences received a divine interpretation; one gains the impression that in encountering phenomena so far outside the boundaries of common experience and understanding, people reached desperately for any existing notion that seemed remotely relevant.) There are many such encounters in the Old Testament for example. Consider the most well-known account of the sixth-century prophet Ezekiel—who had numerous such visionary experiences—as recounted in his eponymous book (1:4–25, New International Version): “I looked, and I saw a windstorm coming out of the north—an immense cloud with flashing lightning and surrounded by brilliant light. The center of the fire looked like glowing metal, and in the fire was what looked like four living creatures. In appearance their form was human, but each of them had four faces and four wings... The appearance of the living creatures was like burning coals of fire or like torches. Fire moved back and forth among the creatures; it was bright, and lightning flashed out of it... As I looked at the living creatures, I saw a wheel on the ground beside each creature with its four faces... This was the appearance and structure of the wheels: They sparkled like topaz, and all four looked alike. Each appeared to be made like a wheel intersecting a wheel... Their rims were high and awesome, and all four rims were full of eyes all around... When the living creatures moved, the wheels beside them moved; and when the living creatures rose from the ground, the wheels also rose... Wherever the spirit would go, they would go, and the wheels would rise along with them, because the spirit of the living creatures was in the wheels... When the creatures moved, I heard the sound of their wings, like the roar of rushing waters, like the voice of the Almighty, like the tumult of an army.”

What to make of such accounts? From a conventional modern perspective, these are often reductively disparaged as imagined in some way, either (more benevolently) a misperception, or (more pejoratively) a hallucination or even a form of psychosis (Cook 2021). Some skeptics even doubt such events actually occurred at all, with his testimony perhaps more like a teaching device, “an imaginative rendition and re-creation of reality in terms of a religious (i.e., ideological) worldview” (Apóstolo 2008, 3). Adding to these concerns are issues such as Ezekiel apparently being the only witness to this event, and its method of “reporting” being so foreign to

modern concepts of what constitutes reliable data, which for some people mean we cannot draw meaningful conclusions from such accounts. However, an emerging strand of scholarship has questioned whether we should be so quick to dismiss these recollections (Halperin 2021). This openness partly stems from the similarities between such reports and some modern-day UAP observations, at least insofar as the perceptual experiences themselves are concerned (e.g., patterns of moving lights), if not the resulting interpretations. It also stems from the fact that, even in the modern era, we *still* have accounts of incidents that have likewise been interpreted as angelic visitations, but which do not suffer the same concerns raised with Ezekiel's.

Perhaps the most well documented and analyzed is the sequence of events in Fatima, Portugal, the last of which was witnessed by some 70,000 people. As copiously detailed in *Documentação Crítica de Fátima: Seleção de documentos (1917–1930)* (Sampaio Barbosa et al., 2013),¹ and summarized in Vallée (2008), these events centered on Lúcia de Jesus Rosa dos Santos, a girl from a rural family. They began in April 1915, when Lúcia was eight; while reciting the rosary, she saw a “transparent white cloud and a human form.” The visitation occurred twice again that year, and three times in 1916, when Lúcia was accompanied by two friends, and was interpreted by the children as an angel, in part because the vision announced itself as such. In the first 1916 visitation, the children are described as playing near a cave when “they heard the rumble of a powerful wind... and a white light appeared. It was gliding through the valley above the tree tops. In the light was a youth of admirable beauty who came close to them and said, ‘I am the angel of peace.’ He taught the children a prayer and disappeared” (Vallée 2008, 234). Then, in 1917 began a different sequence of encounters that would draw increasing crowds, in part due to elements of prophecy and prediction involved. On May 13, the three children were watching sheep when (as Lúcia reported to her parish priest), “we saw a lightning-flash.” Turning to flee in terror [*com medo*], they “saw a woman atop an oak tree,” clothed in white and gold, who asked them “to come [here] every month for the next six months” (Sampaio Barbosa et al., 2013, 32). They returned as promised, accompanied by some 50 people on June 13, and by around 4,500 on July 13 whereupon at this third apparition, the crowd—according to an eyewitness quoted shortly thereafter in a skeptical, unsigned report in the secular daily *O Século*—heard “a noise like the peal of a trumpet,” but did not have “the privilege of hearing and seeing the saint,” which was reserved for Lúcia alone.

On August 13, even though the children had been temporarily jailed by a local official of the aggressively anticlerical First Portuguese Republic, approximately 18,000 came and watched as “a cloud descended onto the oak tree” and “powdered the air, which seemed snowy.” Then, “in the sky, next to the sun, new clouds turned successively bright red (the

color of blood), pink, and yellow” (Sampaio Barbosa et al., 2013, 63). By September 13, the audience had risen to some 30,000, culminating in an estimated 70,000 for the final apparition on October 13. The reported events in October are remarkable for many reasons. To begin with, they feature phenomena that bear resemblance to Ezekiel’s account, including extraordinary colors and lights, unpredictable patterns and movements, some kind of moving object, and a being interpreted as an angel. The account of eyewitness Manuel Pereira da Silva, written in a letter posted on October 14, is representative: “The sun suddenly appeared with a well-defined circumference. It drew near, almost to the height of the clouds, and began spinning around vertiginously, like a wheel of condensed fire. It did so, with some interruptions, for more than eight minutes. Everything remained somewhat dark, and the features of each person were yellowed. Everyone knelt in the mud” (Sampaio Barbosa et al., 2013, 70). The hitherto dubious *O Século* had a reporter at the scene, who wrote a stunned account, which converges with da Silva’s and others’, of “a singular spectacle, unbelievable for anyone who did not witness it.” “The star,” he wrote, “reminded me of a polished, frosted silver plate, and it was possible to stare directly at it without the least effort... The sun now trembled, it undertook unheard-of, brusque movements, beyond all cosmic laws – the sun ‘danced’, according to the typical expression of the peasants” (Sampaio Barbosa et al., 2013, 75–76).

Of particular significance with this event are, (a) the sheer number of people involved, (b) that it was predicted in advance, and (c) that because of (a) and (b) there is some actual empirical photographic evidence (albeit of poor quality). In combination, these factors neutralize criticisms normally leveled at such reports. To begin with, (a) means it is harder, and indeed arguably illegitimate, to attribute observations to misperception or hallucination. Although the notion of “mass hysteria” appears to have a genuine basis (e.g., shared emotions due to network effects), the idea of mass *hallucination* has not been substantiated, and most analysts of the event—even ardent skeptics—believe some strange celestial phenomena genuinely occurred. The latter point is supported by (c), given that analyses of surviving photographs do indicate some unusual data. Dalleur (2021) for instance suggests “the shadows and reflections reveal two soft light sources emerging from a rather dark background: one seen as a ‘pale sun,’ and another overhead, fuzzy and as softly bright. The latter, likely being caused by a clear cloud, blurred the shadows of the weak ‘sun.’ This warm source, uncannily moonlike, was also able to cast distinct shadows on sloping surfaces and under objects. Eventually, these shadows... help us to estimate the height of the ‘sun’ at $\sim 30^\circ$, lower than the expected 42° . Therefore, the directly observed source could not have been the sun.”

Even if unusual aerial phenomena are granted though, some modern scholars have sought to play the “debunker,” singularly determined to

arrive at naturalistic explanations, apparently unconcerned that their reductive theorizing does not account for the totality of the evidence. Campbell (1989) for example confidently asserted “In fact there is a meteorological explanation; all the phenomena reported are known to be produced by...a fine cloud of dust travelling in the upper air stream” (p. 335), possibly caused by a volcanic explosion. Similarly, Wirowski (2012) attributed the perceptual stimuli to sunlight passing through a cloud of “vibrating charged ice crystals” (p. 282), generating a shimmering halo of light known as a “sundog.” However, while such explanations *could* explain *some* of the phenomena, they do not account for the totality of observations. For example, sundogs are stationary, and observers at Fatima report the “disk” moving, often in dramatic ways, including when it seemingly “plunged downwards in zig-zag fashion towards the earth and the horrified spectators” (Vallée 2008, p. 232). As such, such explanations are *at best* incomplete, and seemingly represent efforts of scientists who have decided *a priori* the event must have conventional meteorological explanations. Indeed, this epistemological assumption is admitted by Kulczyk (2019), who advances various unlikely scenarios, including the surreptitious use of lasers by unknown people. However, he acknowledges, in a very question-begging way, “I have to admit that some aspects of these events cannot be explained by contemporary science, but this is caused by the limitation of our knowledge rather than any supernatural character of the observed events... For the purpose of this analysis, I made an assumption that whatever happened there had to be subjected to the laws of nature” (p. 120).

These attitudes are common among those who seek to debunk such events: to deny anything extraordinary happened at all, and explain whatever did occur by natural factors. For example, Radford (2013) dismissively writes, “We can start by noting that we know for certain what did not happen: The sun did not really dance in the sky.” He then offers various mundane simplistic explanations, from sundogs to mass suggestion. However, these skeptical accounts fail to account for the totality of the complexities of Fatima, not least the crucial fact the events were *foretold*. In Campbell’s (1989) explanation of a “cloud of dust,” he notes that such phenomena are relatively rare. The very last line of the article then states: “It was the most remarkable co-incidence that the cloud passed over Fatima at the very time a miracle was predicted” (pp. 337–38). That is quite the understatement, and indeed would be a *miraculous* coincidence, in every sense of the word. That said, perhaps that this was the concluding sentence of the article implies Campbell was aware of how unlikely this outcome was, and perhaps was even subtly undercutting his own debunking attempts. As such, rather than simply dismissing events like Fatima, even some skeptics might admit that such occurrences may represent genuine anomalous phenomena that humans even now struggle to understand.

Indeed, people continue to have such experiences, even if their interpretative lens is less likely to be overtly divine, as our second main part explores.

MODERN ENCOUNTERS

Far from unexplained aerial events being relics of earlier ages, they have continued into the present. However, rather than the divine angelic mythology of earlier epochs, these are more likely to receive a science-oriented explanation. In particular, befitting the dawning space age, we see a burgeoning interest in UFOs/UAPs, with attendant speculation that these may represent craft from extraterrestrial civilizations. After setting the scene by introducing this new age, we consider recent attention surrounding UFOs/UAPs, and review two of the main “non-ordinary” explanations for such phenomena: extraterrestrial and ultraterrestrial hypotheses. Essentially, both are ideas one might expect in the space age, imbued with its avowedly scientifically inflected ideas. That said, as noted at the start, we do not mean to imply a false dichotomy whereby our contemporary era is portrayed as scientific *instead of* mythological/religious. Rather, these newer hypotheses may constitute *novel* forms of mythology and religion that are uniquely modern (Pasulka 2019): earlier eras postulated angels; we hypothesize aliens. Ultimately though, it may be that the phenomena these hypotheses wrestle with remain fundamentally extraordinary and beyond our current comprehension.

The Space Age

Although humans have long sought the secrets of flight—such as Leonardo Da Vinci’s (1452–1519) research into aerodynamic principles—these endeavors remained theoretical until 1849, when British engineer George Cayley built the world’s first genuinely successful human-carrying glider. The Wright Brothers made further strides, with the first controlled and successful flight of a motor-powered heavier-than-air plane on December 17, 1903. Aviation developed exponentially over subsequent decades, driven especially by military efforts in the World Wars. The “space age” then arguably began in earnest in 1947, with U.S. Air Force test pilot Chuck Yeager the first person to break the sound barrier (flying over 662 miles per hour at 45,000 ft). Soon enough there were incremental efforts to travel beyond Earth’s atmosphere, driven by the Cold War superpowers, culminating in cosmonaut Yuri Gagarin achieving the distinction of being the first human in space in April 1961, followed in July 1969 by the United States attaining the era-defining breakthrough of landing astronauts on the moon and moreover bringing them home safely.

Strikingly, as these developments were unfolding, a new era of encounter also took shape: the very same year Yeager broke the sound barrier saw the birth of the modern UFO phenomenon. This is often dated to

June 24, 1947, when pilot Kenneth Arnold saw what he famously called nine “saucer-like things... flying like geese in a diagonal chainlike line” at speeds exceeding 1,000 mph. near Mount Rainier in Washington State (cited in, Roos 2020). That said, arguments have been made for pushing the timeframe back to 1945, bolstered by the fact that the 2022 National Defense Authorization Act requires the department to review historical documents related to UAPs starting from this earlier year. Seemingly this is because a few weeks after the world’s first atomic bomb was detonated in July 1945 in an area of New Mexico desert known as the Trinity Site, an “avocado” shaped craft reportedly crashed into a communication tower at this very location (and indeed, there have since been numerous linkages made between UAP sightings and nuclear activity and installations) (Tumin 2023). Nevertheless, this earlier event notwithstanding, Arnold’s sighting in 1947 was the catalyst for the wider UFO “movement.” Within weeks, similar sightings of “flying saucers” were reported in 40 other states. Understandably, given the national security implications, the U.S. Air Force established a program in 1948 to investigate the sightings called Project SIGN (originally Project SAUCER) (Haines 1999). The initial report concluded these could generally be explained by three conventional causes: hysteria and hallucination; hoax; or misinterpretation of known objects. Nevertheless, it recommended military intelligence continue to control any such investigations, and did not rule out extraterrestrial explanations. However, amidst concerns about public anxiety regarding UFOs, in 1949 Project GRUDGE was launched to quell such fears, persuading the public that the sightings had mundane causes, from balloons to optical illusions. However, the project formally closed later that very year, in part because it was thought the very fact of official Air Force interest would encourage people to believe in UFOs and contribute to the “war hysteria” (already a concern, given Cold War tensions).

However, sightings continued, culminating in a “UFO mania” in the summer of 1952 (Roos 2020). Earlier that year, observations reported to the Air Force increased more than sixfold from 23 in March to 148 in June, possibly encouraged by an article in TIME (1952) with the front-page headline: “There is a Case for Interplanetary Saucers.” Then, late July saw a sequence of events in Washington D.C. so dramatic they generated headlines like “Saucers Swarm Over Capital.” Just before midnight on July 19, an air-traffic controller noticed seven slow-moving objects on his radar screen far from any known flight paths. At the same time, two more controllers saw a strange bright light hovering in the distance that suddenly accelerated away at incredible speed. Nearby at Andrews Air Force Base, radar operators were seeing the same unidentified blips, initially slow and clustered then veering away at speeds apparently exceeding 7,000 mph. Observing from the tower window, one saw an “orange ball of fire trailing a tail.” With operators initially joking about “flying saucers,” after the

objects buzzed the White House and Capitol, alarms were raised and two F-94 interceptor jets scrambled, but as they approached the locations on the radar screens, the mysterious blips disappeared. One week later, similar events occurred.

Given such events, together with escalating Cold War tensions, authorities stepped up their attention to the phenomenon. The Air Force established Project Blue Book in 1952 to investigate sightings, which ran until 1969. Similarly, the CIA formed a special study group to review the situation. However, simultaneously there were ongoing efforts to downplay the issue to the public. Regarding the Washington D.C. events, for example, before any in-depth investigation, the Air Force convened a press conference in which these were attributed to a mundane “temperature inversion” (when a layer of warm air forms in the low atmosphere, trapping cooler air beneath, with radar signals bouncing off this layer to errantly show near-ground objects as being in the sky). Similarly, although the CIA concluded that “since there is a remote possibility that they may be interplanetary aircraft, it is necessary to investigate each sighting,” it recommended it conceal its interest from the public and the media “in view of their probable alarmist tendencies” (Haines 1999). This obfuscation and denial set the tone for the next 70 years, with reports ever since of secretive programs run or funded by U.S. and other national authorities (Dolan 2002). These include for instance the Advanced Aerospace Weapons System Applications Program (AAWSAP) from 2008 to 2010—sometimes alternatively referred to, possibly inaccurately, as the Advanced Aerospace Threat Identification Program (AATIP), an acronym also used for separate investigations beyond 2012 run by the Pentagon—which purportedly received \$22 million from the Defense Intelligence Agency (Lacatski, Kelleher and Knapp 2021). However, these programs remained highly secretive, and until very recently the authorities denied any interest in UFO activity. This began to change in 2017 however, when we entered what could be called the UAP era.

The UAP Era

The past few years have seen a distinct change in tone regarding the phenomena in this article. This is even reflected in the terminology, when in place of UFOs—with all the speculative baggage this label has accrued—authorities began to refer to UAPs. This usually means Unidentified Aerial Phenomena (since not all such occurrences may be *objects per se*), but more recently has also/alternatively signified Unidentified *Anomalous* Phenomena (reflecting a realization that some UAP appear to have “transmedium” capabilities, including traveling underwater, and are not only aerial). A key year was 2017, when footage of three apparent encounters by U.S. military pilots was obtained and published online. Prior to that, sightings had

continued to accumulate; indeed, the Mutual UFO Network has reportedly documented over 200,000 since its founding in 1969 (Mellon 2022). However, these have not generally been taken seriously by authorities, from government and the military to academia and the media. Whether some have in private is another matter, given the alleged secretive programs noted above. At the very least, authorities have maintained lack of interest *publicly*, with UAP reports by the general public usually dismissed. In some cases, this means doubting the observation genuinely occurred at all, with explanations including hallucination, delusion, and fraud (Mohr and Pfeifer 2009). In other cases, the event per se may be granted, but the interpretation is disregarded as a misperception or misunderstanding; the phenomenon may be unidentified for that *observer*, but would not be for others with the requisite technology or knowledge, who could “debunk” it as merely a prosaic airborne event (Jacobs 1998). However, the videos released in 2017, and their associated reports, were harder to dismiss. For a start, these involved observers who excelled in occupations requiring great skill and training in visual perception—such as fighter pilots—meaning they are higher quality witnesses than the average observer. More importantly, their testimony is often triangulated with other evidence, including video and other information sources (e.g., radar).

Consequently, the topic began to garner wider public attention, exemplified by a 2019 Washington Post article: “UFOs exist and everyone needs to adjust to that fact” (Drezner 2019), subtitled “UFOs are not the same thing as extraterrestrial life. But we should start thinking about that possibility.” At that point, the government was still not commenting publicly, but in April 2020, the Department of Defense confirmed the footage was genuine, prompting a New York Times article in July 2020: “No Longer in Shadows, Pentagon’s U.F.O. Unit Will Make Some Findings Public” (Blumenthal and Kean 2020). The next month the United States established a UAP Task Force to investigate these incidents, and Congress passed the 2021 Intelligence Authorization Act, stipulating a preliminary assessment report be released in 2021. This focused on 144 incidents deemed especially notable, and strikingly, in 143 cases, determined we “lack sufficient information in our dataset to attribute incidents to specific explanations.” Moreover, an updated report in January 2023 identified a further 366 events, of which 177 similarly eluded conclusive identification, with the publicly available text noting the phenomena “demonstrated unusual flight characteristics or performance capabilities, and require further analysis.” Such comments do not mean these incidents were *positively* identified as extraterrestrial; as the 2021 report put it, there are “no clear indications that there is any non-terrestrial explanation.” But significantly, it could/did not rule *out* such explanations. Indeed, while much of these reports are still classified, comments from key figures indicate an extraterrestrial hypothesis is being taken seriously. John Ratcliffe,

for example, former Director of National Intelligence, said “we are talking about objects that have been seen by Navy or Air Force pilots, or have been picked up by satellite imagery, that frankly engage in actions that are difficult to explain, movements that are hard to replicate, that we don’t have the technology for” (cited in Lewis-Kraus 2021). Similarly, Barack Obama said, “There’s footage and records of objects in the skies that we don’t know exactly what they are. We can’t explain how they moved, their trajectory. They did not have an easily explainable pattern” (cited in Rennekampff 2021).

Subsequently, efforts have accelerated to investigate the topic, as has public openness among the authorities. In 2021, President Biden signed the National Defense Authorization Act, establishing a successor to the UAP Task Force: the Airborne Object Identification and Management Synchronization Group. As announced by the Department of Defense in November 2021, this would “synchronize efforts across the Department and the broader U.S. government to detect, identify and attribute objects of interests in Special Use Airspace (SUA), and to assess and mitigate any associated threats to safety of flight and national security.” The importance of this task was illustrated in a hearing in Congress on May 17, 2022, which began with André Carson, head of the hearing, stating: “Unidentified aerial phenomena are a potential national security threat, and they need to be treated that way. For too long the stigma associated with UAPs has gotten in the way of good intelligence analysis... Today, we know better. UAPs are unexplained, it’s true, but they are real. They need to be investigated and the many threats they pose need to be mitigated.” Fielding questions, Scott W. Bray (deputy director of U.S. Naval Intelligence) added, “I would simply say that there are... a small handful [of events] in which there are flight characteristics or signature management that we can’t explain with the data that we have.” Bray would not speculate, but noted they are “open to all hypotheses” and that “we’ll go wherever the data leads us.” This is a quintessentially modern approach to the phenomena in this article, capturing the spirit of genuine scientific enquiry. That said, one hypothesis *unlikely* to be on the table is angels, such beings having widely been dismissed as relics of earlier ages. Instead, the main speculation is one befitting the space age: the possibility of extraterrestrial civilizations.

Extraterrestrial Explanations

While Bray was reluctant to speculate on the nature of the UAP under investigation, one hypothesis being seriously considered by relevant parties is extraterrestrial agents. Former CIA director John Brennan, for example, said it was “presumptuous and arrogant for us to believe that there’s no other form of life anywhere in the entire universe,” adding cryptically, “I

think some of the phenomena we're going to be seeing continues to be unexplained and might, in fact, be some type of phenomenon that is the result of something that we don't yet understand and that could involve some type of activity that some might say constitutes a different form of life." Similarly, Bill Nelson, head of NASA, said "My personal opinion is that the universe is so big, and now, there are even theories that there might be other universes. If that's the case, who am I to say that planet Earth is the only location of a life form that is civilized and organized like ours?" (cited in Todd 2021). In that regard, such hypothesizing intersects with an emergent literature on the likelihood and nature of such possibilities, which has focused on three interrelated questions, namely the probability of: (a) extraterrestrial life; (b) intelligent extraterrestrial life; and (c) intelligent extraterrestrial life engaging with Earth. Crucially, while these are regarded as decreasingly probable by orders of magnitude, all are still within the realms of possibility as currently envisaged and understood.

Indeed, there is growing recognition of (a) being not only likely but almost certain, given the infinite scale of the universe. An analysis of potentially habitable planets using data from the Kepler Space Telescope estimated 300 million such planets in our galaxy alone (Bryson, Kunimoto and Kopparrapu 2020), while Kunimoto and Matthews (2020) put this figure as potentially high as *6 billion*. Considering that NASA estimates that the observable universe contains at least *2 trillion* galaxies, the chance of Earth being the only planet to have hosted abiogenesis (emergence of organic life) is vanishingly small. However, the possibility of *intelligent* life is another question entirely. Snyder-Beattie, Sandberg and Drexler (2021) suggest that on Earth it required a "series of evolutionary transitions"—including abiogenesis, eukaryogenesis, sexual reproduction, multicellularity, and intelligence itself—which may be "extraordinarily improbable, even in conducive environments" (p. 265). That said, they conclude intelligent life elsewhere is "rare"—not nonexistent—which is still a momentous judgment. Given the cosmological statistics though, this is reasonable. Although estimates vary wildly, depending on the assumptions of the researchers, the scientific consensus appears to have shifted to acknowledging it *does* exist, indeed probably in our own galaxy; Westby and Conselice (2020) for example estimated the number of "Communicating Extra-Terrestrial Intelligent" civilizations in the Milky Way according to various assumptions, and even under the strictest criteria suggest there may be dozens.

However, the possibility of such life actually engaging with Earth—hence potentially being responsible for some UAP—is far more unlikely, mainly given the vast distances involved. Yet scientists *do* suggest it is still feasible. Consider that our nearest stars, Alpha Centauri A and B, are 4.35 light years away. Our current fastest means of travel is Gravity Assist: using another planet as a gravitational "slingshot" (the method by which the

Voyager 1 probe used Saturn and Jupiter to attain its current velocity of 60,000 km/h). At this rate, it would take 76,000 years (over 2,500 generations) to reach these stars (Williams 2016). While this is obviously far too long for biological organisms as we currently understand them, it would technically be within reach were it possible to somehow sustain hibernation or procreation aboard the vessel, and would most certainly be feasible if any such craft were not piloted by biological entities but instead by AI systems (which indeed many observers speculate is the most likely scenario if some UAPs really did hail from extraterrestrial civilizations). Furthermore, work is already underway on far faster methods, like laser sails (massive ultrathin mirrors driven by focused energy beams), with Project Starshot planning to send a small sensory package to Alpha Centauri at 1/5 the speed of light, meaning it may arrive within 30 years (Parkin 2018). Moreover, even if such technologies are beyond our capacity, one cannot assume they would be beyond *other* intelligent beings, especially those more advanced. So, an extraterrestrial explanation is plausible, and indeed is precisely the hypothesis one might expect in our space age. However, it is not the only conjecture on the table; so strange are some UAP-related phenomena that engaged scientists have begun opening to ideas taking us *back into* divine territory, yet with a distinctly modern scientific gloss.

Ultraterrestrial Explanations

As modern science engages with the UAP issue, most thinking involves two main classes of explanation: a conventional terrestrial origin, or an extraterrestrial origin. However, there is a third minority class of hypothesis: an *unconventional terrestrial* origin. This is sometimes called the ultraterrestrial or interdimensional hypothesis. Although these are not exactly identical theories—since an entity could potentially be ultraterrestrial without being interdimensional, and vice versa—they both invoke the highly speculative notion that UAP may reflect activities of nonhuman intelligences which relate to observable spacetime differently than we do, whether by entering it from other dimensions, or (if this is in fact a different thesis) from a “spiritual” realm. Hence *ultra*-terrestrial: such beings may already be present in Earth’s environment in some sense, just not in ways we can conventionally understand. Among the earliest modern proponents of this idea was ufologist Meade Layne (1950), who suggested UAPs were piloted by beings from a parallel dimension he called Etheria, whose “ether ships” were usually invisible but could be seen when their atomic motion became slow enough. The notion was developed further by Vallée (1969, 2008) and Keel (1970, 1976), the latter coining “ultraterrestrials” to describe such beings, describing them as entities potentially “composed of energy, inhabiting a spectrum (wavelength) of energy which we can neither observe or even

presently detect.” Or as Vallée (2008) expressed it, “I believe the UFO phenomenon *represents evidence for other dimensions beyond spacetime*; the UFOs may not come from ordinary space, but from a multiverse which is all around us, and of which we have stubbornly refused to consider the disturbing reality in spite of the evidence available to us for centuries” (p. 325, italics in original).

While such possibilities may sound far-fetched to modern ears, many UAP scholars allude to such possibilities, even if they do not use “ultraterrestrial” per se. This openness was exemplified by Senator Harry Reid—a driving force behind efforts toward greater openness toward the UAP topic among U.S. authorities—in a forward to a book by Lacatski, Kelleher and Knapp (2021) recounting the AAWSAP initiative mentioned above: “The UAP taskforce report proves what I have been saying all along: this is a matter of science, national security, and technological advancement. From whatever hypothesis you begin with – UAPs being technological leaps from foreign adversaries, natural occurrences distorting visual perception, *visitations from other dimensions*, or technology from otherworldly sources – the key point is we need to engage the best minds in science to explore the data we know exists” (loc. 184; our italics). As the portion in italics shows, serious scientists and observers are truly contemplating the possibility that UAP may involve beings materializing from another “dimension” in some way. This openness seems related principally to the sheer “high strangeness” of some UAP activity itself (Vallée and Davis 2005), which is often labeled as “paranormal” (i.e., outside or beyond what is usually considered normal).

The starting point for such explanations is authorities essentially struggling to make sense of the observed phenomenon within conventional frames of reference. Consider pilot Chad Underwood, who filmed one of the UAP videos that brought the topic to widespread attention in 2017: “It was just behaving in ways that aren’t physically normal. That’s what caught my eye. Because, aircraft, whether they’re manned or unmanned, still have to obey the laws of physics... It was going from like 50,000 feet to, you know, a hundred feet in like seconds, which is not possible” (cited in Mellon 2022). Consequently, people are beginning to question whether UAP are necessarily *physical* craft at all, as we would understand these terms. With the extraterrestrial hypothesis, thinking often remains tethered to conventional understanding of physics and technology (i.e., physical objects moving through spacetime), except one imagines these civilizations as exponentially farther advanced. However, one finds scientists wondering whether that frame is adequate, even if they also recognize that abandoning it sounds outlandish. For instance, Garry Nolan, renowned immunologist at Stanford, has for the past decade been involved in research connected to UAP. In a recent interview (7Spotlight, 2022), Ross Coulthart asked, “You believe, on the evidence, that there

is a non-human intelligence, of advanced technology, on this planet?” Nolan replied: “Advanced capabilities. No, I don’t know whether it’s a technology per se, because I’m leaving open the idea that it’s some form of consciousness that is non-material. And I know, say to my colleagues out there, this sounds absolutely crazy. But if you’ve seen the things that I’ve seen, you would only be able to come to a similar conclusion.”

Such suggestions—invoking ideas like nonmaterial forms of consciousness—are not uncommon among UAP researchers, where one can encounter a blurry line between “classical” UAP reports (e.g., objects in the sky) and other anomalous phenomena broadly interpreted as paranormal. This fuzziness was cited by Keel (1970) as the reason he “abandoned the extraterrestrial hypothesis in 1967 when my own field investigations disclosed an astonishing overlap between psychic phenomena and UFOs... The objects and apparitions do not necessarily originate on another planet and may not even exist as permanent constructions of matter.” The question of paranormal phenomena and their scientific investigation is a complex topic in its own right, so we shall limit ourselves to discussion of such phenomena in relation to UAP specifically. In that respect though, recent decades have seen considerable scientific attention to this intersection, some involving the government-funded projects noted above. A prominent publicly reported example is AAWSAP, which involved a company formed by Robert Bigelow (Bigelow Aerospace Advanced Space Studies) run by James Lacatski (a DIA intelligence officer). The program was based at a 500-acre property in Utah owned at that point by Bigelow called “Skinwalker Ranch”—a name derived from a Navajo legend concerning vengeful shamans—with a long history of apparent paranormal activity, as reported in a *New York Times* article on the project, *Glowing Auras and ‘Black Money’: The Pentagon’s Mysterious U.F.O. Program* (Cooper, Blumenthal and Kean 2017). Hence also the title of the book by Lacatski, Kelleher and Knapp (2021) detailing the program, entitled “Skinwalkers at the Pentagon,” which notably was cleared for publication by the Pentagon.

While the UAP Task Force focused narrowly on UAP flight behavior, AAWSAP was intended to have “as broad a scope as possible” (Lacatski, Kelleher and Knapp 2021, loc. 239). In addition to “scrutinizing the core UAP technology itself” (i.e., the nature and actions of the UAP themselves), equal weight was placed on researching “paranormal phenomena that co-locate with UAPs and to examine psychic effects in UAP witnesses.” Hence the significance of Skinwalker Ranch, upon which Lacatski et al. report various “extraordinary phenomena have been witnessed by scores of independent visitors to the ranch almost continuously between 1994 and 2021,” including “flying orbs of varying colours, otherworldly creatures, discarnate voices, poltergeist, electromagnetic anomalies, and orange ‘portals’” (loc. 298). For instance, Lacatski himself experienced an

unusual phenomenon on the ranch: “Abruptly, Lacatski was transfixed by something... an unearthly technological device had suddenly and silently appeared out of nowhere in the adjacent kitchen. It looked to be a complex semi-opaque, yellowish, tubular structure. Lacatski said nothing, but stared at the object. He looked away, looked back, and there it still was. It remained visible to Lacatski for no more than 30 seconds before vanishing on the spot” (loc. 828). The book contains many examples of such experiences that might be called “paranormal.” A key point here though is not the paranormal activity per se, but that such events are intertwined with phenomena classed as UAPs. The even more significant point is that such phenomena appear to re-open the door to explanations associated with the earlier theological age, namely entities or beings from other “dimensions,” perhaps—as captured in accounts like Bledsoe’s (2023) UFO of God—bringing us full circle.

CONCLUSION

Throughout history, people have observed celestial events that appeared extraordinary and anomalous. Historically, humans have tended to interpret these through a divine mythological lens as encounters with a spiritual being, and often angels specifically. In the modern era, the scientific mindset of the space age has led instead to concern with extraterrestrial agents in the form of aliens. However, the sheer strangeness of some UAP-related activity has also meant people are turning once again to notions of beings in other ontological realms, bringing us back to conceptual territory associated with earlier ages. The mythology itself may have changed: in place of more traditional theological notions like angels, we find newer ideas such as ultraterrestrials and the interdimensional hypothesis. However, these may be the way we moderns are liable to interpret the celestial unknown that continues to baffle us. Indeed, while interpretations of such events have changed over the centuries, one constant is that witnesses have always been fundamentally *mystified* by these encounters, struggling to make sense of them with the beliefs available (Lepselter 2016). There are even speculations that “the phenomena” may be actively shaping the interpretations generated, possibly taking on specific forms or communicating with experiencers/observers in particular ways to achieve some desired effect. Whatever the nature of the encounter though, explanations generated invariably fail to exhaust or even begin to capture the mystery and profundity of the experience. Ultimately, all human accounts may be attempts to render comprehensible what thus far remains incomprehensible, but which nevertheless may be among the most significant aspects of human existence, with the potential to revolutionize our understanding and experience of being itself.

NOTE

1. In what follows, translations from this text are our own, while quotes attributed to Vallée's text are taken directly in English from his text (e-book edition).

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