

Jack-o'-lanterns, will-o'-the-wisps, and *ignis fatuus*: Making sense of ghost lights

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For several hundred years, ghost lights have been a common part of our phantasmagorical folk history and stories, appearing in various mundane and spectral forms to mischievously lead unfortunate souls towards their mortal ends. Curiously though, and over the last century, ghost light sightings have practically disappeared throughout Europe and North America, leading many to question, where did all the ghost lights go? While urbanisation has altered many (super)natural habitats, and left them uninhabitable to ghost lights, the term ghost light is itself profoundly misleading, as it is far from a singular (other)worldly entity, and instead represents a variety of magical creatures and secular-material phenomena, including will-o'-the-wisps, jack-o'-lanterns, foxfires, and *ignis fatuus* etc. Yet, while ghost lights may have been ontologically extirpated from the West, they seem to be thriving in other global regions, while increasingly pervading popular culture via Halloween rituals and common metaphors.

Key Words: Ghost light, Will-o'-the-wisp, *ignis fatuus*, marsh gas, secular-material, hallucination.

The world is full of terrifying tall tales, whether real or imagined, often warning weary travellers to be careful while traversing nocturnal, gloomy and unholy environments, lest they meet their unfortunate ends. While no doubt wise words well followed, there are serious philosophical questions that must be asked about whether such strange stories are the veridical accounts of peculiar phantasmagorical pests, or the mental musings of fabulist minds misconstruing risky mundane matter as malevolent spectral phenomena. One group of entities that continues to attract intense attention is the ghost light, which refers to malicious nocturnal luminary phenomena (Trevelyan, 2010), believed to actively lure individuals into suffering or their demise (Briggs, 1976). Rather curiously, ghost lights are a pantheon of (im)material entities with different sizes, features, capabilities, and personalities, albeit with a seeming preference for perpetuating mischief and suffering. As Zalasiewicz, (2007, p. 20) commented, this 'fleeting apparition...has gathered more names than many a more solid creature' (Zalasiewicz, 2007, p. 20), with some of the most popular being will-o'-the-wisp, *ignis fatuus*, jack-o'-lantern, peggy with a lantern, orbs, friar's lantern, jenny lantern, spunkie, foxfire, hinkypunk and hobby lantern, amongst others (Allies, 1846; Woolford, 2006). Even our Halloween celebrations using carved jack-o'-lanterns draw on several otherworldly folk tales about ghost lights (DeWire, 2013).

While ghost light stories have been told since at least 1340 (Sikes, 1879), it is difficult to find an area within our musical, theatrical, and literary culture that has not been haunted by these curious entities. Some of the most noteworthy mentions come from Milton (1667), Shakespeare (1597), Tolkien (1995), the BBC (Spargo, 1981), Pixar (Lasseter, 2006; Andrews & Chapman, 2012), and the Pet Shop Boys (2020), etc. As ghost lights progressively pervade modern media, we are continually invited to digitally engage with these spectral forms in movies, computer games, social media and literature (Astle, 1999; Burge, 1998). Yet, in an increasingly technoscientific age (Partridge, 2005), it is easy to sceptically relegate all such spectral sightings to misguided sensory perception, and/or the erroneous notions of a pre-scientific mind steeped in superstition rather than secular-materialism. Problematically though, should we epistemologically extirpate ghost lights in this way, we might do a profound disservice to over several hundred years of relatively common eyewitness sightings of ghost lights.

Although much ink has been spilt over the nature of ghost lights, and whether they are better positioned as mundane or supernatural phenomena, it must be said that Western ghost light sightings have all but disappeared over the past hundred years (Zalasiewicz, 2007). This is particularly strange when we consider the wide variety of natural and spectral phenomena listed as ghost lights. Consequently, we are left ruminating on a particularly thorny question, i.e., where did all the ghost lights go? By asking this troublesome question, it is of course necessary to walk over well-trodden spoilt ground, and in so doing, overview a hotch-potch of past and present beliefs. While also being mindful that the world has been very different at times, especially in relation to how we lived, illuminated the night, travelled, and just as importantly, regulated our environment.

To help us start to understand the ontological nature of ghost lights, the following section examines ‘a supernatural perspective’ drawing out several salient otherworldly depictions, emphasising that ghost lights might be better categorised as a disparate group of semi-connected entities rather than a single spectral form. Following this we will temporarily reject the supernatural and turn our attention to ‘embracing the mundane’ to consider ghost lights as nothing more than poorly understood everyday secular matter. After this, we will turn our gaze to the future and speculate on: ‘what next for ghost light scholarship?’ Finally, the ‘discussion and conclusions’ will be presented, highlighting contributions to the literature, and areas for further research.

A Supernatural Perspective

For those willing to embrace the supernatural, the cosmos is a rich otherworldly affair, replete with devils, demons, and everything in between. Of course, what is meant by supernatural often varies in line with different ethnometaphysical cultural perspectives, but for simplicity is: 'of or relating to an order of existence beyond the visible observable universe *especially*: of or relating to God or a god, demigod, spirit, or devil' or 'departing from what is usual or normal especially so as to appear to transcend the laws of nature' (Merriam-Webster, 2024). More simply, and from a common-sense perspective, supernatural usually means ghouls and ghosts, neither measurable nor explainable by the natural sciences. More broadly, although it is frequently argued that the natural sciences are secularising the world and have thus reduced otherworldly phenomena to phantasmagorical stories (Pasulka & Kripal, 2014), we should remember that many still hold that the supernatural is real, and just as importantly, that it can explain experiences outside of our perceptual understanding (Halman, 2010). Having said this, while the supernatural is usually framed as immaterial, many still believe that we can see all types of eerie oddities from beyond the grave.

If we wish to understand ghost lights as an otherworldly phenomenon, we must consider how these ephemeral entities have been described by eyewitness accounts over the past centuries, even if we might doubt their veracity at times. Taking this approach, we can start to draw out how ghost lights look, how they behave, and just as importantly, what we can discern about their personalities. Looking explicitly at their common perceptible characteristics, they tend to be described as 'blue or bluish-yellow' orbs, typically floating near the ground, being cold in appearance, and either standing 'still for minutes at a time' or moving 'from place to place' (Zalasiewicz, 2007, p. 21). While there can be variation in colour, size, and behaviour, nearly all ghost lights are depicted as malevolent, either seeking to extinguish life, or teasing and tormenting (Blakeborough, 1898). Ontologically, though, we must reflect on whether a ghost light is just that, i.e., a luminous immaterial ghost? (Briggs, 1976). In other words, as Gritzner (2019, p. 11) asked: 'Are all unexplained luminous features ghost lights?' Problematically, if the only requirements are to be 'unexplained' and 'luminous' then any phenomena matching these loose criteria should be considered ghost lights. However, we very much doubt that this can be considered correct, as a myopic individual watching any of us rambling through an eerie evening with our illuminated phones would likely conclude that we are some sort of ghastly ghost.

Turning our attention to some of the more common types of ghost lights, we come to corpse candles, which appear to show no consciousness, and while they do not

interact directly with humans, typically indicate impending doom by appearing around households where death is imminent (Croker, 1882). Although a corpse candle is certainly luminary, and usually yellow in colour, thus showing some perceptual similarity with ghost lights, at worst they give a warning about the future, and are probably best considered morally neutral. For the sceptical amongst us, it is interesting to note that corpse candles were often seen carried in shrouded hands, leading us to speculate on whether their bearers were just those engaged in ritualistic practices associated with infirmity, death and disease, and thus sit outside of a supernatural ontology in entirety (Walhouse, 1984).

Reflecting on more immoral forms of ghost lights, we come to spunkies which are believed to be 'the souls of unbaptized children, doomed to wander until Judgement Day' (Palmer, 1972, p. 244). In this case, we see a clear religious process by which ghost lights come into being, i.e., the failure to baptise youngsters breaching the eschatological mandate to protect children from an eternity of suffering. As is often the case with otherworldly histories, rituals and stories often bleed into each other, mixing once distinct elements, into common tales. We see this with the term 'spunkies,' which have multiple characteristics and stories, ranging from being 'the souls of unbaptized children', to ephemeral jack-o'-lanterns, i.e., will-o'-the-wisps luring unfortunate mortals into marshlands, alongside being drawn on in modern rituals to ward off evil and celebrate Halloween. With regards to will-o'-the-wisps, which may or may not be spunkies, they tend to be considered the spirits of wicked men who angered both God and the Devil and must spend eternity drifting across sullied watery parts of the Earth, outside of Heaven and Hell (Kittredge, 1900). To add another supernatural storied layer to ghost lights, we also see jack-o'-lanterns being linked to Stingy Jack, a man who spent his life committed to sinful mischief, and attempting to avoid perpetuity in the Inferno, tricked the Devil, and was thus left wandering the Earth with only a lit turnip to accompany him (Hercules, 1851).

Critically, though, not all ghost lights are believed to have a human origin, as suggestions have been made that ghost lights arise from the Devil, who shape shifts to ensnare souls (Allies, 1846). In an even more surprising non-human ghost light claim, Sikes (1879, p. 20) described a ghost light from the USA, saying:

[It is] a hideous creature five feet in height, with goggle-eyes and huge mouth, its body covered with long hair, and which goes leaping and bounding through the air like a gigantic grasshopper. This frightful apparition is stronger than any man, and swifter than any horse, and compels its victims to follow it into the swamp, where it leaves them to die.

As we can see, this latter monstrosity has little in common with more common variations of ghost lights, as it differs in characteristic to replace immaterial trickery with brute force. Within itself, it is difficult to see how this 'hideous creature' might be considered a ghost light, other than by inhabiting swamps and harming humans.

Finally, if we position ghost lights as supernatural entities, we should note, that like their biological counterparts, they inhabit specific habitats, which in the case of this ethereal latter are known as mythobiocenes (Beconytė, Eismontaitė, & Žemaitienė, 2014). These mundane environments appear to suit specific phantasmagorical characteristics and personalities, which in the case of ghost lights has them inhabiting contaminated marshy ground, where there is an abundance of still water and decaying matter (Zalasiewicz, 2007). Curiously, though, there is little to suggest that ghost lights have ever been found within fast moving, clean, modern, or industrialised watery areas in the West (Briggs, 1976). When we consider that much of the UK has improved its water quality and decreased the amount of marsh land over the past century, perhaps we should not be surprised that the number of ghost light sightings has rapidly decreased. If for no other reason than we have inadvertently made these spectral habitats uninhabitable for ghost lights.

Moving away from supernatural explanations of ghost lights, the following section explores more mundane reasoning, and the current tendency to embrace a hardened physicalist perspective of the world where all that matters is secular-materialist matter.

Embracing the Mundane

Although the religiously inclined still invite us to imagine ourselves within a supernatural cosmos, the natural sciences continue to undermine otherworldly thinking by providing physicalist accounts of phantasmagorical phenomena. Before going any further, it is worth giving some explanation about what is meant by physicalism, and how the natural sciences might conceptualise a physical cosmos. Simply, the physicalist perspective is that 'everything is physical' and nothing is supernatural (Hellman & Thompson, 1975, p. 552), as Preyer and Siebelt (2001, p. 1) argued:

...the thesis that to be true in our world is to be couchable in principle by physical means. Furthermore, by means of explanatory adequacy it also implies that truths so couched are explanatory adequate as well. If all truths pertaining to our world are ultimately physical truths, physical science should be able to give us an inventory of the basic constituents of our world...Physical science would have to provide an inventory of perfectly natural properties and relations by which we can

characterize differences and similarities of all matters of fact as we find them in our world.

Within this totalising cosmological view, physicality accounts for all that there is, including sub-atomic particles, cats, dogs, planets, galaxies, and everything else measurable or more hypothetical (Yolton, 1983). Critically though, this reductive secular-materialist stance (Mills, 2000), allows no space for any supernatural creature or force whatsoever. The aim of science is thus to relegate the supernatural to a bygone time (Saad, 2018), either through depicting eyewitness testimony as fantasies of mind, or nothing more than the simple perceptual misunderstandings of everyday physical processes. As might be expected however, with ghost light sightings having existed for at least several hundred years, dismissing the supernatural element of ghost lightings is not uncontentious, as the challenge for the natural scientist is to adequately provide robust physicalist accounts (Ramsbotham, 1981).

As a starting point, if we take the position that ghost lights are not in any way supernatural, the question quickly becomes, but what are ghost lights then? Unsurprisingly, and reflecting on the previous section, how we answer this question turns on what type of ghost light we are discussing. Just as importantly, whether we can reasonably link known physical phenomenon to historic accounts of ghost light sightings. When we work our way through numerous historic witness testimonies, we see that ghost lights appear in secluded rural environments near bodies of water replete with decaying matter (Briggs, 1976). Also, that ghost lights display a blue-yellow light that lasts between seconds and an hour, and that movement can be several hundred feet horizontally, while staying several feet above the ground (Allies, 1846). Drawing on these descriptions and locations, physicalist explanations have focussed on ghost lights being ball lightning, St Elmo's fire, glow-worms, marsh gas, fireflies, bacteria, and owls (foxfires) (Chambers, 1980; Silcock, 1997). As might be expected, any attempt to provide a natural explanation necessitates testable experiments capable of detailing how a ghost light is a physicalist process at work (Edwards, 2014).

When we consider the rapid advancements in the natural sciences over the past few hundred years, we should not be surprised that our general understanding of the natural world has also increased. In turn, this has led to the pervasive belief that ghost lights are likely to be *ignis fatuus* and thus arise from the spontaneous combustion of decaying organic matter within swamps and marshes (Parker, 1972). Interestingly, this explanation has a relatively long history dating back to the sixteenth century (Ludwig, 1596). While such gases can indeed burn with a blue-yellow flame, therefore matching the general look of a ghost light, this theorisation is troublesome, as these natural floating

flames should disappear almost instantly, and not float horizontally for minutes, and certainly not up to an hour (Owens, 1891). Having said this, we should show extreme caution in dismissing swamp gasses entirely as a naturalised candidate for ghost lights, as the chemical foundation certainly has merit related to the environment, albeit with more testing still required. When reflecting on the mismatched elements, we do wonder whether tall tales, hallucinations, alcohol consumption, and general desires for perceptive experiences of the supernatural led to some eyewitnesses (un)intentionally embellishing the lifespan and movement of ghost lights.

Turning our attention to whether these otherworldly sightings might have been a consequence of aberrant perception, it seems curious that this issue has received so little attention, particularly when we consider that otherworldly experiences can commonly result from excessive imagination, hallucinations, and visions (Gadit, 2011). For example, should you rub your eyes, it is likely that you will temporarily 'see' bright orbs (phosphenes) (Hartland, Greg & Major, 1902), which might lead you to believe you are seeing ghost lights. Unfortunately, while we find it easy to believe that anyone may fantasise, tell tall tales, or rub their eyes, there is simply no reason for so many individuals to narrate highly similar accounts of ghost light sightings. Also, should we argue that ghost light sightings were likely due to hallucinations and visions, is it not peculiar that these stories were almost always in the same environments and of the same visual nature? Arguably, they should not have been. This is not to say that we are discounting phosphenes, hallucinations, or the use of drugs etc, but more that these explanations seem to be relatively weak for accounting for the totality of ghost light sightings.

Looking at other naturalised explanations for ghost lights, it has been suggested that bioluminescent microorganisms, fungi, and fireflies might be interesting candidates due to their ability to emanate light at night (Ramesh & Meyer-Rochow, 2021). It is hardly a stretch of the imagination to imagine insects emitting light near a swamp, and unintentionally confusing wayward wanderers, who erroneously retell such encounters as a run-in with the supernatural. Following this same line of reasoning, that winged creatures such as owls had brushed against some bioluminescent microbes and had again unintentionally misled those nearby. It must be said that while bioluminescence can produce the blue-yellow colours commonly seen with ghost lights, that there is little to suggest that any of what has so far been described is in anyway a common occurrence to water sources, polluted or otherwise. Furthermore, we would have to wonder why such bioluminescent activity was linked to sullied waters, suddenly stopped, and why erroneous ghost light sightings were not reported in other locations where these insects and creatures tended to more commonly inhabit.

Although ghost light sightings were prolific until the nineteenth century, current sightings are few and far between, with it seeming that ghost lights have been ontologically extirpated from areas such as the UK, as DeWire (2013, p. 36) argued:

What possibly was commonplace in the days of yore is uncommon today... Urbanization and artificial light intrudes on the night, and we spend less time in total darkness. So, too, the marshes and fens of old mostly have been drained, for health and agricultural reasons, eliminating much of the sodden muck that breeds wisps [ghost lights]...The chance encounter with fun phantom lights is rare these days.

Consequently, even though there is ongoing interest in scientifically analysing ghost lights, it seems fair to say that scientists have been left without a subject matter to study (Mills, 1980, 2000; Talman, 1932; Zalasiewicz, 2007). This is profoundly unfortunate, as with rapid advancements in portable scientific equipment, much could be learnt by 'capturing' a ghost light, should it have a physical status that would allow such measurements. It is worth saying, however, that we do not believe that all ghost lights could be examined scientifically. For example, the 'goggle eye[d]... gigantic grasshopper' described by Sikes (1879, p. 20) is either a real physical creature, and thus measurable, or is otherwise a fiction of mind, or ethereal entity existing beyond of scientific measurement. As a final point, if physical explanations can be provided for ghost lights, it will fundamentally overhaul how we view ghost lights as immoral entities. This is not to suggest that people have not faced calamity interacting with natural phenomena erroneously positioned as ghost lights, but rather that this would be better considered misfortune rather than conscious malevolence.

Drawing this section to a close, we will now look at how ghost lights still pervade our cultures and are continually reimagined to meet shifting socio-cultural needs.

What Next for Ghost Light Scholarship?

Throughout the previous sections we saw that irrespective of whether ghost lights are natural or supernatural, that they are best considered part of our industrialised Western history rather than present. Or to put it another way, that while ghost lights have disappeared from our natural landscapes, that they have been transformed through popular modern culture, and in this reimagining, no longer pose any meaningful threat near sullied waters or anywhere else. Reminding ourselves that we are story telling apes (Fisher, 1984), committed to swimming the depths of materialism and magic, perhaps we

should not be surprised that we have created new ghost light stories greatly varying in how much they resemble more historic eyewitness accounts of malevolent otherworldly entities. As we will come to see in this section, this is most noticeable with regards to modern ghost light iterations typically being secular in nature, usually expunged of evil, and if anything, satisfying our desire for linguistic nuance and fabular ritualised play.

Looking first at the relatively minor adoption of ghost light terminology within our common cultural lexicon, it is worth noting the thoughts of Zalasiewicz (2007, p. 21) who said: 'Today, as the will-o'-the-wisp [ghost light], it has evolved into metaphor, sometimes even into adjective, and so its ghost lives on.' We thus see ghost light terminology via will-o'-the-wisps transitioning away from a malicious menace into multiple linguistic tools, and in so doing, embodying their elusive, older otherworldly counterparts, being difficult to catch and remaining just out of reach (Buchan, 2013; Gerrard & Kemp, 1993; O'Brien, 2006). Importantly, this linguistic reinterpretation sidesteps much of the historic ghost light immorality altogether, and if anything, suggests that ghost light terminology is almost morally neutral.

When we consider the number of spectral entities captured within the term ghost light, it seems that modern Halloween depictions generally catalyse ongoing safe secular socio-cultural innovations and creativity. While Halloween clearly has a long dendritic and evolving otherworldly history, the present iteration is that of a heavily secularised, and generally family-orientated collection of playful rituals, where diabolical actors may be comically performed, but rarely invoked. Of course, this is not to suggest that we all share a similar view of Halloween, as there are still those embracing the supernatural elements of this event, but more that literal beliefs in the supernatural are no longer a requirement. Without meaning to go over too much well-trodden ground, it must be said that while there seems to be an ever-growing variety of costumes, games, and rituals, that for ghost lights, such aspects tend to be limited to jack-o'-lanterns, which are either based on will-o'-the-wisps or Stingy Jack. Overlooking how jack-o'-lanterns are used in Halloween festivities, we increasingly see pumpkin toys, sweets, clothes, decorations, and costumes routinely being sold to adults, children, and pets. Thus, far from warding off evil entities, or being malevolent supernatural creatures, these newly imagined jack-o'-lanterns are sources of celebration, joy, and socio-cultural memory-making. Broadly speaking, looking at the trajectory of ritualised consumerism, it is difficult to see this secularisation process stopping any time soon, and not encapsulating an ever-greater number of products including Halloween movies, literature and video games. As a small side point, even though digital entertainment is rarely seen as a veridical account of the supernatural, it is worth saying that movies, video games, and even books are also an ongoing source of

Halloween terror, inviting us all to re-embrace the darker side of years gone by, even if for fleeting frightful fantasies.

Although we have spent much of this paper discussing the disappearance of ghost lights from across Europe and North America, there is some evidence to suggest that ghost lights were not lost from across the globe. Before going any further, we must say that while we are deeply cautious about claiming any water-based spectral light must be a ghost light, we should not be too quick to dismiss potential modern-day ghost sightings in similar mythobiocenes. Such sightings include, for example, Naga fireballs, which are also known as Mekong lights and Phaya Nak lights. Interestingly, Naga fireballs are hardly reticent about showing themselves, as thousands arise from the Mekong River on specific nights of the year, visible for all to see (Biggs, 2011). Curiously though, and unlike their Western ghost light counterparts, which tend to be blueish yellow, Naga fireballs are orange, with supernatural explanations commonly suggesting that they are produced by Naga the semi-divine half snake half human. Critically, though, there is nothing to suggest that Naga fireballs in anyway try to harm humans, and if anything, simply provide a spectacular visual feast during the nighttime. Unsurprisingly, countless natural explanations have also been provided, ranging from machine gun fire to flares, and even the more usual ghost light culprit of flammable swamp gas. It could be argued that while we have lost our ghost lights in the West, that the regular presence of any type of ghost light should be viewed as an exciting opportunity to directly explore the supernatural and scientific basis of these phenomena, and perhaps, even catch a ghost light. As a final comment, we would like to suggest that exploring these alternative ghost lights might have much to offer how we understand our historic eyewitness accounts and may even shed some light on our lost ghost lights in the West.

Discussion and Conclusions

Although ghost lights have been a malevolent curio for several hundred years, it seems fair to say that there is still much to theorise about these (super)natural entities. Simply speaking, we are still very much at sea about whether to position ghost lights as nothing more than mundane physicalist phenomena, or alternatively, if it is better to reject secular-materialism and embrace a world full of immoral spectres committed to harming us all. While we live in an age of technoscientific ‘miracles’ and have increased methodological opportunities to explore the world around us, it is unfortunate that Europe and North America has lost nearly all their ghost lights. As such, it seems that we will be unable to answer key questions about the ontological status of ghost lights, how they exist in the

world, and just as importantly, whether they are (im)moral entities, at least in the West (Edwards, 2014).

Not surprisingly, the extirpation of ghost lights from the West has raised the question: where did all the ghost lights go? How we answer this question ultimately rests on whether we consider ghost lights to be natural or supernatural phenomena. On the one hand, we may conclude that ghost lights were always natural phenomena, and that their disappearance was due to our cleaning the water ways and improving artificial lighting during the night etc. In other words, that by implementing environmental protection measures within our industrialised nations, that we have reduced the conditions conducive to generating naturalised ghost lights. Alternatively, we might argue that by changing the natural conditions of our water ways, that we unintentionally altered the mythobiocenes of supernatural ghost lights, and by destroying their traditional habitats, resulted in ghost lights retreating from the modern world into the fairy lands themselves (Briggs, 1967; Walhouse, 1984).

Finally, with few to no ghost light sightings in the West, there is only increasing scepticism that earlier accounts should be disregarded as misunderstood natural phenomena, erroneous perception, or the result of an overactive imagination. There is however the possibility of turning our attention to ghost light sightings across the globe, such as the Mekong lights in Thailand. Although we cannot be certain that these perceptual phenomena are truly ghost lights akin to what we historically found in the West, studying global variants may have much to offer in how theorise ghost lights in general. This is particularly the case when we consider that even UK-based ghost light sightings suggested profound variations in perceptible characteristics and personalities. Also, that it raised the troublesome question, about whether the term ghost light is a reasonable or particularly useful 'catch all' term for these (super)natural phenomena? Again, with no available ghost light subject matter in the West, it seems unlikely that this question will be answered anytime soon.

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