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## Equivocal encounters: alien visitation claims as a societal problem

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### Abstract

The contention of this paper is that alien visitation claims are a societal problem when they (a) move into the mainstream of discourse to the extent that government policy has to respond to them; (b) when they generate background noise which impedes science communication; and (c) when they become entangled with indigenous origin narratives, making it hard to recover the latter. Where this is the case, periodic debunking looks like a failed paradigm. Something closer to a scientific research program (SRP) might be called for, at some point. This is an idea which has already been advanced by Avi Loeb and Martin Elvis (albeit in significantly different ways and for different reasons). It is not clear that we are already at the stage where an SRP is required, but such a requirement does seem to be on the near horizon.) The paper concludes by setting out a number of framing requirements for any such SRP.

## 1 Background noise

As a commonplace observation, the world could have been very different. It is possible to imagine a world identical to our own until around 1950 but which then diverged. In this alternative world, a small number of artefacts have since been discovered, giving plausible indications of the advanced engineering required for spaceflight. While not definitive, the artefacts are not easily attributable to any terrestrial culture or military program. In this alternative world, there are good reasons for belief that aliens have visited Earth. (For convenience, I will refer to this as belief in 'alien visitation.')

The evidence is not absolutely conclusive, but reasonable standards of evidence have been met. Science in this alternative world is much the same as it is in our world, with the addition of research programs into possible alien technologies and the propulsion systems which might help to account for their presence.

This is a description of a possible world, but it is not our world. In our world, talk about alien visitation belongs mostly to counterculture and light entertainment. In our world, alien visitation claims are typically underwhelming. More particularly, they are regarded as underwhelming within the space community. But if we are underwhelmed by what has been offered as evidence, then we may owe a story about what would count as convincing evidence. A story that does not set up standards which are a great deal more demanding than those accepted in normal areas of research where a good deal is inferred

rather than directly experienced. Science in our world often involves inference to the best explanation (IBE), with complex discipline-specific norms for what counts as ‘best.’

So far, the best explanation for any natural phenomenon has never been alien visitation. Since around 1950, in our world, discussions about contact with other, similarly intelligent, alien beings have generally taken the form of a borderline scientific interest in SETI and METI together with philosophical speculation about the likelihood that any such beings exist, protocols for a hypothetical first contact, and speculation about whether or not evolution will have converged or taken some radically different path elsewhere. Beyond this, the dominant scholarly and scientific response has taken the form of periodically debunking visitation claims without become drawn into any ongoing research process that might accomplish little more than repeatedly pointing to the exceptionally low quality of the evidence presented and the poor argumentative framing. (Usually, some appeal to analogy rather than anything so robust as IBE.)

There are three reasons why this approach may not hold indefinitely. In one way or another, all of them involve the idea that widespread and unfounded alien visitation claims are a problem for society and hence a problem for science. Here, I am not interested in the peculiarities of individual agents many of whom, in any good society, are likely to believe all manner of strange things. Rather, I am strictly concerned with the societal role of widespread and unfounded belief in visitation.

The first reason why debunking is unlikely to be good enough response for much longer is a shift of belief in visitation from the counter-cultural fringes over into the political mainstream, evidenced by effective pressure in the US to engage in a mass release of Unidentified Aerial Phenomena related documentation. If beliefs of this sort (in conspiracy, concealment and collaboration) have made it into the mainstream, then periodic debunking has simply not worked. Moreover, if we hold that the practice of science in a democratic society requires the answerability of the science community to sustained public concerns then something more robust may be due. This will be the case even if the end story that is told (‘no aliens, no coverup, no conspiracy’) is likely to be the same.

The second reason for a different kind of response, beyond debunking, is that alien visitation narratives create a great deal of unhelpful background noise that gets in the way of science communication. Visitation claims, when they operate in this way, are again a societal problem. Moreover, the background noise of such claims has undergone exponential expansion with the arrival of social media. Much of the focus has been upon biology, through attempts to represent the discipline and its core concepts as little more than ideologically driven social constructs which are overly responsive to power elites. Effective science communication has become harder as the historical standing of science as one of our most reliable pathways to knowledge has come to count for very little online. If we value science communication (as we should do) then there well may come a time when we have to accept the need for a more robust response.

A third and related reason for looking beyond the paradigm of occasional

debunking is that this same background noise has already compromised cultural astronomy, respect for which is a crucial aspect of good relations between indigenous peoples and an astronomy community whose ground infrastructure is often sited in remote locations and sometimes on indigenous lands. My own initial interest in visitation narratives stemmed from a growing sense of the problem of disentangling indigenous storytelling from counter-cultural narratives. One of the pathways for entangling is political activism where the authority of indigenous storytelling carries a tempting political cachet which can lead to an overriding of fidelity to the storytelling itself as narratives are reframed for the purposes of dissent. Again, this looks very much like a societal problem.

It may still be too early to call for an actual paradigm shift in the response of the science (and especially the astronomy) community. However, I do want to suggest that the possibility of such a shift sits somewhere on the horizon. Eventually, the background noise may become overwhelming. Whether or not we are ‘there yet’ is unclear, and I will remain officially neutral on the question. I will also concede that there could be a downside to such a change. A more engaged paradigm could initially increase the background noise in the hope of better long-term containment. Such long-term containment might never arrive. This is a significant concern. And so, I will restrict myself to the weaker claim that even if we are not yet ready for a more engaged response, we should already start to consider what such a response might look like.

## 2 Equivocal encounters

If this response takes the form of ongoing scientific research programs (SRPs) to evaluate alien visitation hypotheses, these need not go beyond the bounds of appeals to the natural, and hence they need not sit outside of the bounds of genuine science. However, the capacity of SRPs to command respect across a range of related and involved scientific disciplines would depend upon exactly what sort of hypotheses were being evaluated, as much as it would upon how the evaluation might proceed.

There is a lesson that might be learned here from the emergence of parapsychology departments. Even if the methodology happened to be rigorous, the subject matter itself puts the research beyond the bounds of anything likely to be taken seriously by peers in psychology or in the physical sciences. Similarly, anyone considering whether or not the pyramids were built using alien technology is unlikely to be taken seriously. Some filtering must take place to help differentiate between what is worth examining and what is beyond the pale.

But we need not think in terms of the outlandish. Rather, we can consider only possible artefacts of the sort brought into play in the scenario of the imagined world. In the absence of any response to METI, the artefact-focused approach has been the most credible game in town. It is the option pursued notably by Avi Loeb and by a number of Harvard researchers based around Loeb’s Galileo Project. Rather than targeting the wilder horizons of dubious testimony about abduction, they have focused upon equivocal material evidence in forms

such as possible derelict craft and possible physical residues. The interstellar object ‘Oumuamua, in particular, has been claimed as a possible derelict spacecraft [Loeb, 2021], and metallic spherules off the coast of Papua New Guinea have been claimed as possible residue which cannot readily be explained by the industrial revolution [Loeb et al., 2024]. Claims which have been strongly disputed.

Of the two, the ‘Oumuamua claim has been the more productive. While few astronomers have ever believed that it is an actual derelict alien craft, the exercise of showing that its trajectory can be explained in far simpler terms (e.g., by localised gas pocket formation followed by outgassing as a result of proximity to the Sun) has been a worthwhile exercise. It would also not be unfair to point out that there is a widespread view, across the space science community, that Loeb’s overall approach is shaped too much by wanting to believe, that it is too entangled in the kinds of populist narratives about power relations within science that I allude to above.

In fairness to Loeb, it may simply be difficult to build any robust SRP program dedicated to evaluation of artifact claims under current conditions, without involving a disproportionate number of people who also want to believe, and who have a certain attitude towards the conservatism of more mainstream lines of scientific research. Furthermore, scientific expectations sometimes do shift over time. If are currently in an encounters-are-unlikely phase, this may reflect our current technologies rather than attitudes that we might on the other side of the revolution in robotics and AI. Expectations can shift in the light of technological change.

In line with this, I want to differentiate between two claims. With allowances for some slippage into more dramatic claims in public statements, what I take to be Loeb’s view is that sooner or later, we will stumble upon remnants of, or trace residue from, an alien craft, and we may already have done so. Instead, I am sympathetic towards a position set out by Martin Elvis in a sympathetic but critical response to the Loeb claim about ‘Oumuamua: a broad scientific research program can be built around evaluation of alien craft claims for a suitable range of objects from beyond the Solar System [Elvis, 2022]. This view is consistent with the idea that extraordinary claims require extraordinary evidence. Or, with a softer version, such that the evidence needs to meet a usual standard but we are entitled to set up a default position of rejecting extraordinary claims. In the case of alien visitation, we are entitled to assume that any such claims are far more likely to be false than true. A default assumption that Loeb seems, at times, to regard as closed minded. Rather, I take it that defaults of this sort are a familiar part of normal science, and they are often part of any disciplined form of enquiry.

At least three reasonable assumptions are shared across the the Loeb and Elvis approaches, in spite of their significant differences. First, when it comes to interstellar distances, ships are better at survival than crews. Any alien craft that we encounter would probably be a derelict and so it might not exhibit ongoing control. Second, an alien craft really could look like a naturally occurring object. A little like the papyri at Herculaneum which initially appeared

to be charred pieces of wood rather than a precious treasury of text. Such an appearance could be accidental (a result of the ravages of time) or intentional (to avoid cultural impact or else to avoid any risks of detection and tracing back to a homeworld). Third, in line with the previous two points, any encounter could well be equivocal, i.e., what is encountered may be less than clear cut. The equivocal nature of such encounters with interstellar objects might leave open the possibility that one or more such encounters with a difficult to identify object, spread over a sufficient period of time, could eventually turn out to be the real thing. No laws of nature would be violated. Nothing odd need occur. And accepting this in no way does not automatically step outside of the normal bounds of science.

### 3 How can we structure SRPs for equivocal encounters?

The mere fact that I think that this will not happen is neither here nor there. Patterns of belief around these matters are social phenomena and as an ethicist it is how science deals with social phenomena that is my primary concern. Visitation beliefs and evaluation are socially significant even in the absence of visitation. To this end, I will suggest that, beyond focusing upon something tangible and within normal bounds (such as candidate artefacts), and beyond abiding by standard naturalistic constraints, any scientific research program in this area should meet at least three minimal requirements.

**1. Independent value:** a scientific research program geared to evaluating alien artifact and trace evidence claims should follow the astrobiological model in which the scientific value of the work does not depend upon actual discovery of alien life. Work on ‘Oumuamua is a nice example of research which meets this independent value requirement. Research to explain ‘Oumuamua’s unusual trajectory did play off of the derelict craft claim, and upon a resulting search to find simpler ways to explain its acceleration. Simpler, in an ontological sense of positing a more economical range of entities.

**2. Noise minimization:** a good SRP should not feed the unhelpful background noise beyond its initial phases of operation. This requirement captures and makes explicit what is already done on a regular basis in science communication: keep reportage close to the research; avoid sensationalism but expect that it might be smuggled back in when bylines are written; and choose platforms for communication with a degree of caution. These are normal good practices. Of course, the price of any science communication at all comes at the risk of repackaging in more sensational terms and the initial stages of an SRP in this area would attract attention.

**3. Evidential standards:** the approach towards justification of claims adopted by a good SRP should be translatable into robust argument structures such as inference to the best explanation, rather than relying heavily upon analogy which has been a staple of alien visitation claims. This leads them

to look suspiciously like creationist arguments in which intelligent guidance is repeatedly inserted into naturally occurring processes. The requirement for significantly higher evidential standards is not a special raising of the bar but a door to normalization of sufficiently well-formed and well-directed discourse.

**4. Default option:** the ontologically simplest option should normally be adopted. Having a default assumption in which we follow Ockham, and do not appeal to more entities than we need in order to explain phenomena, is not prejudice. It is normal science. All other things being equal, explanations in which appeal is made to aliens and explanations in which there is no need to appeal to aliens are not equal. Matters would be different if we already knew that there were aliens and that their traces could be discovered ready to hand. Such explanations would not then introduce an entity of a new sort. Until such times, the default holds. This also helps to explain why adoption of a default is not arbitrary: the default is indexed to our existing body of knowledge. Science does not begin anew with each arising problem.

## References

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