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RESEARCH VIEWPOINT



Strategic Ignorance and the Search for Extraterrestrial Intelligence: Critiquing the Discursive Segregation of UFOs from Scientific Inquiry

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ABSTRACT

Since the late 1940s, a tenacious disconnect between popular interest and professional disinterest in unidentified flying objects (UFOs) has typified the controversy surrounding the subject. Numerous high-profile scientists have seen the topic of UFOs as an opportunity to denounce and rectify a popular, yet allegedly misguided, conviction—that some UFOs are physical anomalies indicating the existence of extraterrestrial intelligence—and thus to advance the explanatory authority of science. Rather than constituting rigorous, informed, and effective assessments, however, the ways in which many prominent scientists publicly address the UFO question often exemplify both the problematic “boundary-work” of scientific discourse in this area and, more specifically, the role that logical fallacies can play in the rhetorical construction of scientific authority in public domains. Through a critical discourse analysis, this article argues that ignorance of UFO phenomena is socially and discursively constructed in ways that are conducive to the public faces of individuals and institutions. More broadly, it suggests that the rudimentary standard of science communication attending to the extraterrestrial intelligence (ETI) hypothesis for UFOs inhibits public understanding of science, dissuades academic inquiry within the physical and social sciences, and undermines progressive space policy initiatives.

On 27 February 2008, Stephen Hawking, arguably the world’s most recognizable scientist, remotely delivered a talk titled “Questioning the Universe” to the TED2008 Conference in Monterey, California. The video-linked presentation was filmed and uploaded to the TED web site, where it has since received over 8,800,000 hits, and added to TED’s YouTube channel, where it has received over 5,800,000 hits. In line with TED2008’s theme of “The Big Questions,” Hawking’s lecture addresses some fundamental cosmological quandaries, largely for the benefit of a lay audience: Where did we come from? How did the universe come into being? Are we alone in the universe? Is there alien life out there? What is the future of the human race? In doing so, it takes place within a tradition of public engagement with such questions,

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perhaps most famously exemplified by the late Carl Sagan, and especially his PBS documentary series, *Cosmos*.

Hawking's TED address includes an account of the unidentified flying object (UFO) phenomenon, offered as part of a broader response to the question of whether human beings are "alone" in the universe. It is an interesting account not because of what it tells us about the UFO phenomenon per se, but for what it reveals about Hawking's public position on the subject of UFOs. Rather than reflecting what could be called a strictly scientific engagement with the subject—one oriented by a critically informed perspective grounded in first-hand research and/or reference to the research of qualified peers—Hawking's publicly presented views seem fundamentally shaped by "common sense," as if drawn from widely distributed stereotypical, folkloric, and popular cultural portrayals. In this, Hawking's position aligns with that of a number of his most eminent contemporaries, some of whom are also discussed below.

Since it is generally acceptable for scientists to *not* address the subject of UFOs when speaking to the question of whether humans are alone in the universe, it is somewhat unusual that Hawking would choose to do so. What is less unusual, though no less interesting, is that this is a subject Hawking raises and dismisses in around 60 seconds, constituting little more than a brief, mildly humorous digression from his "serious" discussion of the big questions listed earlier. The subject of UFOs is effectively raised by Hawking to be dismissed.

On the other hand, we don't seem to have been visited by aliens. I am discounting the reports of UFOs. Why would they appear only to cranks and weirdoes? If there is a government conspiracy to suppress the reports and keep for itself the scientific knowledge the aliens bring, it seems to have been a singularly ineffective policy so far. Furthermore, despite an extensive search by the SETI [Search for Extraterrestrial Intelligence] project, we haven't heard any alien television quiz shows. This probably indicates that there are no alien civilizations at our stage of development within a radius of a few hundred light years. Issuing an insurance policy against abduction by aliens seems a pretty safe bet.¹

In this passage, which provides the framework for the following analysis, Hawking subjects the relationship of science and the UFO to what Hilgartner has termed an "appropriate simplification," understood as "a necessary [albeit low status] educational activity of simplifying science for non-specialists."² Structurally, Hawking's treatment is a complex and effective rhetorical dismissal because of, not despite, its brevity. Overall, it seeks to assure the audience of an extended non sequitur: since UFO reports cannot be taken as indications of extraterrestrial intelligence, UFOs do not represent anything anomalous, and therefore, the subject of UFOs does not fall within the field of scientific interest.

Although polling has shown that, at least in the United States, about half of the population believes that extraterrestrials have visited the Earth,³ the dominant view within the scientific community is that such beliefs are fundamentally erroneous, and tantamount to belief in the supernatural. The disparity between the popular belief that UFOs exist and the scientific knowledge that they do not would at least partly account for Hawking's decision to speak on the subject, and the ongoing rift between "scientists" and UFO "believers" has been recently examined by Eghigian.⁴ Although no individual or institution can claim an explanatory monopoly on the subject of UFOs, Hawking's version arguably represents something of a special case; it is a version received by approximately 14,000,000 viewers from one of the world's most authoritative, accomplished, and admired contemporary scientists. Delivered from the quasi-academic and comparatively well-respected TED platform, its influence upon public opinion—as an example of how to regard UFOs scientifically—has presumably been extensive, despite the apparent persistence of the belief that some UFOs are alien spacecraft.

Given that the figure of the UFO evidently continues to constitute something of an epistemological and ontological controversy for science, closely examining how scientists publicly articulate their position on this subject can reveal how the controversy is itself continually arbitrated through acts of communication and, specifically, through contemporary scientific discourse intended for a lay audience. Poaching the subtitle of Steven Shapin's anthology, *Never Pure*, it makes sense to consider scientists' public statements about UFOs "as if they were produced by people with bodies, situated in time, space, culture, and society, and struggling for credibility and authority."⁵ When it comes to the discursive aspects of this struggle, as Hilgartner has observed, "scientific experts enjoy great flexibility in public discourse... when it suits their purposes, they can issue simplified representations for broader audiences.... On the other hand, scientists at all times can draw on the notion of "distortion" to discredit publicly-available representations."⁶ Along with Hilgartner's "appropriate simplification," Thomas Gieryn's concept of "boundary-work"⁷ has been extensively adopted in the sociology of science; it is concerned with the methodological construction of "a social boundary that distinguishes some intellectual activities as "non-science."⁸ However, neither of these concepts has been considered in the specific case of public scientific discourse about the UFO controversy—despite global public interest in the topic spanning seven decades—and scholarship on the social construction of knowledge, and ignorance, of UFOs remains scarce.

In order to address this deficit, I consider how the construction of UFOs as a "non-phenomenon" results from cumulative, discursive acts of marginalization, the kind of boundary-work identified by Gieryn as expulsion or purification. We may think of non-knowledge of UFOs in this sense as a result of coordinated, "strategic ignorance."⁹ The article sequentially attends

to each of the six sentences that together comprise Hawking's TED statement about UFOs, discusses how they function rhetorically, identifies their logical fallacies, and examines the extent to which they can be understood in relation to wider, culturally contingent debates about the existence of extraterrestrial intelligence and its interaction, or lack thereof, with the Earth. In doing so, the article brings together a sample of public statements made over a 30-year period by various high-profile scientists, considering them as performative utterances conducive to the maintenance of what Goffman termed "face:" "an image of self delineated in terms of approved social attributes—albeit an image others may share, as when a person makes a good showing for his profession or religion by making a good showing for himself."¹⁰ For Goffman, the maintenance of face was typical of everyday social interaction, and by no means exclusive to high-profile public figures. However, it follows that those with very public "faces," such as career professionals in elevated positions of trust and authority, generally have more at stake in the doing of "facework" than others.

Following Hilgartner's¹¹ analysis of expert advice as public drama, an approach oriented by Goffman's dramaturgical perspective, I interpret scientists' public statements about UFOs as performative; that is, as statements assisting stage-bound and self-conscious demonstrations of how to regard UFOs scientifically, delivered before an audience. When publicly addressing the subject of UFOs—a subject qualifying as a potential face threat, should one be seen to endorse it—scientists often shift their footing in a departure from the principles of sagacity, objectivity, and curiosity that are usually seen as characterizing their profession. Although these principles may be regarded as part of the so-called "mystique of science," it remains the case that this shift in footing, evident in published orations and print, rarely results in a "loss of face," nor in a "poor showing" for the scientific profession. Rather, it seems typically to maintain the face, and hence, the reputation, of the scientist and their profession by reaffirming the boundary of science. Drawing also from recent work on the social construction of ignorance, or "agnotology,"¹² the article suggests that in cases where scientists' public statements about UFOs derive from logical fallacies and historical inaccuracies, both public and professional knowledge of the UFO subject is consequently hindered—that ignorance of the topic of UFOs is actively produced, rather than natural or inevitable.

Before beginning the analysis, a few words on positionality are warranted. The topic of UFOs seems to exert a kind of magnetic tidal pull into "the world of the paranormal" at large, inviting superficial associations with a wide variety of other strange phenomena and outlandish claims, and making discrete focus unusually difficult. Indeed, Gallup polling routinely groups belief in UFOs together with belief in witches, haunted houses, telepathy, and astrology. A related difficulty is that those who are openly critical of the

overall scientific verdict on UFOs are often perceived *prima facie* to be irrationally promoting the reality of alien spacecraft, and perhaps by extension, the entire gamut of “the paranormal.” This being the case, it is crucial to emphasize here that this article does not argue for a particular interpretation of UFO phenomena, which remain, by definition, unidentified. Rather than dealing with the ultimate ontological status of apparent anomalies, the article critically examines how and why astronomers, cosmologists, and physicists rhetorically dismiss the subject of UFOs from the field of scientific inquiry, including their dismissal of the extraterrestrial intelligence (ETI) hypothesis—the hypothesis that some UFOs may signify the existence of extraterrestrial, nonhuman intelligence.

“We don’t seem to have been visited by aliens”

Hawking begins his dismissal of UFOs with a logical fallacy—specifically, an “argument from ignorance.” The apparent absence of evidence for alien visitation is offered as being practically synonymous with its actual absence—that is, in this special case, an absence of evidence does constitute evidence of absence. Crucially, to support his claim that we do not seem to have been visited by aliens, Hawking exclusively evokes a particular kind of alien visitation: overt contact. While overt contact, the kind of messianic “big event” most frequently presented in Hollywood feature films about alien visitation, would certainly provide the so-called “extraordinary evidence” often demanded from proponents of the ETI hypothesis, its false equivalence with alien visitation permits a range of anthropocentric and unworkable evidentiary requirements, perhaps the most hackneyed of which is: “If the aliens are here, why don’t they land on the White House lawn?” Facing the question of alien visitation from a perspective that privileges overt contact at the exclusion of other, subtler, more elusive, or even more likely forms of visitation essentially places its adherents in the awkward, interminable position of waiting for a Hollywood version of the UFO phenomenon to manifest before the UFO phenomenon can itself be accepted as indicative of extraterrestrial intelligence.

Although it is not evident from Hawking’s “appropriately simplified” address, the seemingly uncontroversial claim that we don’t seem to have been visited by aliens has been the subject of some debate among scientists. This debate gained considerable traction in the 1970s, in the wake of the U.S. Air-Force-funded *Final Report on the Scientific Study of Unidentified Flying Objects*,¹³ though has since lost momentum and remains unresolved. Sturrock, for example, has observed that UFO reports provide an extensive base of empirical data, and that any discussion of ETI must acknowledge the existence of this data.¹⁴ Kuiper and Morris have suggested that alien visitation and interaction with the Earth, and its various inhabitants, could be

effected “with no more attention from us than a UFO article or a missing person’s report,” and that “the possibilities that we are being ignored, avoided, or discreetly watched are logically possible.”¹⁵ This is a logical possibility also discussed by Sagan, who argued that “even with slow rates of technological advance, extraterrestrial civilizations substantially in our future will have technologies and laws of nature currently inaccessible to us, and will probably have minimal interest in communicating with us.”¹⁶ Ball posited that “extraterrestrial life may be almost ubiquitous” and that “the apparent failure of such life to interact with us may be understood in terms of the hypothesis that they have set us aside as part of a wilderness area or zoo.”¹⁷ Schwartzman contended that the apparent absence of extraterrestrials on Earth, despite the probable existence of what Bracewell termed a “Galactic Club”¹⁸ of advanced civilizations, “supports the view that we are under surveillance by extraterrestrial intelligence.”¹⁹ Hence, as numerous scientists have previously observed, although it may seem as if we have not been visited by aliens because no overt contact has been made, the mere absence of this particular kind of interaction is insufficient grounds for rejecting the possibility that visitation has in fact occurred.

Hawking’s position here also appeals implicitly to the Fermi paradox: the apparent disparity between the number of extraterrestrial civilizations which statistically should exist, and the absence of evidence we have for those civilizations.²⁰ Physicist Enrico Fermi had remarked, around 1950, that we should have ample evidence for such civilizations if they did in fact exist, perhaps even manifesting as our overt subjugation by technologically advanced interplanetary colonists.²¹ In other words, if they are indeed “out there,” then at least some of them should be coming here, and if that was happening, we would certainly know about it—it would seem as if we had been visited by aliens.

The Fermi paradox remains a frequently deployed rebuttal to the claim that extraterrestrial civilizations are abundant throughout the galaxy, as also suggested by the Drake Equation, and thus serves as an argument against the ETI hypothesis for UFOs. Although it draws on the relatively benign assumption that alien civilizations would be very likely to engage in some kind of cosmic exploration if they were able to do so, it extends, more problematically, the anthropocentric assumption that the incessant urge to expand, intrude, and conquer, perhaps most saliently expressed by a small group of European nations, is both a natural, cosmic imperative and inevitably conducive to the development and interstellar activities of civilizations throughout the galaxy. Kuiper and Morris provide a clear example of this culturally contingent assumption:

By referring to historical trends in human civilizations, we make the implicit but quite plausible assumption that all civilizations have, in principle, similar origins in the natural selection processes and that the behavior of organisms is thus determined in large part by natural forces which are similar everywhere.²²

This assumption is then developed further, along strictly anthropocentric lines: “given man’s historically proved urge to explore, expand, and colonize, we make the minimal assumption that this trend will not be halted or reversed at our present stage of development.... This tendency is extrapolated to be the same for all technological civilizations.”²³ Human colonization, as a model for what is likely to occur throughout this galaxy and the roughly 100 billion others estimated to exist, is thus portrayed as a wholly “natural” process governed by universal and timeless biological imperatives, rather than as, say, the outcome of contingent social, cultural, historical, political, technological, economic, geographic, climatological, religious, and moral circumstances. Moreover, the logical possibility that extraterrestrial intelligence may not be wholly organic in nature, and thus not subject to the allegedly inevitable and eternal imperatives of organisms, is omitted altogether.²⁴

Historically, the majority of unexplained UFO reports describe vibrant objects of ambiguous materiality which seem occasionally to act in ways consistent with benign and insouciant surveillance, but inconsistent with invasion or colonization. Yet, the scenario of interplanetary invasion—a particularly abrupt form of overt contact—tends to dominate conceptions of how alien visitation of Earth would occur, thus sustaining the false equivalence of invasion and visitation. Indeed, Hawking draws explicitly on this kind of scenario in his 2010 documentary series, *Into the Universe*, offering it as a plausible model of visitation:

I imagine they might exist in massive ships... having used up all the resources from the home planet below. Such advanced aliens would perhaps become nomads, looking to conquer and colonize whatever planets they could reach.... So, if aliens ever visit us, I think the outcome would be much as when Christopher Columbus landed in America—which didn’t turn out very well for the Native Americans.²⁵

Such scenarios, it should be noted, are not universally accepted as probable by scientists professionally concerned with the question of extraterrestrial intelligence.²⁶ Hawking’s likening of an historical encounter between members of the same terrestrial species previously separated only by geographical space (*Homo sapiens*) to a hypothetical encounter between members of different species previously separated by vast tracts of interplanetary space and evolutionary time, while evocative, is essentially incongruous. This way of “thinking the alien” has a history—indeed, it neatly exemplifies the tradition of imagining the alien within the conceptual parameters of anthropology that first took shape in the nineteenth century. As McGrane has observed: “There is a great similarity, from an archaeological perspective, between what we term modern ‘anthropological discourse’ and what we term modern ‘science fiction’: for with the non-European Other as with the aliens-from-

other-planets, what is significant is not whether such beings exist or not, but, rather, *the fact that they are conceivable*.²⁷ The “aliens” Hawking conceives here, and encourages his audience to conceive, are paradoxically both European and Other—essentially, they are colonial Westerners, but from another planet in the not-too-distant future. Despite this inversion, a more anthropocentric conception of alien visitation is difficult to imagine.

In the case of UFOs specifically, the Fermi paradox is often used to bolster the assumption that it is already known that no UFOs indicate extraterrestrial intelligence, when in fact this is not known. Sagan, for example, had drawn upon the Fermi paradox to dismiss the ETI hypothesis in *Cosmos*: “In the vastness of the cosmos, there must be other civilizations far older and more advanced than ours. So, shouldn’t we have been visited? Shouldn’t there be, every now and then, alien ships in the skies of Earth?”²⁸ Here, the possibility, however remote, that some UFOs *are* alien ships present every now and then in the skies of Earth is skillfully elided with a pair of rhetorical questions. The deployment of the Fermi paradox to dismiss the ETI hypothesis for UFOs, and the kind of bandwagon fallacy it may engender in astronomers, is further exemplified by astrophysicist Michael H. Hart, who, in a widely influential 1975 paper, refers to “the UFO Hypothesis... that extraterrestrials have not only arrived on Earth, but are still here.... Since very few astronomers believe the UFO Hypothesis it seems unnecessary to discuss my own reasons for rejecting it.”²⁹ Here, we have a concession that some astronomers support the ETI hypothesis for UFOs, but they remain anonymous and marginalized; their number is unquantified and ultimately trivialized as “very few.” Their interest in the ETI hypothesis, an interest which feasibly may range from casual curiosity to enthusiastic endorsement, is described as “belief”—a word that evokes strong connotations of faith, rather than knowledge. Hart positions the ETI hypothesis for UFOs outside of scientific consideration by appealing to the notion of a rational majority, which does not “believe” the hypothesis, and an irrational minority, which does. In doing so, he misrepresents the very nature and purpose of hypotheses, which are proposals devised to be tested, not propositions to be “believed” or not.

For Sagan, the prospect that some UFOs represent alien visitation was at least possible:

There’s nothing impossible in this idea, and no one would be happier than me if we were being visited. But has it happened in fact? What counts is not what sounds plausible, not what we’d like to believe, not what one or two witnesses claim, but only what is supported by hard evidence, rigorously and skeptically examined—extraordinary claims require extraordinary evidence.³⁰

Sagan juxtaposes the notion of a strictly methodical scientific approach against intuition and a will to believe, then casually misrepresents the large body of globally collated UFO data as the “claims” of “one or two

witnesses”—an appropriate simplification which levers his intimation that UFO data are both inherently unreliable and unworkably scarce. Throughout his examination of the UFO question in *Cosmos*, Sagan does not mention, for example, the U.S. Air Force’s Project Blue Book and its large collection of data.

Noteworthy in this passage is Sagan’s elicitation of the now-famous dictum that so-called extraordinary claims require extraordinary evidence. This dictum is often invoked by scientists in response to the UFO evidence that does exist to frame such evidence as “insufficiently extraordinary.” For example, as Alan Hale writes in a 1997 article for *Skeptical Inquirer*, titled “An Astronomer’s Personal Statement on UFOs”:

The discovery that there are other intelligent beings in the universe—and, as a corollary, that life and intelligence can and has evolved at locations other than Earth—and that, moreover, these beings are visiting Earth on a semi-regular basis in spacecraft that seem to defy the laws of physics as we now know them, would unquestionably rank as the greatest discovery in the history of science, and most definitely is an extraordinary claim. Therefore, in order for me to accept it, you must produce extraordinary evidence.³¹

Like Sagan, Hale assures his audience that the discovery of extraterrestrial intelligence would be profoundly important to science, implying that everything that can be done is being done to pursue it. And for Hale, as for Sagan, what prevents the confirmation of such a discovery is an absence of extraordinary evidence. Although this apparently even-handed requirement may make intuitive sense, its crucial shortcoming is its presumption of a clear consensus on just what qualifies as extraordinary. Since no such consensus exists, despite Hale’s assertion that the ETI hypothesis is “most definitely” an extraordinary claim, the dictum is unworkable. Furthermore, once adopted and applied, it risks inhibiting the productive reexamination of evidentiary standards by implicitly defining extraordinary evidence as “that which lies out of reach,” thus making fulfillment of its own evidentiary requirements intrinsically impossible.

The ongoing need for unobtainable “extraordinary evidence” of UFOs was more recently exemplified by Neil deGrasse Tyson during the “Cosmic Quandaries” event held in the Palladium Theatre at Saint Petersburg College, Florida, in 2009. Asked by an audience member if “he believed in UFOs or extraterrestrial visitors,” Tyson replied: “I’m not saying we haven’t been visited. I’m saying the evidence thus far brought forth does not satisfy the standards of evidence that any scientist would require for any other claim that you’re going to walk into a lab with.”³² He continued by discussing the fallibility of the human senses, the unreliability of eyewitness testimony and photographs, then suggested, in his endearingly rambunctious style, how an ashtray stolen from inside an alien ship during a “sex experiment,” and

subsequently offered to scientists for examination in a laboratory upon the abductee's return, would suffice. Of course, Tyson was only joking, but this is precisely the problem. The message to be drawn from Tyson's response is that "laughing off" questions about UFO evidence is both acceptable and appropriate, because the ETI hypothesis for UFOs is not to be taken seriously. Tyson's response also works to perpetuate the selectively materialist demand that for UFO phenomena to be scientifically verified, they must yield physical samples of themselves that are amenable to laboratory study; this is clearly not the case, however, for many other scientifically verified astrophysical phenomena, both prosaic and anomalous.

The problem of precisely what kind of evidence should reasonably be expected to support the ETI hypothesis for UFOs is especially apparent in Hale's personal statement. Like Sagan and Tyson, Hale portrays eyewitness testimony not as potentially reliable evidence of direct observation, but as hearsay, and thus as something ultimately inadmissible to science:

What might this evidence be? For one thing, the aliens themselves. Not some story where someone says that someone says that someone says that they saw aliens, but the actual physical aliens themselves, where I and other trustworthy and competent scientists and individuals can study and communicate with them. I'd like to examine their spacecraft and learn the physical principles under which it operates. I'd like a ride on that spacecraft. I'd like to see their star charts and see where the aliens come from. I'd like to know the astronomical, physical, chemical, and biological conditions of their home world and solar system, and how they compare with and contrast with ours. If possible, I'd like to visit their home world, and any other worlds that might be within their sphere of influence. In other words, I want the aliens visible front and center, where there can be *no reasonable doubt* as to their existence.³³

Such extraordinary requirements highlight the extent to which anthropocentric assumptions, inflected by a kind of cosmic hubris, continue to hinder the assessment of UFOs as potential indications of extraterrestrial intelligence—or even as genuine physical anomalies worthy of scientific inquiry. This "meet and greet" scenario is offered by an eminent contemporary astronomer as a personal, though presumably rational and reasonable, statement on how the scientific confirmation of the ETI hypothesis for UFOs could take place. Yet, not only does it largely fail to correlate with the most reliable descriptions of the UFO phenomenon itself, it is drawn almost exclusively from the fantastic, clichéd, and acutely anthropocentric space visitor scenarios of Cold War science fiction. Its fundamental requirement is that, unless the evidence gathered for UFOs matches the expectations formed by such scenarios, then it can only be deemed insufficiently extraordinary to qualify as supportive of the ETI hypothesis. The conundrum thus formed is evident.

The apparent difficulty of distinguishing stereotypical, science-fictional narratives from actual eyewitness testimony is also exemplified in Hawking's *Into the Universe*. In Episode 1, titled "Aliens," the viewer is presented with a generic dramatization of a lone "hillbilly" who, driving along a secluded road at night, encounters a brilliantly illuminated UFO in the woods and is subsequently zapped into the ship via a tractor beam and whisked off into outer space. The entire sequence, dislocated from any specific UFO reports, serves explicitly to endorse a tired but persistent negative stereotype. Not only is this portrayal misrepresentative of UFO reports and those who have made them, it functions as an association fallacy: UFO reports are associated with alien abduction reports, and both are associated with "tales" and B-movies. The entire scenario is ultimately dismissed with a closing rhetorical question about why aliens would visit Earth. Hawking's voice-over narration contextualizes the scene:

Tales of alien abduction have been common ever since I was an undergraduate in the 1950s. And I watched all those B-movies too. The story always goes the same: a lone individual, on a quiet road at night, happens to take an unscheduled detour and finds himself lost. I'm always a bit suspicious when I hear these tales. Look at it from the aliens' point of view. What's the point of crossing vast tracts of the universe in a high-tech ship just to abduct some lone earthling?³⁴

Returning, finally, to Hawking's original, seemingly uncontroversial claim that we don't appear to have been visited by aliens, one may ask: who is the "we" in this scenario? As with Sagan's remarks, quoted earlier, there is a conflation of "we" as "the scientific community," and "we" as "all members of the human species, living and deceased." This maneuver functions to engender a positive rapport, and hence an agreement, between addressees and the statement position of the addressor—in this case, an eminent scientist whose public profile has virtually become synonymous with science itself.

"I am discounting the reports of UFOs"

To declare that one is discounting "the" reports of UFOs is functionally tantamount to discounting all reports of UFOs, yet the phrasing works to minimize the magnitude of the statement and obscure its totalizing effect. To discount all reports of UFOs is to dismiss an abundance of data prior to examination; it is a choice resting upon the assumption that no UFO reports are scientifically useful, valuable, or even, for that matter, interesting. Here, we have an example of the way in which, as the late psychologist Stuart Appelle observed, the study of UFOs "is not simply *rejected* as a legitimate discipline, it is categorically *dismissed*. There is a critical difference. Rejection suggests a conclusion based on close examination and careful reflection. Dismissal is an a priori judgment that close examination is not

warranted.”³⁵ A very brief quantification of “the reports of UFOs” will be useful at this point.

In 1969, the U.S. Air Force collected 12,618 reports as part of its Project Blue Book investigations, of which 701 remained “Unidentified.”³⁶ These are not, as Sagan described them, the “claims of one or two witnesses”—701 confirmed unidentified objects within just those reports collected by the U.S. Air Force prior to 1969 amount to an average of around two legitimately unidentified sighting reports every month for 22 years. Moreover, this is a figure certainly smaller than the total number of reports made globally, some of which would also be expected to qualify as “Unidentified,” and smaller again than the number of such phenomena globally occurring but remaining unreported and, of course, unseen. Significantly, and perhaps contrary to expectations, Blue Book found that the greater the amount of information accompanying a report, the more likely it was to be classified as “Unidentified.”

Given that these data seem to strongly indicate that genuinely anomalous aerial phenomena have been observed and reported hundreds, and possibly thousands, of times, how could one go about avoiding a confrontation with such reports and the phenomena they seek to describe, if one was already unwilling to take UFOs seriously? One option might be to shift focus from the strength of the UFO data itself, to the alleged feebleness of UFO witnesses’ mental capacities. That is, to craft an abusive *argumentum ad hominem* by discursively relocating the phenomenon from the lawful preserve of the external physical world, to the much more tenuous internal world of the human mind.

“Why would they appear only to cranks and weirdos?”

UFO reports made in earnest are primarily accounts of visual experiences that do not accord with socially agreed beliefs about what is available in the world for observation. As Norman Bryson explains:

For human beings collectively to orchestrate their visual experience together it is required that each submit his or her retinal experience to the socially agreed description(s) of an intelligible world. Vision is socialized, and thereafter deviation from this social construction of visual reality can be measured and named, variously, as hallucination, misrecognition, or “visual disturbance.”³⁷

Bryson’s observation is especially pertinent to UFO reports, which historically have been regarded, variously, as describing not genuine physical anomalies in nature external to the witness, but as hallucinations, misrecognitions, or visual disturbances. Most UFO reports are indeed based on misrecognitions, while a persistent minority (about five percent) defy prosaic explanation. However, given the modern prestige afforded to accurate,

objective, and empirical observation in the doing of science, and hence in the production of knowledge about the physical world, a perceived susceptibility to abnormal visual experiences retains an association with notions of mental or intellectual inferiority, one which Hawking chooses to exploit both in his TED address and in *Into the Universe* when offering portrayals of UFO witnesses themselves.

Hawking provides a reason for discounting “the” reports of UFOs in the form of a rhetorical question: “Why would they appear only to cranks and weirdos?” Like most rhetorical questions, this one functions duplicitously as a statement, in this case: “UFOs appear only to cranks and weirdos.” The rhetorical question device includes an emotional dimension, expressing mild indignation and sarcasm, and thus works to endear Hawking to his audience. The question also founds an extreme straw man argument, casting doubt on the reliability and character of witnesses based solely on the specific content of their testimonies, while introducing circular reasoning: people who see UFOs are cranks and weirdos because they see UFOs. In this context, “cranks” and “weirdos” are terms which work to stereotype, rather than articulate, the diverse demographic spectrum from which UFO reports have historically emerged.³⁸ Furthermore, they can be freely drawn upon to chasten those who have made UFO reports, and to discourage others from making such reports in the future.

“Crank” is well-established in this context—for over a century, it has been used derisively to label those with an eccentric or irrational fixation on a particular idea. For example, in a 1906 review for *Nature* of John Phin’s *The Seven Follies of Science*, this notion of a crank is explained:

Few men probably receive more communications from earth flatteners and circle squarers and arc trisectors than the present writer. When he receives one he does not feel pleased, and yet it ought to be pleasant to think that there are so many men in the world who refuse to accept dogma. A *crank* is defined as a man who cannot be turned.³⁹

Although this definition of a crank does not preclude scientists from qualifying as cranks themselves, in the contemporary parlance it usually functions in precisely this way: to be a crank is to be anti-science. A crank “cannot be turned,” and so stubbornly eschews science’s greatest advantage over religious, dogmatic, or generally faith-based explanations of the world—its capacity for, and dedication to, self-correction and progress. The scenario of the serious, professional scientist, burdened by letters from outsider, amateur cranks, was “cranked out” more recently by Astronomer Royal Martin Rees as part of his public address titled “Life’s Future in the Cosmos”:

In the UK [United Kingdom] where I have the title of Astronomer Royal I get quite a lot of letters from these people [UFO witnesses and those reporting alien

abduction, grouped together], and I tell them, isn't it a pity that these aliens came here and all they did was despoiled a few corn fields making corn circles, met a few well-known cranks, and went away again? And I tend to get these people to write to each other rather than to write to me.⁴⁰

Rees' glib, somewhat contemptuous account of UFOs, and those who report observing them or being abducted, also employs a rhetorical question which, in its appeal to ridicule, successfully elicited laughter from the in-house audience. This allows Rees to then move past the "obvious" foolishness of the entire subject of UFOs, which he haphazardly associates with crop circles, onto serious cosmological matters, in much the same manner as Hawking's TED address. Again, the subject of UFOs is raised to be dismissed, the scientist's face is reinforced, and the boundary of science is redrawn and reaffirmed.

Perhaps most problematically, the claim that only "cranks" and "weirdos" see UFOs, in its reliance on a one-dimensional stereotype, contrasts sharply with a rather more complex historical reality: it was primarily a sudden spike in reported sightings from pilots and military personnel, in addition to apparently sane and credible civilians, that initially prompted the U.S. Air Force to instigate its formal UFO investigations in 1947. And indeed, reports from pilots, military personnel, and credible civilians have continued globally since that time.⁴¹ It seems reasonable to conclude that these individuals are not Hawking and Rees' intended referents when they speak of cranks and weirdos, which renders their declarations not only historically erroneous, but scientifically vacuous.

Ultimately, at least as far as Hawking is concerned, UFO witnesses do not actually "see" UFOs; rather, UFOs "appear" to them, presumably in much the same way that hallucinations or distorted perceptions of the mundane "appear" to the mentally ill. Hawking offers no explanation, appropriately simplified or otherwise, of the mechanisms behind this apparently ongoing, collective, and consistent hallucination or misperception, nor does he acknowledge it as being of any scientific interest whatsoever. Instead, he simply removes the UFO phenomenon from the lawful domain of the physical cosmos into the fallible domain of the human mind, where presumably it is to remain, isolated and unattended.

"If there is a government conspiracy to suppress the reports and keep for itself the scientific knowledge the aliens bring, it seems to have been a singularly ineffective policy so far"

Next, Hawking enacts a dismissal by associating UFOs with a hypothetical scenario: "If there is a government conspiracy." The implication is that UFO proponents are also conspiracy theorists, which in turn renders their position fundamentally untenable. Because UFO reports have been widely published

since the sudden postwar spike, Hawking claims, any attempt by governments to conspire to suppress them has obviously failed. A possible conclusion to be drawn here is that since there is ostensibly no successful government conspiracy to suppress UFO reports, there are no genuinely anomalous UFOs. What precisely Hawking means by “the scientific knowledge the aliens bring,” however, is unclear; he seems to be suggesting that an attempt to keep such knowledge secret has been ineffective, thus implying that evidence exists in the public domain of scientific knowledge brought by aliens and acquired by governments. Yet, surely, no such knowledge is apparent, nor can Hawking be regarded as an advocate of its existence. There are allusions here to the so-called “Roswell Incident” narrative, one version of which holds that a crashed extraterrestrial vehicle, and its nonhuman occupants, was recovered in the New Mexico desert in 1947—an unexpected encounter which presented the U.S. government and military with the opportunity to covertly “reverse engineer” alien technology. But ultimately, Hawking’s intended meaning in this passage remains vague.

There is a further problem, however, with Hawking’s TED claim that any attempt by governments to suppress UFO reports has been ineffective. In his documentary series, *Into the Universe*, Hawking directly contradicts this claim, stating: “...if governments are involved in a cover up, they’re doing a much better job at it than they seem to do at anything else.”⁴² One is ultimately left wondering whether Hawking thinks there has been a successful government cover up of UFOs, or not. That Hawking could make such directly contradictory statements in the public arena, with no discernable blowback, probably speaks to the relative unimportance attached to the topic of UFOs and government in public scientific discourse. But it also exemplifies the freedom Hawking enjoys when speaking to areas quite outside his field of expertise—as a theoretical physicist, Hawking’s grasp of political science is limited, yet this shortcoming is apparently eclipsed by his widely celebrated ethos.

With *Into the Universe*, Hawking also provides a clear example of what sociologist Ron Westrum identifies as the “fallacy of centrality,”⁴³ stating: “In my opinion, if aliens are here, I suspect the newspapers would be full of the story.”⁴⁴ As Westrum has observed, when it comes to anomalous phenomena, “many scientists seem to believe that if reports have been made, they personally would know of them.”⁴⁵ This belief derives from their feeling that “they individually are in a particularly good position in the network of information.”⁴⁶ Furthermore, the fallacy of centrality corresponds with what Westrum has called the “fallacy of complete reporting”:

It must be recognized that the argument against the existence of many controversial anomalies is at least partly sociological. When it is argued that, “if there really were such a thing as X, I would have heard about it by now,” the person speaking

is making assumptions not only about the physical properties of the anomaly, but also about the workings of [a] social intelligence system in regard to anomalous events. Scientists tend to assume that reporting is more complete than it often is....⁴⁷ It is often assumed by persons unwilling to consider reports of anomalous phenomena that, in spite of their own rejection of the particular phenomenon at hand, somehow the real anomalies will be reported. The truth, of course, is that real and spurious anomalies are likely to be subjected to the same reluctance to report and the same rejections when they are reported.⁴⁸

Hawking's simplified portrayal of "the newspapers" and their receptivity to the UFO subject—one which suggests that the press, and particularly the syndicated press, is not prone to the kind of marginalization and a priori dismissal of UFOs that Hawking himself exhibits⁴⁹—also undermines his statements here. In order to guarantee a readership, newspapers must also engage in a kind of institutional facework, developing and maintaining their own ethos as trustworthy sources of accurate, fair, and balanced information about important events; even in the case of "tabloid" newspapers, this is an objective which does not particularly lend itself to the pursuit, or regular publication, of stories about UFOs. Moreover, if aliens were "here" but operating covertly, newspapers would be mostly powerless to report accurately and in-depth on them at all, rather than "full of the story." After all, one of the inherent difficulties of clearly communicating the occurrence of anomalous events is that, by their very nature, such events do not translate readily into familiar, plausible, or even intelligible narrative structures.

"Despite an extensive search by the SETI [search for extraterrestrial intelligence] project, we haven't heard any alien television quiz shows. This probably indicates that there are no alien civilizations at our stage of development within a radius of a few hundred light years."

The fact that the Search for Extraterrestrial Intelligence (SETI) project has not detected any alien television quiz shows is here offered as a *reductio ad absurdum*; of course, as Hawking's audience knows quite well, the SETI project has not been searching for, nor expects to find, audio signals of alien television quiz shows from deep space. Hawking thus ridicules not only those who think extraterrestrial intelligence may be present and active proximate to Earth, such as proponents of the ETI hypothesis for UFOs, but also the SETI project. Rather than explain in any detail what SETI is searching for, how researchers are going about it, and why the project has failed to detect any evidence of extraterrestrial intelligence, Hawking simplifies and dismisses the entire enterprise.⁵⁰

Perhaps most problematic is the anthropocentric notion of a search for alien civilizations "at our stage of development." Since SETI has failed to

detect any signals of extraterrestrial civilization, Hawking claims we can safely conclude that there are no aliens “like us” within a casually delineated field of “a few hundred light years.” By “our stage of development,” Hawking refers to the technological rather than the biological; the kind of aliens we apparently are searching for have built and are actively using technologies highly similar to those currently deployed by contemporary industrialized societies on Earth, which emit detectable signals within the specific wavelengths SETI scrutinizes. Yet the relatively recent emergence of technological development on Earth, and the exponential rate at which it has proceeded here, makes such a cosmic alignment seem very unlikely. As Sagan and others have pointed out, while maintaining ardent support for SETI, given the age of the galaxy and its plethora of planetary systems, technologically developed extraterrestrial civilizations are likely to be at least centuries, and probably many millennia, older and more advanced than our own. Recent calculations place the age of the galaxy at around 14.5 billion years,⁵¹ and the Earth at around 4.5 billion years.⁵² The logical question of what limitations such disparities might place on our ability to recognize, or indeed even perceive, extraterrestrial civilizations, or their “signals,” is elided by Hawking, as it is by many scientists who dismiss the ETI hypothesis for UFOs on anthropocentric grounds.

Hawking then his dismissal of UFOs with a straightforward appeal to ridicule. The statement, “Issuing an insurance policy against abduction by aliens seems a pretty safe bet,” functions as a dismissal by association. Pre-empting *Into the Universe*, UFO phenomena are roundly associated with alien abduction reports, and both are treated as a singular question, albeit a question now characterized by the “heightened implausibility” of the prospect of alien abduction. The implication is that, since alien abductions are obviously not occurring, UFOs are also not occurring. The conclusion is that UFOs are a non-phenomenon for scientific inquiry.

Conclusion

Despite the incompatibility of the dismissals discussed here with what is usually understood as a “scientific position,” such public treatments are to be expected of many contemporary scientists when the potential cultural impact of imminent extraterrestrial intelligence is considered. Although many scientists portray the confirmation of extraterrestrial visitation with a kind of wondrous awe, devoid of ontological dread, reminding their audiences that it would represent the greatest discovery in the history of science—one which any scientist would be elated in making—the radical alterations it would inflict upon our anthropocentrically ordered worldview, and the veracity of many key social, governmental, and military institutions, are difficult to exaggerate. The idea that even some UFOs could represent extraterrestrial

intelligence conflicts sharply with what Bauman has described as a typically modern view of the world, “one of an essentially orderly totality” in which “effectivity of control depends on the adequacy of knowledge of the natural order.”⁵³ It may be for this reason that, throughout the twentieth century and beyond, those institutions of modernity most invested in the establishment, maintenance, and defense of order tend to cultivate in their affiliates the most stringent resistance to the ETI hypothesis for UFOs and to the more conservative hypothesis that some UFOs simply represent genuine physical anomalies.

Segregated according to the discursive procedures examined in this article, knowledge about UFOs is “knowledge out of place,” and can be considered a form of “information pollution, lying on the boundaries of what is organizationally knowable and not knowable.”⁵⁴ While the evidence for immediate UFOs is strategically ignored, considerable resources are devoted to searching for evidence of extraterrestrial life and intelligence in the distant realms of the microscopic, deep space, and deep time. Tellingly, these are domains in which such a discovery would be least disruptive to the contemporary anthropocentric order. In this sense, knowledge of UFOs is dangerous knowledge, because “admitting it to the realm of what is ‘known’ may undermine the organizational principles of a society or organization,” while “not admitting such information may also have deleterious effects on institutions, either directly or by making them prone to criticism from other parts of society that they ‘ought’ to have known.”⁵⁵

As this brief analysis has shown, it is evident not only that “considerable *work* goes into ignoring UFOs, constituting them as objects only of ridicule and scorn,”⁵⁶ but that much of this work is repetitive, rhetorical, and logically fallacious. The work that scientists do to discursively segregate UFOs from scientific inquiry, and to discourage public and professional interest in UFOs as anomalous phenomena, can be seen as something grander than mere facework or boundary-work; it represents a kind of collective “terrestrial boundary-work” that ultimately ensures an anthropocentric, Earth-based exceptionalism typical of classical humanism, but increasingly incompatible with the emergence of posthumanism and what has recently been termed “the nonhuman turn.”⁵⁷ Just as this anthropocentric exceptionalism required work to establish, so too does it require work to maintain. Examining the ways in which this work manifests discursively improves our ability to talk and learn about those things we may have tacitly agreed to ignore.

Notes

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2. Stephen Hilgartner, “The Dominant View of Popularization: Conceptual Problems, Political Uses,” *Social Studies of Science* 20, no. 3 (1990): 519–531 (quote from 519).

3. Thomas E. Bullard, *The Myth and Mystery of UFOs* (Lawrence, KS: University of Kansas Press, 2010), 5.
4. Greg Eghigian, “Making UFOs Make Sense: Ufology, Science, and the History of their Mutual Mistrust,” *Public Understanding of Science* 26, no. 5 (2017): 612–626.
5. Steven Shapin, *Never Pure: Historical Studies of Science as if it was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority* (Baltimore, MD: Johns Hopkins University Press, 2010).
6. Hilgartner, “The Dominant View of Popularization,” 520.
7. Thomas F. Gieryn, “Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists,” *American Sociological Review* 48, no. 6 (1983): 781–795.
8. Gieryn, “Boundary-Work,” 782.
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10. Erving Goffman, *Interaction Ritual* (New York, NY: Doubleday, 1967), 5.
11. Stephen Hilgartner, *Science on Stage: Expert Advice as Public Drama* (Stanford, CA: Stanford University Press, 2000).
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16. Carl Sagan, “On the Detectivity of Advanced Galactic Civilizations,” *Icarus* 19, no. 3 (1973): 350–352 (quote from 350).
17. John A. Ball, “The Zoo Hypothesis,” *Icarus* 19, no. 3 (1973): 347–349 (quote from 347).
18. Ronald N. Bracewell, *The Galactic Club: Intelligent Life in Outer Space* (Stanford, CA: Stanford Alumni Association, 1974).
19. D.W. Schwartzman, “The Absence of Extraterrestrials on Earth and the Prospects for CETI,” *Icarus* 32, no. 4 (1977): 473–475 (quote from 473).
20. Despite ongoing debates, the prevailing position within the scientific community has for decades been based on the Drake Equation, which concludes that extraterrestrial life is abundant, with perhaps millions of civilizations being present in our own galaxy. However, Brian Cox has recently argued against this position in his BBC television series *Human Universe* (2014), claiming that humans are most likely “alone.”
21. Eric M. Jones, “Where is Everybody? An Account of Fermi’s Question,” Report for the U.S. Department of Energy, Report no. LA-10311-MS, Los Alamos National Laboratory, Los Alamos, NM, 1985.
22. Kuiper and Morris, “Searching for Extraterrestrial Civilizations,” 616.
23. *Ibid.*, 617.
24. See Steven J. Dick, “Cultural Evolution, the Postbiological Universe, and SETI,” *International Journal of Astrobiology* 2, no. 1 (2003): 65–74.
25. *Into the Universe with Stephen Hawking*. Documentary. Directed by Iain Riddick, Martin Williams, and Nathan Williams, (Discovery Channel, 2011).
26. Jill Tarter, former Director of the Center for SETI Research, has remarked: “While Sir [sic] Stephen Hawking warned that alien life might try to conquer or colonize Earth, I respectfully disagree. If aliens were able to visit Earth that would mean they would have technological capabilities sophisticated enough not to need slaves, food, or other

- planets. If aliens were to come here it would be simply to explore. Considering the age of the Universe, we probably wouldn't be their first extraterrestrial encounter, either." <http://www.seti.org/node/1288> (accessed February 2018).
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 28. *Cosmos*. Miniseries. Directed by Adrian Malone et al., Cosmos Studios, 2002.
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 35. Stuart Appelle, "Ufology and Academia: The UFO Phenomenon as a Scholarly Discipline," in *UFOs and Abductions: Challenging the Borders of Knowledge*, ed. David Michael Jacobs (Lawrence, KS: University of Kansas, 2000), 10.
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 37. Norman Bryson, "The Gaze in the Expanded Field," in *Vision and Visuality: Discussions in Contemporary Culture*, ed. Hal Foster (Seattle, WA: Bay Press, 1988), 91.
 38. See Leslie Kean, *UFOs: Generals, Pilots, and Government Officials Go on the Record* (New York, NY: Three Rivers Press, 2011).
 39. J. P., "Science and Folly," *Nature* 75, no. 1932 (1906): 25.
 40. Martin Rees, *Life's Future in the Cosmos*, <http://longnow.org/seminars/02010/aug/02/lifes-future-cosmos/> (accessed May 2015).
 41. Kean, *UFOs*, 2011.
 42. *Into the Universe with Stephen Hawking*, 2011.
 43. Ron Westrum, "Science and Social Intelligence about Anomalies: The Case of Meteorites," *Social Studies of Science* 8, no. 4 (1978): 461–493.
 44. *Into the Universe with Stephen Hawking*, 2011.
 45. Westrum, "Science and Social Intelligence," 478.
 46. Ron Westrum, "Social Intelligence about Hidden Events: Its Significance for Scientific Research and Social Policy," *Science Communication* 3, no. 3 (1982): 381–400 (quote from 393).
 47. Westrum, "Science and Social Intelligence," 478.
 48. Westrum, "Social Intelligence about Hidden Events," 391.
 49. See Terry Hansen, *The Missing Times: News Media Complicity in the UFO Cover-Up* (: Xlibris, 2000).
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 51. Nicolas Dauphas, "The U/Th Production Ratio and the Age of the Milky Way from Meteorites and Galactic Halo Stars," *Nature* 435, no. 30 (2005): 1203–1205.
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