

Black Holes as Metaphysical Silence

JESSA LINGEL

(provocateur)

University of Pennsylvania, USA

DANIEL SUTKO

California State University, Fullerton, USA

GIDEON LICHFIELD

Quartz, USA

ARAM SINNREICH

American University, USA

In a brilliantly mischievous interview with *Spiegel*, Italian author and theorist Umberto Eco argued that human fear of the infinite (which is to say, of death) is assuaged by lists, a gesture of imposing order on that which extends forever, beyond human knowing (Beyer & Gorris, 2009). Science fiction is also a means of imposing order—via narrative—on the infinite, of projecting possible futures to come to terms with and critique the present. Perhaps no trope of science fiction is as invested in coping with infinitude as the black hole, which I will read as moments where science fiction sequesters its own attempts at explanation and conjecture, naming an unknown thing or process or phenomenon as fundamentally inexplicable, as literally beyond the known.

Black holes are certainly confrontations with the infinite and with death (wormholes, arguably, are more of an evasion—I'll draw on examples of both in this short provocation), and fear surrounds them. To be sure, this is a fear that exceeds fiction (see Overbye, 2008, for an account of fears surrounding the Large Hadron Collider's ability to generate miniature black holes). Within its fictional context, this fear is more than an extreme version of *astrophobia* (a fear of space), because it is also *tryphobia*, a fear of holes, of endless depth, of infinitude, which returns us, according to Eco, to lists. In this brief piece I offer my own list of science fiction and tryphobia to consider the black hole as a caesura, a gap in what we know, even in what we say we know within the bounds of fiction.

More than merely a confrontation with death, black holes and wormholes are confrontations with narrative, articulating the boundaries of the explicable. This is partly because black holes remain scientifically mysterious (Figure 1), although it's beyond the scope of this brief provocation to address in depth what *is* known of either black holes or wormholes as physical.

In any case, I'm more interested in the metaphysics of these holes. Classicist, poet, and artist Anne Carson has written on metaphysical silence as instances where narrative stops itself. Drawing on the

testimony of Joan of Arc, classical translations from the poet (and psychotic) Friedrich Hölderlin, and art by Francis Bacon and Rembrandt, Carson (2008) presents metaphysical silences as those terms that are “untranslatable,” a “word that goes silent in transit” (para. 3). For Carson, these words, terms, and images are part of a resistance to conventional narrative and insistence on leaving certain things unspoken and unspeakable. In science fiction, black holes and wormholes offer a lens for thinking about our relationship to technology and imagining the future in terms of metaphysical silence. Or perhaps, as portals of silence and transit, black holes and wormholes are instances of *metatechnological* silences—gaps that articulate what science fiction refuses to imagine, to translate visions of the future.

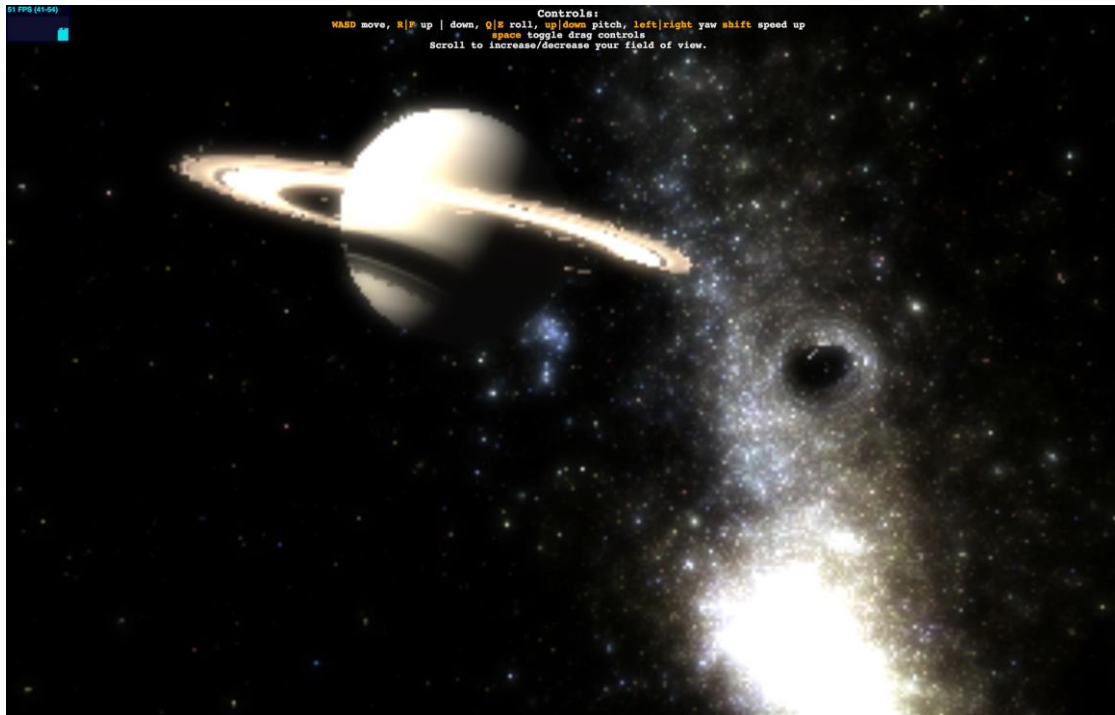


Figure 1. [Black hole simulation by GitHub user sirxemic.](#)

[Ctrl+Click title for video clip.]

Here is a brief (and scattered) list of some of the uses of black holes in science fiction movies, video games, television, and novels: In *Galaxy Quest* and *Event Horizon*, black holes become a means of travel, yet outcomes are typically dark, anguished. Black holes are frequently leveraged as openings to other worlds, as in the television shows *Battlestar Galactica* and *Star Trek: Deep Space 9*, as well as the films *Star Gate* and *Interstellar*. In these cases, black holes enable space travel that set up confrontations between a world at home and a world away, a heterotopic mirror (Foucault, 1987) of confrontations with Otherness, folding in on themselves, confronting people and ships and planets with altered versions of themselves. Black holes sometimes become weapons, as in the use of handheld devices to generate black holes in *Thor 2* and *Orion 2*. Most often, wormholes are about transport (typically between black holes), as

in the video game *EVE Online* and the television show *Babylon 5*, as well as the games *Portal* and *Portal 2*, in which wormhole guns allow for immediate traversal of distance.

Sometimes the ability to travel via wormholes is limited to a small number of people, as in *The Star Pit* (Delany, 1971) and *Embassytown* (Miéville, 2011). Travel is here a matter of distinction, not only a physical anomaly, but anomalous in terms of applicability. Sometimes, wormholes operate more like a curse, as in the television shows *Sliders* and *Quantum Leap*—in both cases, protagonists are essentially trapped in a cycle of time travel, with plotlines structured around sequences of transportation through space-time.

From this all too cursory list (my attempt to make sense of the infinite!), what can we make of black holes as futuretypes? They are a stark confrontation with the infinite, pointing to that which confounds fiction. Yet they are also a refusal to narrate,¹ an elision of travel through space and time. Depictions of actual travel within black holes and wormholes are rare and often leverage abstraction—bright and flashing lights, spirals, and contortions of ships. As a literary trope, black holes and wormholes signify a displacement from the process of travel toward preparation for or confronting the results of movement. Black holes are the stillness around which action is organized; it is what lies beyond, rather than within, black holes that make them useful as narrative tropes. In their emphasis on converging and parallel societies, dimensions and planets, black holes point us to the need for self-reflection, the demand that science fiction (but really, all fiction) makes of us to contemplate ourselves through meetings with what (at first) seems alien. (Good ethnography functions the same way.)

As narrative devices that refuse narration, black holes articulate what science fiction acknowledges should remain unspoken, a plot device that collapses, leaving not a ruin but an absence. Whether black holes are weapons or curses, they orient the reader toward a confrontation with multiplicity, with Otherness that somehow reminds us of ourselves. Returning, finally, to metaphysical silences, Carson argued that

most of us, given a choice between chaos and naming, between catastrophe and cliché, would choose naming. Most of us see this as a zero sum game—as if there were no third place to be: something without a name is commonly thought not to exist. And here is where we can discern the benevolence of translation. . . . In the presence of a word that stops itself, in that silence, one has the feeling that something has passed us and kept going, that some possibility has got free. (2008, para. 21)

In the context of science fiction, black holes name a chaos of spatial and temporal convergence, translating not just time and space within a narrative (meaning that black holes move us from one part of

¹ I have suggested that black holes and wormholes are metaphysical silences, moments of refusing to translate, a claim contested by the obsessive explanations of the science behind these phenomena, evidenced in some of the elaborate descriptions of how space travel works (e.g., Kendrick, 2014; Topher, n.d.).

a fictional world to another) but also translating anxieties of the future. Black hole translations are incomplete, always partly unexplained, confronting us, however briefly, with the limits of what is explained and inexplicable, the limits of what we are comfortable imagining within a futuretype.

Response by Daniel Sutko

Jessa, I'm going to pick up where you left off, with the theme of black holes representing the inexplicable. Black holes literally test the limits of our scientific knowledge, since we know very little about what actually happens. Your provocation made me think of the relationship between black holes/darkness, exoticizing, and knowledge. To rephrase one of the themes running through your provocation: in what ways do black holes exoticize a permanently unknowable other? I'm thinking here of historically exoticized Others, like women, Africa, or even whatever was "beyond the seas" in old maps. So what if we took black holes seriously as a political choice?

The refusal to imagine, the decision to invoke the metasilence of the black hole as trope works as an event horizon delimiting the point at which thought recedes and where our knowledge refuses to tread. Importantly, this metasilence, or metatechnological silence, is not merely a circumstantial mismatch between regimes of signs (as in the untranslatable example). When not imposed by domination, silence is also a choice, like being silent about racism, police violence, suffering, and human rights. Silence, Foucault reminds us, is also the active propagation of a discursive formation.

To take your list metaphor further, lists can't go on forever. Deciding when to stop a list is an arbitrary decision and political choice. The black hole is a full stop, like the black dot at the end of this sentence. It is also arbitrary. This metaphor is especially apt given how lists work in your provocation as a theoretical and stylistic metaphor for black-holiness. Or black-holiness? Agamben (1998) reminds us that "sacred" comes from "setting apart." How are metasilences a politically inflected "setting apart" of the unspeakable or unknowable?

In this regard, black holes also confront us with the unknown us—"not us," as you put it—and physicists with unknown physics that are alien and Other. If you throw out the laws of physics, you might as well toss out our social laws, too—thousands of years of conditioning. And what are we left with, then? The biological, social, and infrastructural contingency of our own *subjectivation*? In this sense, black holes are also like portals to *Lord of the Flies* (a different heterotopic mirror). We'd hopefully all think that, in the sudden absence of social laws, we'd rise to the occasion and *do the right thing*. But there is that nagging feeling that maybe, just maybe, we are only as good as our subjectivity. In *Do the Right Thing*, we can't blame Mookie for throwing the trash can through the window, shattering the already tenuous spatiotemporal relations in Sal's Pizzeria.

Sometimes the right thing to do isn't right (or is it?), especially considering how decorum functions to stratify and maintain social differences. In the face of a decorous full stop, well-timed profanation is a virtue, dammit. . . . The reconciliation at the end of Spike Lee's film shows that Mookie's subjectivity was irreducible to *either* docile pizza delivery boy *or* violent Black male, and he transcends structural impositions, or at least reframes the power relationship somewhat. As much as black holes are

confrontations with infinity, death, and narrative (what else is there?), I also see black holes as confrontations with our conditions of possibility for transcending collective and individual limitations, questions we will inevitably face on the way to the stars.

Black holes, by working as *deus ex machina* (or *silentium ex machina*) are a way of cheating important questions of communication, the same way they allow Cooper (*Interstellar*) and Sheridan (*Babylon 5*) to cheat death. Black holes transport people across the vast distances of space and allow us to ignore the trickiness of sublight travel and the social consequences of our desire to reach across the stars. Kim Stanley Robinson's (2015) new book *Aurora* avoids this convenient trope. His book explores the social outcomes of humans leaving earth on a ship bound for Tau Ceti, the closest known system with planets in a "habitable" zone. To give a brief sense of the thought problems he works through: At near-light speeds, most of a ship's mass would actually be dedicated to slowing it down, and several hundred generations of humans would be born, live, and die on this ship. The humans that leave cannot be like the humans that arrive.

A black hole is thus a convenient wormhole around the tricky social consequences of space travel. We (whoever the traveling "we" are) end up on the other side, much as we left. That is either satisfying or disturbing, depending on how privileged we are. Contrary to its physical role, the black hole's social role in science fiction works statically, preserving culture amidst drastic spatiotemporal change. Sometimes that preservation works to make us reckon with some form of alterity, as you note. Nevertheless, I find the preservational facet of black holes a potentially conservative choice. In a way, it's funny because we act like physics is the biggest challenge to interstellar travel, but good science fiction, futuretypes, and black holes remind us that the challenges are also social. And social problems are far trickier to solve. At least the rules of physics don't change from generation to generation and from culture to culture.

Without black holes, we'd have to reckon with preserving (or productively changing) society over the course of thousands of years. Indeed, it seems likely that space travel sans black holes will require cultural studies after STEM has the transportation figured out. Hopefully, when that day comes, our arbitrary stops and our space ships will be as all-inclusive as black holes. Thanks for shedding some light on black holes.

Response by Gideon Lichfield

I like Jessa's appropriation of Anne Carson's concept of "metaphysical silence" for black holes. Carson (2008) uses it to describe what happens when you hear a word that is not merely hard to translate, like *cliché* or *Schadenfreude*, but "does not *intend* to be translatable" (para. 1), and some more of her descriptions of this effect show why it's an appropriate way to talk about black holes, too:

Here are four letters of the alphabet, you can pronounce them but you cannot define, possess, or make use of them.

. . . the knowledge belongs to gods, the word stops itself. (para. 3)

Its components are simple yet it stays foreign, we cannot own it. (para. 9)

We can pronounce the words *black hole*; its components are simple, in physics terms (a mass large and concentrated enough for the escape velocity within a certain distance of it to be greater than the speed of light); yet it stays foreign, we cannot own or make use of one, and if there is knowledge of what it is like to see, perceive, or experience one, it belongs to gods.

Metaphysical silence is also, however, a good way to describe the property that makes black holes and wormholes susceptible to literary abuse. Something that is metaphysically silent has no recourse when a writer decides to use it as, in Jessa's rather polite formulation, a "refusal to narrate." It is not merely the passage through the hole that does not get narrated: Black holes and wormholes are also refusals to narrate in the sense that they are, all too often, banal plot crutches that make a transgalactic storyline possible without inconvenient multithousand-year hiatuses for interstellar travel, which would require the writer to actually do the hard work of coming up with both technological and narrative solutions to such long trips. One writer, Karl Schroeder (2014a), in explicit protest at this tendency, forced himself to do that work and write a book, *Lockstep* (2014b), about an interstellar civilization that does not use wormholes or any other form of faster-than-light travel, because he wanted to imagine what it would be like "in reality and not just fantasy" (para. 3).

Something that is metaphysically silent is also infinitely metaphysically malleable. Bifurcated identity, the notion of space outside space or time outside time, the possibility and moral implications of parallel universes, the problems of causality or of determinism raised by time travel—these are all examples of issues that stories with black holes and wormholes have examined. Once again, however, there is more than a whiff of convenience about these uses—the hole as a one-(infinite)-size-fits-all container for whatever metaphysical question the author has decided to explore.

Metaphysical silence is an interesting concept, however, to apply to other issues in science fiction. Carson, in her essay, uses it to describe the effect of hearing or reading a word in Homer's *Odyssey* that is in "the language of gods," and quintessentially inaccessible to mortals. By the same token, some of the language of alien beings might contain such metaphysical silences, where, struggle as we might, we cannot grasp a word's full meaning, because the aliens' metaphysics is forever inaccessible to our minds.

Response by Aram Sinnreich

It's amazing to me (especially given what I know of each of you) that the profound Freudian dimension of the black hole has thus far been overlooked. It may well be a coincidence that Freud's theories concerning sexuality and symbolism were developed at the same time that his Austrian neighbor Albert Einstein was tackling general relativity; either way, the resonances between the two modes of inquiry—one inward, the other outward—are considerable.

Let's not put too fine a point on it: The black hole is a vagina. There may be a handful of physicists and mathematicians who are capable of understanding the nature of this physical phenomenon

at a level of granularity and accuracy that renders metaphor irrelevant, but for the rest of us, symbolism will have to suffice. And, for better or for worse, it is a symbol we all recognize without having to reach too far into the depths of our unconscious, a symbol that is central to nearly every system of signification known to scholarship. The big O.

This is not to say that black holes, or yonic symbology, broadly speaking, carry the same affective potential, or the same set of cognitive associations, for every person, or even within each theoretical framework. According to Freudian psychoanalysis, the sight of the vagina is sufficient to produce castration anxiety in very young boys, at the phallic stage of psychosexual development, with psychological consequences throughout the duration of a man's life. Thus, the black hole as a symbol carries the capacity to trigger profound emotional responses in male adults, such as feelings of inadequacy and guilt associated with the man's sublimated sexual desire for his own mother.

Freud's ideas about sexuality have been rightfully criticized by generations of scholars on a number of fronts, though most of these critiques have sought to identify and dislocate patriarchal and heteronormative biases in the theory, rather than to dispute the role of symbolism, the centrality of sexuality, or the multivalent nature of the human psyche. Scholars from de Beauvoir (1949/1989) to Lacan (2011) to Irigaray (1991) have offered refinements to Freud's understanding of sexuality and signification while expanding the scope of analysis to account for female desire and subjectivity, and to problematize the role of power in our interpretation of symbols and texts. For Lacan, the process of signification itself becomes a form of castration, severing each of us, regardless of gender, from embodied reality. For Irigaray (1985), who rejects even this reformulation, the key is to escape "phallic morphologic," which casts the vagina as an antiphallus (a mere receptacle of male polysemy), or as a "dark continent" in psychoanalytic theory, the projection of male heteronormative ignorance and fear, akin to Conrad's depiction of Africa in Achebe's (1978) famous critique. Instead, Irigaray proposes the symbol of "two lips" as an ironic counterstrategy to Lacan's (and Freud's) biological essentialism: a hole with a voice! An intersubjective *I* in the shape of an *O*.

All of which brings us back to black holes and vaginas. If we take the one to signify the other, in most or all science-fiction narratives, then Jessa's analysis would suggest that most science fiction still conforms to a Freudian interpretive framework. If the black hole operates structurally as a caesura, a symbol of what isn't symbolized, and narratively as a silent threat, a gaping maw in space-time waiting to swallow heroic wanderers, then by association female sexuality still operates as a foil for male desire and fear. Even in its wormhole modality, the black hole still serves as a receptacle, or a medium, for male intentionality. The spaceship enters and then exits, its identity and delineations unchanged, while it is transported conveniently from one plot(ted) point to another. Clearly, a metaphor for patrilineage and privilege.

What would a Lacanian or an Irigayan black hole narrative look like? *Interstellar* may be seen as an example of the former, in which the black hole's relativistic power threatens to sever all of the astronauts—male and female—from their families, their histories, and their futures. Typical of Nolan's oeuvre, however, the story backs away from the precipice (event horizon?) at the last minute, invoking the transcendent power of (filial, nonsexual) love as the narrative *deus ex machina*, blunting the black

hole's scalpel and resuturing humanity's past and future. I haven't seen, read, or played an Irigarayan take on the black hole, but I'd like to. Maybe it would be a narrative in which the black hole itself is the heroic subject, exerting agency, enjoying its transcendence of Newtonian physics, and perhaps even feeling empathy or desire for the puny travelers it encounters, offering them safe passage across space-time, not according to the incontestable edicts of physics, but rather due to the complex combination of affect, strategy, and circumstance that informs the actions of every great character in the world of fiction, and perhaps of we who inhabit the "real world" as well.

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