

The Anomaly: noise, ghosts and the multiverse.

Jane Grant

Plymouth University

jane_grant@plymouth.ac.uk

Abstract

In his 1999 publication "The Life of the Cosmos" the physicist Lee Smolin puts forward the hypothesis that black holes born from dead stars may spawn new universes [1]. He describes these new or "daughter universes" as having retained a trace or a memory of the universe from which they were born [2]. At his recent talk (2015) "Personal knowledge: embodied, extended or animate?" at Plymouth University, the anthropologist Professor Tim Ingold was asked "What is imagination?" His answer in short was that imagination may be some kind of longing. For some years now, I have been working with ideas of longing and science fiction, the inhabitation via imagination of other worlds, whether terrestrial or cosmological. In this article I will address aspects of longing in relation to memory, science fiction and the imaginary.

The philosopher and psychologist Hannah Arendt believes that stories allow us to resolve our internal narrations with that of the external, whether as individuals or societies [3]. The interface between the internal and the external is a negotiable boundary, porous and indefinite and stories are one way in which human beings make sense of the world, of emotions, histories or deaths. Stories cross many boundaries; the navigation of which can place us in the rich domain of the imaginary, a limitless place in-between worlds, disciplines and narratives. A place where we might experience that which is not physically or phenomenologically close to us, to our bodies, to our perceptions of things. This inter-subjectivity regulates our personal relation between our internal world, our narrative and that of the external, of people and societies. This inter-subjectivity is also a form of relationality in which we form and reform concepts of the other, the alien, the imaginary and the abstract. Science, a rich seam of storytelling, points not only to truths or discoveries but also to the narration of the concerns of the time, of how humans find themselves in the vast expanses of space and in the miniature world of atoms and molecules. Scientific ideas are often a beautiful series of narrations at the interface of the internal and external, a not so linear progression of phenomenon, logic and imagination. In the domain of the story-world, the "dynamic interplay of self and not-self" [4] allows us to see the self as other, as spectre. The story-world is non-linear, existing alongside, between and threaded through our lived experiences. Stories are events, temporal microcosms where spectres or ghosts inhabit both past and future worlds and perhaps events where "intersubjective encounters" [5] take place with nascent things and beings. To inhabit the story-world,

albeit temporarily, is to inhabit the language of the fantastical, the potential, the maybe. Events and things from the story-world have the capacity to underwrite everyday events, to exist as an alternative to reality. Stories haunt us. The language of stories is the language of noise, a structure that brings things into being.

Longing and the Other

Recently the quantum theorist Christopher Fuchs has described Quantum Mechanics as "a dynamic interplay between storytelling and equation writing. Neither one stands alone, not even at the end of the day" [6]. Stories and narratives are how the human brain understands things including time, evolution and the unknown. Telling tales of scientific discoveries, making linear the complex webs of histories are our way of drawing a thread, a line through the intersections of past events, the fissures or intensities of human perceptions and action, traversing boundaries and interstices between the abstract and the phenomenal.

In her book "On Longing, Narratives of the Miniature, the Gigantic, the Souvenir, the Collection" Susan Stewart states that narratives of longing are a "structure of desire that both invents and distances its object." [7] Whether vast or intimate, to see something, *the* something must be at a distance. This tension is evident in a great deal of science fiction where the narrative space between distance and proximity, other worlds and alien beings provide an uncanny blend of the familiar and unfamiliar, the discursive lines drawing in the remote, filling in the unknown, the alien. The trope of much of science fiction is the doppelganger, the almost human, the ghost, our other self, inhabiting an other world. Looking out into vast unknown of the universe requires exploring our desires, our dreams and our nightmares.

Lee Smolin put forward the idea that black holes may give birth to "daughter universes" [1] and that these universes would retain a trace or memory of the parent universe, "the physical laws in the daughter universe retains a memory of the laws in the parent universe (Martin Rees [2].)"

"We are made of star-stuff" wrote Carl Sagan in 1973 in *The Cosmic Connection: An Extraterrestrial Perspective.* [8] It is true that this recycling of matter and gases has formed and reformed into what we might call, at our time in the Universe, a temporary equilibrium. This equilibrium harbors life on our planet

but when our sun dies, the earth dies too and all the stuff, soil, rocks, bodies, water will be reformed, each of the elements forged into new forms, a vast transformation of energy and matter.

It is these transformations that Smolin believes give rise to the possibility of the birth of new universes. His theory is based on two hypotheses, firstly that “quantum effects prevent the formation of singularities, at which time starts or stops.” [9] If this is so then time cannot end in the centre of a black hole, but must continue into a “new region of space-time, connected to our universe only in its first moment.” [10] The second hypothesis, Smolin goes on to explain, is that the inception of our universe, what we might call the Big Bang, is an “explosion, or bounce, (is) a new effect that happens when matter is squeezed to some enormous density, larger than any we have so far observed.” [11]

Smolin goes on to imagine all of the black holes in our universe, many holding within them the possibility to create new universes, each future iteration spawning new life, new worlds. He says “Perhaps it makes it a little easier to contemplate this possibility if one recalls that by itself the simple proposal that time never ends forces us already to conceive of a infinitude of events taking place that we, in our lifetimes, can never know of. All this picture really does is to rearrange all of these inaccessible moments [12].”

Iteration and the Doppelganger

Whilst bound to the earth by gravity humans live poised between the dark interior of the earth’s innards and the vast weather world [13] of the atmosphere. Further out, our line of sight observes our solar system, the planets, visible to the naked eye and huge stars in other solar systems, we see the edges of our galaxy and other nebula, celestial constructions seemingly inert. Dark matter causes disturbances of the trajectory of our eyes and our telescopes, (an extension of our vision), warping space and time. This anomaly, causing a single star to be seen as twins, as a distant doppelganger, the uncanny star.

If Smolin and others are correct, we live in an infinity of universes, the multiverse, where each new birth has residue or memory of the older universe that brought it into being. As these new multiverses are born, each is only fractionally different than the ‘mother’ and therefore may contain the possibility of life, of a solar system like ours, of the possibility of consciousness.

Noise is an undercurrent of mutable implicit information, which points to possibilities, existences, at the interface, at the boundary. Noise is the intermediary, a ghostly interlocutor that passes information across internal and external thresholds. To be alive is to be haunted, by our past, others’ histories and this haunting is a kind of longing, a future longing, a longing of imagination, of what may be. Of course to be alive is to be tangled in a skein of narratives of futures and pasts, to dwell in the interstices of our world. Smolin says of the structure of these other worlds, “time is no longer a

simple linear progression. Instead time branches like a tree, so that each black hole is a bud that leads to a new universe of moments [14].”

This story of the multiverse comes at a time where endless human life on earth is doubtful. It is interesting then that our longing is engaged with the possibility of finding other worlds, habitable, almost like our own and perhaps accessible. Science fiction employs the other world and the doppelganger in order to explore the what if? What if our universe was similar to this one but slightly distorted, if gravity was different, for example. Human imagination seems to have always looked to see our world at a distance. One theory dating back to Ancient Greece was that the moon was thought to be a immense celestial mirror, reflecting an image of the earth to all those gazing at its surface and this is useful, as on an earth unable at that time to look back on itself, the image of the moon as a mirror serves as a space to see ourselves in the vast distances of space. Now that we are able see into space, into other galaxies, discover exoplanets, possible homes, stories of the multiverse may serve a purpose for us to imagine human life, lived out in multiple universes’ planets now that our life on our home is fragile. And in our minds we imagine these other humans as ghosts or doppelgangers, as noise at the surface or interfaces of our world, as traces, at the very edge of our perceptions, other lives lived, just detectable.

“At the interface between the medium and substances are surfaces. Surfaces are where radiant energy is reflected or absorbed, where vibrations are passed to the medium, where vaporization or diffusion into the medium can occur, and what our bodies come up against in touch. So far as perception is concerned, surfaces are therefore “where most of the action is (Gibson 1979:23).” [15]

Each time a new universe is born, the tangled skein of iterations of these worlds vibrate and we would become aware at the periphery of the other, the alien, the ghost and a longing to unite ourselves with our other selves, out there at the interface between other universes. To merge with what might have been, what might become.

Ghosts

In science fiction, ghosts or doppelgangers are agents at the surface or interface of our worlds, traces of other lives, other beings, things just detectable, at the very edge of our perceptions, brought into being by extending the laws of physics, longing and imagination - the supersensible.

“In the virtual space of all tele-technosciences, in the general dis-location to which our time is destined – as are from now on the places of lovers, families, nations – the messianic trembles on the edge of this event itself. It is this hesitation, it has no other vibration, it does not “live” otherwise, but it would no longer be messianic if it stopped hesitating: how to give rise and give place *donner lieu*], still, to render it, this place, to render it habitable.” Jacques Derrida [16]

And we might look at Derrida's vibration as an emanation of noise, in the vibration there are a multitude of voices, voices that have been and are yet to come, a haunting on an vast scale, a calling to the edges, the periphery, the boundary, the other world, the multiverse.

References

1. Lee Smolin, *The Life of the Cosmos* (Oxford University Press, 1997).
2. Martin Rees, *Our Cosmic Habitat*, (Orion Books, 2002) 177.
3. 4. 5. Michael Jackson, *The Politics of Storytelling: variations of a theme by Hannah Arendt* (Museum Tusulanum Press, 2013) 31-47.
6. Christopher Fuchs, "A Private view of Quantum Reality," *Illuminating Science*, June 4, 2015 accessed January 1, 2016. <https://www.quantamagazine.org/20150604-quantum-bayesianism-qbism/>
7. Susan Stewart, *On Longing, Narratives of the Miniature, the Gigantic, the Souvenir, the Collection*, (Duke University Press) 1993, ix.
8. Carl Sagan, *The Cosmic Connection: An Extraterrestrial Perspective*, (Cambridge University Press) 1973, 190.
9. 10. 11. 12. Lee Smolin, *The Life of the Cosmos* (Oxford University Press, 1997) 92-95.
13. Tim Ingold, *Being Alive: essays on Movement, Knowledge and Description* (Routledge, 2011).
14. Lee Smolin, *The Life of the Cosmos* (Oxford University Press, 1997), 94.
15. Tim Ingold, *Being Alive: essays on Movement, Knowledge and Description* (Routledge, 2011), 22.
16. Jacques Derrida, *Specters of Marx* (Routledge, 1994) 212-213.