▣ *PULSE – the Journal of Science and Culture, Vol.6 (2019)*
*ISSN 2416-111X*

**Marijeta Bradić**[1]

# TOWARDS A POETICS OF WEIRD BIOLOGY: STRANGE LIVES OF NONHUMAN ORGANISMS IN LITERATURE

**Abstract:** This article tackles the concept of "weird biology," which designates representations of specific nonhuman life forms in speculative fiction. Within the wider category of speculative fiction, there is a large number of literary works aiming to evoke what some cultural theorists named *the weird*. The umbrella term for these works is *weird fiction*. This growing body of work has often been analyzed in its socio-political context, thereby neglecting one of the most important aspects of weird storyworld building – the environment or, more precisely, the nonhuman domain. This article will develop further the idea that particular natural phenomena and entities evoke a sense of the weird. Given that the setting of weird fiction is often composed of animals radically different from humans, such as marine invertebrates, mushrooms, lichen, mold, as well as slime mold, and various strange looking plant species, such as ferns, moss and vines, these organisms will therefore be of particular interest to us. Based on their extraordinary sensory-motor abilities, unusual habitats or feeding and reproductive habits, they are often described as "weird" in everyday language. This article will attempt to explore how they fit into Mark Fisher's conception of the weird, and also to highlight the importance of animal and critical plant studies in the analysis of such texts.

**Keywords:** weird biology, weird fiction, animal studies, critical plant studies

## Introduction

The natural world is rife with scenarios that would be hard to distinguish from those of horror fiction. Far from the romantic idealization of wilderness, nature abounds in "ravenous insects with terrifying eating and breeding habits and plants that trap prey for days while

[1] Marijeta Bradić is a PhD Candidate at the Faculty of Humanities and Social Sciences, University of Zagreb (Postgraduate Doctoral Study Program in Literature, Theater and Performing Arts, Film, Musicology and Culture), Croatia.

digesting it alive, amid numerous other unsettling marvels."[2] To name just a few examples, the so-called "zombie wasps" are known for using other insects as a living nursery for their larva, the Cordyceps fungus reproduces by infecting ants' brains, while the mind controlling parasite *toxoplasma gondii* lives in domestic cats and is connected to risky behaviors (schizophrenia and suicides) in humans and other vertebrates. The list goes on.

However, there are organisms which are not so much horrifying as they are *weird*. They inhabit worlds that are, on many levels, often far beyond human reach, whether on spatial (marine invertebrates) or senso-motorical level (plants, slime mold, etc.).[3] But, what exactly *is* "the weird" and how is it different from horror?

According to Mark Fisher, the weird is constituted by "the presence of that which does not belong."[4] Rather than evoking the feeling of fear, it has to do with a "fascination for the outside, for that which lies beyond standard perception, cognition and experience."[5] The difference between horror and the weird lies in the fact that the latter ("the weird") "cannot only repel, it must also compel our attention."[6] In other words, it does not include the feelings of terror, suspense and disgust that are a distinctive feature of horror fiction, but instead relies on fascination: "if the element of fascination were entirely absent from a story, and if the story were *merely* horrible, it would be no longer weird."[7] In a sense, the weird is a specific affect similar to Freud's notion of the *unheimlich*, and yet very different from it.

This means that in order to "define the unease evoked by the weird (...) new terminologies beyond the domesticated uncanny"[8] are required. China Miéville introduces the concept of the *abcanny* in order to differentiate it from the uncanny. Whereas the uncanny designates something strangely familiar, the abcanny involves the encounter with something completely odd and strange. Fisher, on the other hand, differentiates the weird from the *eerie*: the weird is "the presence which does not belong," and the eerie happens in the sphere "when there is something when there should be nothing," or, "when there is

[2] Sam Reader, "Our 6 Favorite Freakish Fungi in Sci-Fi & Fantasy," The B&N Sci-Fi and Fantasy Blog, August 14, 2017, Accessed July 03, 2019, https://www.barnesandnoble.com/blog/sci-fi-fantasy/6-favorite-freakish-fungi-sci-fi-fantasy/.
[3] At this point, it is important to explain the relevance of the human/nonhuman distinction for this article. Traditionally the notion of the human has been grounded in dualistic thinking according to which the human holds a privileged place in the world. Various schools of thoughts, such as posthumanism, new materialism and animal studies, can be understood as an explicit reaction to this paradigm. As an interdisciplinary field which is engaging with the relations of humans and animals, animal studies have complicated the idea of human subjectivity by emphasizing its inextricable relationship with nonhuman animals.
[4] Mark Fisher, *The Weird and the Eerie* (London: Repeater Books, 2016), 64.
[5] Fisher,10.
[6] Fisher, 19.
[7] Fisher, 19.
[8] Roger Luckhurst, "The Weird: A Dis/orientation," *Textual Practice* 31, no. 6 (2017): 1052.

nothing when there should be something."[9] The difference between the *unheimlich*, the weird and the eerie could be observed, for instance, in the works of Mark Z. Danielewski, China Miéville and Reza Negarestani. In Danielewski's novel *House of Leaves* (2000), the motif of the (haunted) house, the marker of the *unheimlich par excellence*, is represented as something that is at the same time familiar/homely and unfamiliar/unhomely. In comparison to this, the weird and the eerie are moving completely beyond the domestic and the familiar. Miéville's short story collection *Looking for Jake* (2005) is an example of the weird, particularly the story "Jack," which relies on the weird montage in depiction of its characters, whose limbs are replaced with animal body parts or engines as a part of the legal punishment. Finally, an important marker of the eerie – ascribing agency to inanimate matter – is present in Reza Negarestani's novel *Cyclonopedia* (2008) where oil is depicted as a sentient entity which arises from the depths of the Earth in order to control human behavior. Regardless of the fact that all these texts simultaneously operate within all three affective registers, the last two examples reveal an important characteristic of the weird and the eerie that is not applicable to the *unheimlich*: they do not necessarily evoke fear. When it comes to the *unheimlich*, however, fear seems to be its crucial element; therefore, it is important to distinguish between these three affects, in spite of their similarities.

Among many different literary and narrative devices that are used for generating a sense of the weird, the motif of the animal takes a special place, with particular emphasis on non-mammals and invertebrates. However, there are also many other organisms prominent in speculative fiction that could not be classified as part of animal kingdom. With respect to the most popular authors of the (new) weird fiction, these are mushrooms, lichen, mold, slime mold and particular plants, such as vines and climbing plants, ferns and mosses. Each of these categories and species is characterized by a deviation from standard perception, cognition and experience. That is the reason why no speculative fiction or, more specifically, weird fiction "would be complete without either some kind of fungus or parasite."[10] Because of their perplexing nature, all of the aforementioned organisms remain in the sphere of the weird. Moreover, the inaccessibility of their inner worlds or the *Umwelt*, as German biologist Jakob von Uëxkull called it, might be the reason why they were also the subjects of various pseudo-scientific explorations. One of the best-known examples in this regard is Peter Tompkin's and Christopher Bird's controversial book *Secret Life of Plants* (1973) with

[9] Fisher, 65. There are also examples of related concepts which have gained special attention in contemporary ecocritical theory: Timothy Morton's notion of *hyperobjects* (2013), Donna Haraway's *Chthulucene* (2015) as an alternative name for a new geological epoch, and Bruno Latour's networks of subjects and objects (1999).
[10] Sam Reader, "Our 6 Favorite Freakish Fungi in Sci-Fi & Fantasy," The B&N Sci-Fi and Fantasy Blog, August 14, 2017, Accessed July 03, 2019, https://www.barnesandnoble.com/blog/sci-fi-fantasy/6-favorite-freakish-fungi-sci-fi-fantasy/.

descriptions of implausible reports and experiments of dubious scientific value that apparently confirm plant sentience.[11] A more recent example is the exogenesis theory which suggests that octopuses are of extraterrestrial origin.[12] These nonhuman life forms are undoubtedly linked to the weird aesthetics of speculative fiction narratives and as such, they are worth special attention in the field of animal and critical plant studies.

Even though it could be argued that human animals are biological creatures as well, and that their symbiotic or parasitic relationships with nonhumans such as gut bacteria, viruses and fungi are weird in itself, this article will limit its attention to nonhuman organisms only or, more specifically, the ways in which they can evoke a sense of the weird in humans. In order to explain the connection between these organisms and the weird, this article starts with the assumption that the weird should be distinguished from the supernatural. Contrary to supernatural beings found mostly in fantasy fiction, these organisms evoke a sense of the weird because they deviate from the familiar laws of nature but are not in contradiction with them, as in the case of the supernatural domain.[13] The main argument will be developed in three stages. The first step will consist in explaining the choice of the literary texts in question, followed by an attempt to establish the role of nonhumans in weird fiction, and its interconnections with life sciences. The last section of the text will focus on analyzing the examples of "weird" nonhuman organisms present in the selected literary texts, which are also often found in other works of speculative fiction.

## Weird Terrains of Speculative Fiction

Within the broader category of speculative fiction, at the crossroads of science fiction, horror and fantasy, a body of texts called *weird fiction* has established its own form and generic tropes around the idea of destabilizing and reconfiguring familiar genre conventions. In their introduction to the special issue of the journal *Genre* dedicated to weird fiction, Benjamin Noys and Timothy S. Murphy attempted to provide an orienting classification of weird fiction even though, according to Roger Luckhurst, weird fiction defies categorization, so it would be more accurate to speak of *dis*orientation, rather than orientation.[14] Despite its

[11] Significant progress has been made in the field of plant sentience in terms of confirming plant intelligence since the publication of the book, but Tompkin's and Bird's research is nonetheless based on questionable methodology and problematic conclusions (some of the most popular claims were that plants prefer classical music over rock, and that talking to plants makes them healthier).
[12] See Steele E. J. et al., "Cause of the Cambrian Explosion – Terrestrial or Cosmic?," *Progress in Biophysics and Molecular Biology*, vol. 136 (Aug 2018): 3-23.
[13] See Lovecraft, 1971: 295–96.
[14] See Luckhurst, 2017.

"profoundly hybrid form, central to attempts to define the weird as a genre has been its estrangement of our sense of reality."[15] Every endeavor made to describe weird fiction resulted in a conclusion that its crucial characteristic lies in its ability to alter the reader's sense of reality, making it appear stranger, more peculiar and complicated.

Notwithstanding the material and generic diversity of the weird, Noys and Murphy have developed an initial periodization of the "old" weird and the new weird. While the former can be dated from 1890 to 1940, and is associated with the American horror and science fiction pulp magazine *Weird Tales*[16] and H. P. Lovecraft as its most successful writer, the new weird, a term coined at the beginning of the new millennium, "emerged comparatively recently and was established primarily with the fiction and criticism of Miéville."[17] The authors suggest the possibility of tracing the new weird "back further to the 1980s fiction of Clive Barker and especially Thomas Ligotti."[18] Their particular interest in Ligotti lies in the fact that he "succeeded in avoiding the pastiche and repetition that had tended to dominate post-Lovecraftian weird fiction and formulated a new and desolate conception of a fundamentally chaotic universe."[19] Noys and Murphy therefore define the new weird as the "period from the 1980s to the present that gained its most explicit articulation in the 2000s."[20]

The main difference between the old and the new weird fiction is in their treatment of the Other. While Lovecraft saw the monstrous as a source of horror – a worldview influenced by his racism and misogyny – the new weird tends to embrace the alien and monstrous in the form of assimilation, mutation and body modifications. This means that the new weird can be seen as a new sensibility towards nonhuman otherness, addressing various political and social issues of modern world, such as climate crisis, war on terror, etc.

As Luckhurst asserted, weird fiction is "a category that defies categorization."[21] Lovecraft himself insisted that the weird was "an effect of 'atmosphere', a 'vivid depiction of a certain type of human mood,'" so weird fiction "was never tied to a fixed typology and continually slipped category."[22] Both Luckhurst and Fisher claimed that the weird should not be perceived as a genre, but as an affect or a sensation, an inflection or a tone, a mode of

[15] Benjamin Noys and Timothy S. Murphy, "Introduction: Old and New Weird," *Genre* 49, no. 2 (2016): 117.
[16] The first issue of *Weird Tales* was released in 1923.
[17] Noys and Murphy, "Introduction: Old and New Weird," 118.
[18] Noys and Murphy, 118–119.
[19] Noys and Murphy, 119.
[20] Noys and Murphy, 119.
[21] Luckhurst, 1042.
[22] Lovecraft in Luckhurst, 1043.

fiction and perception, and ultimately a mode of being.[23] These characteristics are shared with the *unheimlich*, but in contrast to the *unheimlich*, which permits domestication, "the monstrous breaches of the weird do not return us to something familiar but repressed, but instead veer away to invoke a dread that is irreducible, that cannot be reductively interpreted, translated or returned."[24]

In opposition to fantasy fiction, which depicts supernatural creatures that are at odds with this world but simultaneously wired in our folklore and traditions and thus cannot evoke a sense of the weird, the weird brings into question familiar frameworks, and it does so by its rootedness in the everyday. In a similar manner, Miéville notes another important aspect of the weird: its relation to the sublime. The weird "punctures the supposed membrane separating off the sublime, and allows spillage of that awe and horror from 'beyond' back into the everyday – into angles, bushes, the touch of strange limbs, noises, etc."[25] In these sentences, the importance of the environment and its strange inhabitants for weird fiction is looming, which calls for a further exploration of this problem.

## Approaching Strange Environments

One of the greatest examples in the history of evolutionary biology of how particular natural forms call for weird and psychedelic artistic interpretations is *Art Forms in Nature* (1899/1904), the book of illustrations made by the eminent 19th-century German biologist Ernst Haeckel. A proponent of evolutionary theory and Charles Darwin's work, his most notable contributions to the natural sciences were the introduction of the term *ecology* and the proposition of the kingdom *Protista*. Oscillating between scientific description and artistic interpretation, Haeckel's illustrations in *Art Forms in Nature* function as a sort of catalogue of some of the weirdest animal, plant and fungal forms. It is therefore understandable that Haeckel himself was an inexhaustible source of inspiration for Lovecraft not only with his writings, but also with his illustrations.[26]

But the relationship between fiction and science is not always straightforward, with fiction borrowing ideas from science and technologies for story development. Some recent examples show that this process is rather reciprocal. One of the latest discoveries made by the

[23] See Fisher 11; Luckhurst 1045.
[24] Luckhurst, 1045.
[25] China Miéville, "Weird Fiction," in *The Routledge Companion to Science Fiction*, ed. Mark Bould et al. (London and New York: Routledge, 2009), 511.
[26] For more on Haeckel's influence on Lovecraft see S. T. Joshi's *H. P. Lovecraft: The Decline of the West* (Berkeley Heights, NJ: Wildside Press, 1990), 7–19.

University of British Columbia researchers involves two new symbionts inhabiting the gut of termites, which are named after Lovecraft's fictional monsters: "The single-cell protists, *Cthulhu macrofasciculumque* and *Cthylla microfasciculumque*, help termites digest wood. The researchers decided to name them after the monstrous cosmic entities featured in Lovecraft's *Cthulhu Mythos* as an ode to the sometimes strange and fascinating world of the microbe."[27] Recently there was another similar case: a newly discovered sea creature fossil, an ancient ancestor of modern sea cucumbers, named after Lovecraft's infamous tentacled monster – *Sollasine chtulhu*. In the original research paper the etymology of the new species is explained: "Named for the Cthulhu mythos of H. P. Lovecraft, a fictional universe populated with bizarre tentacled monsters. Pronunciation: kuh-THOO-loo."[28] Moreover, the German Aerospace Center has just made a discovery concerning some other "weird" organisms: "as part of a project called the Biology and Mars Experiment, they found that samples of organisms including bacteria, algae, lichens and fungi survived on the exterior of the International Space Station for 533 days. (…) The results also could serve as support for the 'panspermia theory', which suggests that organisms existed on Mars billions of years ago and were ejected from its surface thanks to an asteroid impact and eventually brought to Earth."[29]

Such examples reveal the mutual agreement on how the encounters with these organisms are affecting us. This sensation is not completely frightening, but it also does not resemble experiencing something beautiful:

> It involves a sensation of wrongness: a weird entity or object is so strange that it makes us feel that it should not exist, or at least it should not exist here. Yet if the entity or object is here, then the categories which we have up until now used to make sense of the world cannot be valid. The weird thing is not wrong, after all: it is our conceptions that must be inadequate.[30]

Furthermore, the weird should not be associated with the supernatural because some natural phenomena are in many ways weirder than fantastic creatures."[T]he very generic recognisability of creatures such as vampires and werewolves disqualifies them from provoking any sensation of weirdness, especially in comparison to a natural phenomenon

[27] "New Tiny Octopus-like Microorganisms Named after Science Fiction Monsters," Phys.org. April 03, 2013. Accessed July 07, 2019. https://phys.org/news/2013-04-tiny-octopus-like-microorganisms-science-fiction.html.
[28] Imran A. Rahman, Jeffrey R. Thompson, Derek E. G. Briggs, David J. Siveter, Derek J. Siveter, and Mark D. Sutton, "A New Ophiocistioid with Soft-tissue Preservation from the Silurian Herefordshire Lagerstätte, and the Evolution of the Holothurian Body Plan," *Proceedings of the Royal Society B: Biological Sciences* 286, no. 1900 (2019): 2.
[29] Victor Tangermann, "Organisms Survived on the outside of the Space Station," *Futurism*, March 27, 2019. Accessed July 07, 2019. https://futurism.com/organisms-outside-space-station.
[30] Fisher, 17.

such as a black hole."[31] As noted by Fisher, "the bizarre ways in which it bends space and time are completely outside our common experience, and yet a black hole belongs to the natural-material cosmos – a cosmos which must therefore be much stranger than our ordinary experience can comprehend."[32] This means that fictive worlds which are completely foreign to us, such as those in fantasy fiction, do not necessarily fit into the category of the weird because the weird is completely compatible with our familiar world. However, from our current perspective and based on our knowledge about the world, the weird entities are hard to comprehend.

Nonhuman organisms inhabiting the fictive worlds of Lovecraft, Ligotti and VanderMeer, to name just a few authors, all meet the criteria of the weird described by Fisher. Tentacled cephalopod monsters, members of the Fungi kingdom, slime mold, and strange lush vegetation have all become emblematic tropes of weird fiction. All of them fall into the category of the oldest life forms on Earth, which means that they have preserved their physiology and behavior through millions, or even billions of years of evolution. The evolutionary branches of humans and these organisms have diverged a long time ago. The result is a radically different experience and cognition so strange that they seem like "alien life form[s] from a science fiction novel."[33]

## Encounters with Tentacled Organisms

The distinctive feature of the weird is its relationship to the strange or, more precisely, to something that is beyond our ordinary experience. If the signature tropes of science fiction and horror are vampires, zombies or werewolves, weird fiction moves beyond such "minimal allegorical displacements of the human," and strives towards the tentacled, "limb-tongue suggestive of *absolute* alterity."[34] In his book titled *Other Minds* (2016), probably one of the best recent attempts in comprehending the cephalopod mind, author Peter Godfrey-Smith vividly describes the strange nature of our very distant relatives: "If we can make *contact* with cephalopods as sentient beings, it is not because of a shared history, not because of kinship, but because evolution built minds twice over. This is probably the closest we will come to meeting an intelligent alien. (…) If we want to understand *other* minds, the minds of

[31] Fisher, 17.
[32] Fisher, 18.
[33] Steven Shaviro, *Discognition* (London: Repeater Books, 2015), 180.
[34] Luckhurst, 1054 (emphasis added).

cephalopods are the most other of all."[35] Godfrey-Smith here draws attention to the differences between humans and cephalopods, namely octopuses. In fact, octopuses stand out from the entire animal kingdom because of their unusual cognition and behavior. Even though they are known for their high intelligence, octopuses are rather an exception to the rule that intelligent animals lead complex social lives and have a long lifespan. Furthermore, they have a special ability for editing their RNA sequences as an adaptation to new environments. They seem like an extraterrestrial organism regardless of the fact that they do not deviate from any existing natural laws in any sense. It does not come as a surprise that they have been an inspiration to science fiction writers for a long time.

The fascination with cephalopods is a major part of Miéville's writing, such as in the novel *Kraken* (2010), but Lovecraft was nonetheless the master of this genre. Lovecraft's poetics was a logical consequence of various scientific discoveries of the time, so his departure from the supernatural is evident in his interest in the natural world or, more precisely, in the laws of nature. This preoccupation is embodied in the form of a tentacled monster, an entity that reveals itself strange in comparison to the existing and familiar laws of nature, and yet does not stand in contradiction to them. This means that, unlike fantasy, the weird necessarily maintains a relationship to realism while at the same time disturbing our order of things.

Without a doubt, "[t]here is something primeval" in the formless body of the octopus, a creature "seemingly left behind by evolution."[36] Luckhurst sums it up well:

> Octopus morphology is built on the spiral rather than bilateral symmetry, its head grows out of its foot, its brain is borne lower than its stomach. [...]The mythic resonances of giant squids and krakens, the unknowability of the cephalopod (with a biology that still perplexes scientists in many respects), makes it a privileged locus of animal existence that 'refuses to be conceptualized', as Derrida puts it in 'The Animal that Therefore I Am'. It cannot be swept into the neutralizing economy of self other. [...] [T]he tentacle

[35] Peter Godfrey-Smith, *Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness* (New York: Farrar, Straus and Giroux, 2016), 17–18.
[36] Jasper Sharp, "Book Review: Peter Godfrey-Smith 'Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness,'" *Interalia Magazine*, September 13, 2017. Accessed July 07, 2019. https://www.interaliamag.org/articles/jasper-sharp-book-review-peter-godfrey-smith-minds-octopus-sea-deep-origins-consciousness/.

> is the emblem of that which will not correlate, be reduced to categories of human thought.[37]

The presented viewpoints necessarily call for addressing the problem of anthropocentrism. Here the effect of the weird is founded on a clear human/nonhuman distinction: the cephalopod's *Umwelt* is radically different from the human one. But this does not imply the primacy of human animals; on the contrary, this standpoint acknowledges the nonhuman's unique subjective experience, without stepping into the trap of projecting our own qualities onto them. It is up to debate, however, whether this leads to a completely opposite bias, namely the *anthropodenial*, or an *a priori* denial of human-like characteristics in nonhuman animals and *vice versa*.[38] This is where the New Weird steps in with its tropes of assimilation, mutation and welcoming of the Other.

## Thriving on Death and Decay: Mushrooms, Lichen and Mold

Regarding their feeding habits, the fungi are undoubtedly among the most bizarre natural phenomena: they feed off the decaying matter in their surroundings and thrive in environmental disasters. Despite the horrific potential of some parasitic fungi such as Cordyceps, fungi in general evoke both fascination and estrangement, a keymarker of the weird. This feature of fungal organisms was noticed by mycologists themselves:

> Nurtured in death and decay, often bizarre of form and lurid of colour, some bloated and leering, others dainty and graceful, all appearing and often disappearing in such uncanny fashion, these pariahs of the plant world have been for ages at once a source of wonder and loathing to the uninitiated.[39]

There are many perceptions of fungal life in popular culture but they are generally considered unusual and bizarre. Above all, fungi have always been considered as a literary tool for intensifying "an air of desolation and ruin."[40] In her book-length study of the Japanese

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[37] Luckhurst, 1054.
[38] See Frans de Waal, "Anthropomorphism and Anthropodenial: Consistency in Our Thinking about Humans and Other Animals," *Philosophical Topics* 27 no. 1 (1999): 255–80. This discussion has lately gained attention among cognitive narratologists interested in nonhuman narratives, such as Alexa Weik von Mossner (2017) and David Herman (2018), who recognize the necessity of critical anthropomorphism in order to understand the lives of animals, allowing humans to detect shared characteristics across the species boundaries. Critical anthropomorphism here designates the awareness of differences between the human and the nonhuman animal.
[39] J. Ramsbottom in R. T. Rolfe and F. W. Rolfe, *The Romance of the Fungus World* (New York: Dower Publications, Inc., 1974), 1.
[40] Rolfe R. T. and F. W. Rolfe, *The Romance of the Fungus World* (New York: Dower Publications, Inc., 1974), 22.

matsutake mushroom, anthropologist Anna Tsing notes that one of the most interesting facts about this mushroom is its tendency to grow in disrupted ecosystems: "When Hiroshima was destroyed by an atomic bomb in 1945, it is said, the first living thing to emerge from the blasted landscape was a matsutake mushroom."[41] Locating this phenomenon in a more recent context, Tsing concludes that the "matsutake's willingness to emerge in blasted landscapes allows us to explore the ruin that has become our collective home."[42] Mycologists Robert Thatcher Rolfe and Frederick William Rolfe, however, write about a much earlier case dated in 1348, when the Black Death struck Europe:

> rain fell almost unceasingly for over two months, so that the crops rotted in the fields, and ruin and desolation brooded over all. 'The fields were spotted with monstrous fungi of a size and colour never matched before – scarlet and mauve and liver and black. It was as though the sick earth had burst into foul pustules; mildew and lichen mottled the walls, and with that filthy crop, earth sprang also from the water-soaked earth'.[43]

The described fungal behavior provides an explanation why popular culture is rife with mushrooms and mold, acting as an intensifier for strange atmosphere and "always in the orbit of death, decay, and dampness."[44] Another odd aspect of fungal life is their symbiotic relationships with other life forms. In this sense, the most interesting phenomenon is lichen: as symbiotic assemblages of species – algae or cyanobacteria and fungi filaments – lichens are an important part of the new weird environments. Tsing et al. describe lichen as the "ghosts of multispecies landscapes [that] disturb our conventional sense of time."[45] Potentially immortal, lichens are "ghosts that haunt us from the past, but they also peer at us from a future without us. These temporal feats alert us that the time of modernity is not the only kind of time, and that our metronomic synchrony is not the only time that matters."[46] The temporal logic of lichen life cycles is "outside [of what] our ordinary experience can comprehend."[47]

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[41] Anna Lowenhaupt Tsing, *Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (New Jersey: Princeton University Press, 2015), 17.
[42] Tsing, 17.
[43] Rolfe, 2.
[44] Ben Woodard, *Slime Dynamics: Generation, Mutation, and the Creep of Life*. Winchester (UK: Zero Books, 2012), 33.
[45] Anna Tsing et al. (ed.), *Arts of Living on a Damaged Planet (*Minneapolis: University of Minnesota Press, 2017), 9.
[46] Tsing, 10.
[47] Fisher, 18.

In literature, the motif of the fungus seems to be the most common narrative device for emphasizing decay or rottenness. Luckhurst detects a few such examples: "William Hope Hodgson's sea stories like *The Boats of 'Glen Garrig'* crawled with monstrous mosaic beings that fuse together men and rotting clumps of seaweed or fungus. [...] In New Weird writing, the fungal, mycological drive continues (it is there in VanderMeer's stories set in Ambergris or in Aliya Whiteley's unnerving novella, *The Beauty*), but the alterity tends to be embraced in unexpected ways," namely in the form of mutation and intimacies between the human and the fungal.[48] Ligotti's and VanderMeer's fiction abounds in moldy objects, strange fruiting bodies and lichen. In Ligotti's short story "The Shadow at the Bottom of the World," the villagers encounter a strange organism resembling a fungus: "the shape that stood before us was of a wholly different nature. It was something black and twisted into the form of a man, something that seemed to have come up from the earth and grown over the wooden planks like a dark fungus, consuming the structure."[49] The strange combination of a both flourishing and rotting environment captures the very essence of fungal nature: "In sleep we were consumed by the feverish life of the earth, cast among a ripe, fairly rotting world of strange growths and transformation. We took a place within a darkly flourishing landscape where even the air was ripened into ruddy hues and everything wore the wrinkled grimace of decay, the mottled complexion of old flesh."[50] In VanderMeer's *Annihilation* (2014), the protagonist is infected by fungal spores, becoming somewhat of a bioluminescent posthuman organism,[51] blurring the boundaries between the human and the nonhuman. As a textbook example of the Anthropocene novel, i. e., novel explicitly dealing with anthropogenic climate change,[52] the landscapes in *Annihilation* flourish with weird fungal species:

> Little tufts of moss or lichen dotted that ceiling, and, exhibiting great tensile strength, tiny long-limbed translucent creatures that resembled cave shrimp stilt-walked there as well. [...] But I'd also had an intense refresher on fungi and lichen that, in light of the words on the wall, now stood out in my mind as being the true purpose of that study. [...] Then right-hand wall had changed, too, in that a thin layer of moss and lichen covered it.[53]

[48] Luckhurst, 1054.
[49] Thomas Ligotti, *Grimscribe: His Lives and Works* (London: Robinson Publishing, 1991), 206.
[50] Ligotti, 209.
[51] Even though "posthuman" is an umbrella term for more or less similar schools of thoughts, in the context of animal studies it designates the practice of rethinking the notion of the "human" in the light of life sciences, namely the idea that the human is not disconnected from the environment.
[52] In reference to Adam Trexler's book *Anthropocene Fictions* (2015), where the author describes a growing body of texts that can be interpreted as a response to the problem of current ecological crisis. Here the term Anthropocene refers to the proposed geological epoch defined by the destructive human impact on Earth.
[53] Jeff VanderMeer, *Annihilation* (New York: Farrar, Straus and Giroux, 2014), 42, 55, 133.

These are the descriptions of a strange lush ecosystem named Area X which expands through the planet and consumes every trace of human action. The pristine nature of Area X is contrasted with the polluted world inhabited by humans. These descriptions suggest the final outcome of the contact between Area X and humans: a disintegration of the protagonist's body and dissolution of the rigid boundary between the humans and the environment. Transmutation, the common feature of the New Weird, is enabled here by the motif of the fungus which reproduces by spores, invisible to the naked human eye. This and other mysterious ways in which fungi operate is what makes them suitable for weird fiction.

### "Creep of Life": Slime Mold

Another prominent inhabitant of weird fiction is slime, an organism often depicted as an accompanying characteristic of monsters or, more interestingly, the monster itself. Eugene Thacker touches upon the motif of ooze as a manifestation of what he calls *magic site*, which can be understood as a hidden world indifferent to humans:

> [T]he term "ooze" evokes more that which oozes than a discrete, static thing. What oozes can be slime, mud, oil, or pus. Ooze can ooze on the body, in the ground, in the sea or space. Slime, for instance, can be understood in a scientific scene (for instance in plant microbiology or prokaryotic biology), but slime is also something in betweeen a liquid and a solid. Ooze can also be metamorphic and shape-shifting, as with the organisms classed as *myxomycota*, which, during their life cycle, may alternatively behave like plants, fungi or amoeboid organisms.[54]

In this sense, slime is one of the forms in which the hidden world reveals itself, evoking a certain sense of strangeness. Of particular interest in this regard is *Physarumpolycephalum*, commonly known as plasmodial slime mold. It is a brainless, single-celled organism that has continuously confused biologists who had initially classified it as fungi, only to come to the conclusion later that it actually belongs to the Protista kingdom. Followed by the groundbreaking scientific discoveries about their cognition in the 2000s,[55] the slime mold has gained quite some attention in the humanities because it complicates our understanding of consciousness and intelligence. This coincided with the posthuman turn, which shifted the attention from the anthropocentric strains of thought to the nonhuman domain. The most

[54] Eugene Thacker, *In The Dust of This Planet (Horror of Philosophy,* vol. 1*)* (Winchester, Washington: Zero Books, 2011), 72.
[55] See the research of Toshiyuki Nakagaki from 2001 onwards on the ability of slime mold to navigate mazes.

notable of such examples is Steven Shaviro's book *Discognition*, in which he points out some of the oddest facts about slime mold, such as the problem of defining it as "a single individual (like most unicellular organisms)," or as "a superorganism composed of multiple individuals," both of which cannot grasp its complex nature.[56] In addition to this, "[i]t also lacks the differentiation into tissues and organs that characterize most multicellular organisms. Instead, the slime mold is an oddly decentered entity: a collective without individuals, without any specialized parts, and without any sort of articulated (or hierarchical) structure."[57] Resembling the "nonorganic life" as described by Deleuze and Guattari, slime mold can be construed as an entity at the threshold of being alive.[58] Because it occupies the liminal space between the inorganic and the organic, slime mold represents what Benjamin Woodard called the "creep of life."[59] All of this leads to the conclusion that "strange cognitive powers of the plasmodial slime mold Physarum polycephalum, an actually existing organism that seems like a creature of science fiction."[60]

Probably one of the greatest literary examples of alien slimy substance can be found in Stanisław Lem's *Solaris* (1961). The novel is about a sentient, but completely indifferent planet made out of a biologically primitive structure such as slime, plasma, mimoid or gelatin. The weird effect appears when "mismatching modes of intelligence, cognition and communication [...] fail to confront one another."[61] Other literary articulations of the strange nature of slime mold are noted by Luckhurst: "Arthur Machen's 'The Novel of the Black Seal' involves an evolutionary throwback with the ability to extend slimy pseudopodia," and numerous other horror fictions which "exploit human disgust at formless, structureless, primordial ooze, the slime dynamics that invoke the arche-origins of life itself, a chaos of protozoan mass that dissolves all boundaries."[62]

Another example is also found in Ligotti's fiction. Ligotti's short story "Severini" is about a mysterious artist Severini who lives in a shack in the jungle, described as a weird combination of "tropical landscape" and "a common sewer."[63] Weirdness is manifested further through extensive descriptions of the landscape: "darkly oozing ferment as the sewer-aspect, with the odd impression of the most exotic forms of life spawning on every side, things multiplying and also incessantly mutating like a time-lapse film of spreading fungus or

[56] Shaviro, 182.
[57] Shaviro, 182.
[58] Gilles Deleuze and Félix Guattari, *A Thousand Plateaus, Capitalism & Schizophrenia* (London: Continuum, 2003), 411.
[59] See Woodard 2012.
[60] Shaviro, 180.
[61] Fisher, 119.
[62] Luckhurst, 1054.
[63] Thomas Ligotti, *Teatro Grottesco* (Poplar Bluff: Mythos Books, 2007), 256.

multi-colored slime molds totally unrestricted in their form and expansion."[64] The bizarre nature of slime mold lies in its amorphous physiology and almost imperceptible creeping motions around dark and humid forest floors. Furthermore, the slime is not a motif found in lore but rather one that dives deeper, into the story of the origins of life itself. According to some theories of the origins of life, all life on Earth – humans included – gradually ascended from clustered ponds of slime.[65] In this sense, the slime is a reminder of our material and accidental existence. This is why literary representations of slime are rarely anthropocentric; on the contrary, the trope of slime is in accordance with displacing humans from the privileged place in the tree of life. In Luckhurst's words, "[t]his is materialist, biological terror rather than anything rooted in theological conceptions: the weird begins with a truly Darwinian traumatism, but can end up in a passionate clutch with the undirectedness of non-teleological evolution."[66]

Like many other characters of weird fiction, Ligotti's protagonist undergoes a disintegration of both his body and consciousness. In this particular case, the reason is an attempt to escape the horrors of life, and he does this by slowly descending towards a simpler form of life. The protagonist's biggest fear lies in acknowledging the fact that all living things are no more than fungi, a collection of bacteria or slime mold creeping around this and possibly other planets, or in other words, that humans are no more than biological organisms, holding no special place in the universe. Severini's suggestion that "the way into the nightmare is the way out" leads the protagonist towards the final release of his fears. Through some unknown "esoteric procedure" and "illicit practice," Severini himself was a subject of the deliverance from such fear, which is why his body was showing signs of "a breakdown of anatomical features and structures" looking like a "living mound of diseased clay or mud," and even his consciousness was "as amorphous and mutable as his bodily form."[67] According to Severini, the only way out is to disintegrate into a primitive form of life which is incapable of acknowledging the nightmares of life. After a while, the protagonist shows obvious symptoms of disintegration, suggesting the initial stage of mutation: "As I walked along that narrow path in the mist I became feverish ('Amoebic dysentery,' pronounced the doctor whom I visited the following day)."[68] In the end of the story, he changes his mind and sets the whole place on fire, watching the pools of "great black life

[64] Ligotti, 256.
[65] See the theory of so-called "primordial soup," proposed in 1929 by British-Indian scientist John Burdon Sanderson Haldane.
[66] Luckhurst, 1054.
[67] Ligotti, 258– 60.
[68] Ligotti, 268.

from which we have all emerged and of which we are all made."[69] As the story illustrates, the motif of slime mold in literature often serves as a tool for questioning the idea of human exceptionalism, and in this example this is done in a specific, Ligottian manner, best described as nihilistic and bleak.

## Flourishing in Ruins: Vines, Ferns and Moss

Plants are, "[i]f the view of earth from outer space is any indication, dominant form of life on our planet. We are surrounded by them spatially, for the most part, in that land-plants and human beings tend to inhabit similar climates."[70]And yet, they have been systematically neglected in cultural theory. The main reason for this is a "prevailing zoocentric ontology" which "continues to marginalize the capacities of vegetal nature and, what is more, contributes to aspects of climate change, species loss and biocultural disintegration."[71] Similar to the previous cases, "[p]lants seem to inhabit a time-sense, a life cycle, a desire-structure, and a morphology that is so utterly alien that it is easy and even tempting to deny their status as animate organisms."[72] This worldview stems from Aristotle's *On Animals*, according to which plants inhabit a liminal space between inanimate matter and animate beings:

> Aristotle's characterization of plants has been extremely influential in informing the manner in which plants have been represented in art and literature. On the one hand, Aristotle's relegation of plants to the bottommost rung of the ladder of life may be responsible for the rarity with which plants are treated as subjects or even as powerful objects in Western literature. At the same time, however, Aristotle's positioning of plants at the borderline between animate and inanimate registers charges the vegetable kingdom with an uncanny ontological potency.[73]

In contrast to the "energetic animal with its reflex and pulsating organs," the immobility, placidity and muteness of plants have all contributed to this view.[74] A recent emerging field,

[69] Ligotti, 269.
[70] Randy Laist (ed.), *Plants and Literature: Essays in Critical Plant Studies* (Amsterdam, New York: Rodopi, 2013), 9.
[71] John Charles Ryan, *Plants in Contemporary Poetry: Ecocriticism and Botanical Imagination* (New York and London: Routledge, 2018), 127.
[72] Laist, 12.
[73] Laist, 12.
[74] Bose in Ryan, 101.

called "critical plant studies," is an intervention into such a paradigm which favors animals over plants. Initiated by the growing scientific interest in plant cognition, critical plant studies challenge our traditional assumptions about plant intelligence.[75] As John Charles Ryan pointed out, prevailing ideas about plants that inhabit human imagination are, in fact, very limiting: "We tend to associate flora with aesthetics (beautiful flowers, delectable fruits, sublime forests) and poetics (poetry and poetic thoughts about flowers, fruits, and forests) rather than biomechanics, namely the rapid and occasionally targeted expulsion of projectiles."[76] In addition to that, we often "lump the entire plant kingdom under a single perceptual category: a category of things that are alive like we are, but alive in a way that is utterly different, closed off from our capacity for empathy, omnipresent but unknown, seductive but unresponsive."[77] Undoubtedly, this remoteness and strangeness is the main reason why vegetal life became a major part of the weird fiction ambience. Of primary interest here is not the symbolic role of particular plants, but rather their ontological status. Laist observes that a plant is "an uncanny crossbreed that transects ontological boundaries" and "challenges our basic assumptions about what it means to be a living thing."[78]

But, rather than using the term *uncanny*, the weird seems to be a more accurate description of the affect (and effect) that these organisms evoke in humans because they do not evoke fear. According to this, it is safe to say that plants are a weird life form in general: they have a complex symbiotic relationship with other organisms, and a form, structure and perception which differs from that of animals. These characteristics inherent to the plants challenge our common notions about living organisms and their behavior. However, some plants can be characterized as weirder than others. Lianas, vines and climbing plants in general proliferate in weird fiction environments. With their twisted and curled tendrils, the weird potential of such vegetal forms lies in the fact that they suggest movement, sentience or, even more, an agency, all of which is beyond our conceptions of plants. The refined sense of touch helps them scale other plants and structures and, as soon as their tendrils find solid support, they coil tightly around it. By acts of strangulation and suffocation, they ultimately kill the host plant. Examples can be found in VanderMeer's *Annihilation*:

> Where lies the strangling fruit that came from the hand of the sinner I shall bring forth the seeds of the dead to share with the worms that gather in the darkness and surround the world with the power of their lives while from the

[75] Some of the most notable biologists interested in plant behavior and neurobiology are Anthony Trewavas and Stefano Manusco. A more popular-scientific account is Peter Wohlleben's book *The Hidden Life of Trees*: *What they Feel, How they Communicate - Discoveries from a Secret World* (2018).
[76] Ryan, 1.
[77] Laist, 14.
[78] Laist, 14.

> dimlit halls of other places forms that never were and never could be writhe for the impatience of the few who never saw what could have been. [...] The shadows of the abyss are like the petals of a monstrous flower that shall blossom within the skull and expand the mind beyond what any man can bear, but whether it decays under the earth or above on green fields, or out to sea or in the very air, all shall come to revelation, and to revel, in the knowledge of the strangling fruit.[79]

Mosses are plants of the Anthropocene *par excellence*. They can be found growing in discarded plastic bottles, on dumped cars in forests and derelict houses, creating a disproportioned assemblage of lush life and degradation, extinction or pollution, therefore representing an essential aspect of the Anthropocene aesthetics. Along with vines and lichen, mosses are a distinctive feature of VanderMeer's environment:

> Some outer walls still stood, dark rotting wood splotched with lichen, but for the most part these walls had fallen away and left me with a peculiar glimpse of the interiors: the remains of chairs and tables, a child's toys, rotted clothing, ceiling beams brought to earth, covered in moss and vines. [...]But in what had been kitchens or living rooms or bedrooms, I also saw a few peculiar eruptions of moss or lichen, rising four, five, feet tall, misshapen, the vegetative matter forming an approximation of limbs and heads and torsos.[80]

Ferns are also a prominent part of weird flora, as another example of ancient looking organism, preceding the age of dinosaurs, tightly connected to the psychedelic aesthetics because of its development in fractal form. With its distinctive leaves curling up and stretching out, ferns act as a botanical counterpart to Lovecraftian tentacles. Once again, they too can be found in VanderMeer's *Annihilation*:

> I saw the letters, connected by their cursive script, were made from what would have looked to the layperson like rich green fernlike moss but in fact was probably a type of fungi or other eukaryotic organism. [...] The air was so amazingly clean and the vegetation so dense, so richly green, that every spiral of fern seemed designed to make me feel at peace with the world.[81]

In order to depict a pristine, but hostile environment, *Annihilation* frequently relies on descriptions of vegetation. Given that that main idea consists in the notion of nature as a

[79] VanderMeer, 23.
[80] VanderMeer, 77.
[81] VanderMeer, 24, 28.

sentient entity fighting against the anthropogenic environmental destruction, the selection of plant species is more than adequate because it consists of plants that existed long before humans. Additionally, none of these plants can be described as visually or olfactory pleasant to humans. Here, they represent more of a threat to humans because they remind them of their fragility and finitude. But this threatening atmosphere produces effects that are more nuanced than mere horror: they revolve around creating strange relationships between humans and nonhumans. Therefore, if some of the previously mentioned tropes of nonhuman organisms in weird fiction challenged the notion of anthropocentrism, narratives which embrace the vegetal Other go one step further, challenging the prevailing zoocentrism.

## Conclusion

There is a long tradition in science fiction of reaching into outer space in search of alien monsters. However, it is hardly necessary to turn our attention away from earthly life in order to construct environments that estrange our perception of reality. Especially on a smaller scale, wildlife can be a source of both wonder and horror.

In speculative fiction, the Other can take the shape of sentient machines and aliens, "[b]ut sometimes, and with increasing frequency, the nonhumans are all the other animals with whom we share our planet and about whom, for all our centuries of co-habitation, we still know so little."[82] The same of course goes for other nonhuman entities. Landscapes of the Anthropocene proliferate with plants and other organisms that usually inhabit abandoned places. In accordance with the current ecological crisis, contemporary weird fiction is rife with fungal and vegetal colonization of ruins. To a greater extent than older weird fiction, the New Weird describes encounters with nonhuman organisms' tentacles, feelers, antennae, tendrils and pseudopodia, as they emerge from dark, hidden places only to disturb our order of things and our perception of reality. These organisms are the best proof that the weird does not include supernatural beings, but often preserves a relationship with reality.

As shown in this article, many animal and plant studies theoreticians rely on old conceptions such as horror and the *unheimlich* to describe how humans perceive nonhuman entities. However, there are many interesting discussions on humans and affect that

[82] Karen Joy Fowler, "The Great Silence by Ted Chiang," Electric Literature. May 06, 2019. Accessed July 07, 2019. https://electricliterature.com/the-great-silence-by-ted-chiang/.

rearticulate the existing notions and introduce new useful terminologies that are possibly more in accordance with new socio-political contexts. Given that the point of departure of both animal and plant studies is the human-nonhuman relationship, the notion of the weird could be crucial in describing how humans relate to nonhuman forms of life. Conversely, weird fiction studies should draw on both animal and plant studies in order to gain a better understanding of fiction dealing with nonhuman life. In this sense, the concept of "weird biology" is an attempt to bring together various nonhuman organisms that challenge our knowledge of the world and also to establish closer ties between these different schools of thoughts.

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