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TALKING FUNGUS: FINDING LANGUAGE FOR A TROUBLED KINGDOM

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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, Death sprang also from the water-soaked earth.¹



Galerina marginata. Or a Discretion of *Galerina*? © Alison Pouliot. All rights reserved.

British writer Arthur Conan Doyle (1859-1930) penned these words in his book *Sir Nigel*, first published in 1905. Doyle epitomises the erroneous associations between fungi and disease that were common among nineteenth-century creative writers like John Keats, Alfred Tennyson, and Emily Dickinson, who all saw fungi as symbolic of degeneration and death. Things improved only slightly for fungi in the twentieth century with just a few positive portrayals within English literature. Such flawed and fraught impressions have fuelled a fungal vocabulary of disdain, fostering a mindset of aversion and unease within the Anglophone world.

Language greatly colours the way we perceive life. Words and concepts shape our perception of nature, and not all organisms receive equal consideration. Where do fungi sit in the English language? How are fungal words used, confused, and—at times—abused?

Language develops for the things we notice or confer significance. It is, of course, hard to discuss any subject without appropriate language, and the words we have shape our thoughts and impressions. In the English language, there's only a minimal vernacular vocabulary for talking about fungi relative to those for the other two major kingdoms of life—animals and plants. Indeed, fungi form a kingdom of their own. They live inside their food, they do not photosynthesise like plants, and they are in fact more closely related to us humans and other animals than to flowers or trees. Yet language is lacking to describe them—and when language is lacking, negative impressions and misunderstandings can arise.

This common aversion to fungi among English-language speakers has long been recognised. Negative portrayals of fungi result from ignorance and misapprehension, but also from the scientific focus on their destructive ability. This is unsurprising given the potential of fungi to wreak havoc on crops and bodies, albeit usually in direct response to poor human management. Such ways of thinking about fungi overshadow their ecological significance in underpinning terrestrial ecosystems and human dependence on their existence.



An Army of *Armillaria*, a Spotting of *Amanita*, and a Continent of *Coccoomyces*.
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Pathogenic Histories

How, then, did fungi come to be so muddled and maligned in the English language? Historical perceptions of fungi provide a good starting point to examine the warping of words and ideas—and misunderstanding of fungi stretches back centuries. After all, fungi are odd. They don't fit into our frames and assumptions for understanding nature, which are premised on plants and animals. Fungi seemed to do strange things. The sudden appearance, then disappearance, of mushrooms roused suspicions. Fungi seemed more fickle, appearing without invitation at times and in places we didn't expect them. They seemed elusive and unpredictable and messed with human desires for certainty. Our understanding of other organisms was more assured: the rooster crows at dawn, trees blossom in spring.

In the search for explanations for the seemingly mysterious life of fungi, all kinds of weird and wonderful theories therefore sprung forth, arising mostly from fundamental misconceptions about

what fungi are. People mistakenly believed that mushrooms were entire organisms, rather than just the reproductive structures of unseen subterranean mycelium—the living, feeding, growing part of a fungus—and they became associated with other “undesirables,” ranging from the supernatural to witchcraft. Furthermore, their need for moisture means that fungi grow in places that some people consider abhorrent, like forests and swamps, and their way of feeding, by dismantling plants, including those that we like to eat, won them few fans either. For many people, even today, fungi are unnerving and perplexing. It’s little wonder that they found their way into myths and fairy tales and became folklore for those struggling to make meaning from mushrooms.

For many people, fungi are unnerving and perplexing.

The early associations of fungi as agents of disease continue to shape thinking about fungi today. Yet, the fungi considered “problematic” are usually not those that produce the familiar mushrooms, but the ones we can’t see—that is, the microfungi. Microfungi with names like rusts, smuts, bunts, blights, and blasts have a lovely alliterative ring, yet they are unpleasant sounds in the English language. In many countries, these fungi are seen as an enemy of agriculture, one of the benchmarks of civilisation and progress. This capacity for destruction has made them the most “economically significant” of all fungi.

The paradox is that modern industrialised agriculture creates and perpetuates “fungal diseases” by planting monocultures. Unlike polycultures, which incorporate multiple species and attempt to mimic the diversity and resilience of natural ecosystems, monoculture cropping, or the practice of growing one crop, not only damages soils but requires expensive supplements. Monocultures are thus more susceptible to disease, including those caused by microfungi.

This is not to downplay the damage microfungi can wreak when agriculture or forestry are mismanaged. Rather, it is to question a pathologising framework as the only one with which to understand these organisms. This sets a precedent that sees them as problematic, disease-causing, and in need of control or elimination. Still, most fungi are not pathogenic. Those that are rarely become problematic in natural ecosystems. Seldom are fungi seen as symptoms of more complex environmental processes, and this limited perspective serves to scapegoat the fungus when in reality human actions may have caused the problem. Though fungi are better understood today than in the past, the teachings of agriculture and horticulture retain a strong pathogenic focus.



An Accident of Ink Caps, a Galaxy of Earthstars, and a Howdah of *Helvella*.
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Without the words to adequately conceive or contextualise them, fungi cannot be properly understood. As a result, they have little presence in concepts such as conservation. References to fungi in environmental policy and biodiversity-conservation management are usually only at the blunt taxonomic level of kingdom. In contrast, conservationists and land managers discuss fauna and flora at species level. This lack of resolution means there is no specificity with which to understand or protect a particular fungus species. The only fungi mentioned at species level are usually pathogenic fungi. When they flourish in an ecosystem, they're often regarded as a threat to other biodiversity rather than a symptom of larger environmental change that has enabled them to flourish.

If you're looking to widen your fungal vocabulary, the magical fairyland of the Internet will lead you further down a path of pejorative terms. A quick look at synonyms for fungi on various online thesauri reveals wildly inaccurate and derogatory words. Some such, as powerthesaurus.org, provide a rather nonsensical jumble of life-forms and infections including: alfalfa, moth, worm, ivy, kelp, pimple, viper, and yam, making it difficult to draw any connection to fungi at all. Others, such as thesaurus.com, list synonyms for fungi, including: affliction, bane, blot on the landscape, canker, contamination, corruption, curse, decay, dump, evil, eyesore, infestation, glop, goo, gunk, mildew, mud, muck, mire, mucus, ooze, pestilence, pollution, rot, scourge, scum, sludge, waste, withering, and woe.

New technologies see fungus mycelium transformed into building materials and textile alternatives.

What a striking ruinous wreck these terms create, if only they weren't describing these wondrous organisms. Where's that synonym that describes "fundamentally important organisms that help hang the planet together"? Or organisms that furnish us with bread, wine and beer, and vital medicines and pharmaceuticals? New technologies see fungus mycelium transformed into building materials and textile alternatives. Yet *Roget's Thesaurus* opts to search synonyms for "fungus" under the misguided subheadings "plant," "dirt," or "blight." It is easy to see how warped and erroneous

fungal synonyms can mushroom. These synonyms have evolved from the effects of a small selection of pathogenic microfungi, supplemented by fertile imaginations.

As we search for words to describe fungi, we often borrow them from plants and animals, but they fall short. It's a little like trying to describe a human being using language suitable for, say, a slime mould or a sea cucumber. That might sound silly, but using inappropriate terms for fungi is equally nonsensical and gives an inaccurate impression of the kingdom. For example, the reproductive receptacles of fungi are often called fruiting bodies. Yet, "fruit" is a botanical term for a structure that contains seeds. Fungi are not plants, nor do they produce fruit or seeds. Rather, they produce structures that contain spores. Scientists likely coined the term *fruiting bodies* when fungi were thought to be plants. Yet fungi have been classified in their own kingdom for over fifty years. Language often lags behind its subject, but it's time to catch up.

A Galaxy of Earthstars

A parliament of owls. A caravan of camels. A flamboyance of flamingos. A comb of bananas. Collective names for animals and plants abound. Even Linnaeus's lowly worms are collectively known as a clew. How do we refer to a group of fungi? Nouns like "flush" or "troop," "clump" or "ring," are sometimes used to refer to groups of mushrooms. Field guides certainly provide precise adjectives to describe how fungi grow, such as "solitary," "caespitose," or "gregarious." Yet English collective nouns for fungi generally, let alone for particular fungi, appear nonexistent.

Like animals and plants, fungus species within a genus share particular characteristics, morphologies, or cultural associations that lend themselves to collective nouns. Here's a few below to get the ball rolling. For some of these, the inspiration for the collective noun is obvious, while others require a more multisensory exploration or some knowledge of their lives and behaviours. This collection refers to both vernacular and scientific names for genera, to accommodate different audiences.

- A Galaxy of Earthstars
- A Powderpuff of *Podaxis*
- A Sweetness of Chanterelles
- A Curiosity of *Cordyceps*
- A Plump of Puffballs
- A Crumbling of *Russulas*
- A Nudging of *Gymnopilus*
- A Stench of Stinkhorns
- A Pagoda of *Podoserpula*
- A Marvel of *Marasmiellus*
- A Weeping of *Lacrymaria*
- An Accident of Ink Caps
- An Unveiling of *Cortinarius*
- A Spectrum of Waxcaps
- A Glow of *Omphalotus*
- A Trembling of *Tremella*
- An Army of *Armillaria*
- A Spotting of *Amanita*

An Elegance of Bonnets

An Atlas of Coccoomyces

A Discretion of *Galerina*

A Maze of *Daedalea*

A Lactation of *Lactarius*

A Deception of *Laccaria*

A Spike of *Gomphidius*

A Wobble of *Exidia*

A Field of *Agaricus*

A Disco of *Lachnellula*

A Howdah of *Helvella*

Re-Enchanting the Fungal Lexicon

The lack of vernacular terms for fungi in the English language means they not only lack our awareness, but our regard. Giving an organism “agency” through language is the first step towards its recognition. As the world becomes more mediated by technology and sensorial encounters with nature dwindle, we risk losing language not just for that which is important but also for that which inspires imagination.



A Marvel of *Marasmiellus*, an Elegance of Bonnets, and Trembling of *Tremella*.
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Inadequate or inappropriate fungal language risks robbing fungi of not just their poetry but also the precision necessary to convey their science beyond scientists. To discuss any subject with a level of coherence and resolution requires a particular vocabulary and meaningful forms of expression.

The more articulately we describe and discuss fungi, the less likely they are to remain marginalised as obscure and unimportant.

The recent publication of a suite of narrative nonfiction books on fungi suggests we are in something of a “fungal awakening.” Perhaps in the twenty-first century mushrooms will finally have their moment.

Notes

¹ Arthur Conan Doyle, *Sir Nigel* (London: Smith, Elder & Co., 1906), 2.



Alison Pouliot is an ecologist, author, and professional environmental photographer with a focus on fungi. The ideas and excerpts in this essay are taken from two of her books on fungi: *The Allure of Fungi* (CSIRO Publishing) and *Meetings with Remarkable Mushrooms* (University of Chicago Press). To read about or see more impressions of fungi, visit alisonpouliot.com.



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