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Maja-Lisa Müller

Bielefeld University.

BLOBS, SLIME AND FUNGI. THE QUEER POTENTIAL OF A MEDIAMYCOLOGY.

In 2015, academic Steven Shaviro offered his readers an experiment of thought with his book *Discognition*.[1] Following different figures like computers, aliens and slime molds, Shaviro explores the question, what thinking *like* these figures can mean for the thought of consciousness in general. He examines the slime mold *Physarum Polycephalum*, named "the Blob" after the 1958 movie with an amorphous alien substance that infects and devours everything in its way.[2] The blob in the movie served as a metaphor for communism in the post-McCarthy-era in the United States and emphasizes its viral, infectious character. *Physarum*

[1] Shaviro, Stephen (2015). *Discognition*. London: Repeater.
[2] Yeaworth, Irvin (1958). *The Blob.* Fairview Productions; Tonylyn Productions; Valley Forge Films.

Polycephalum on the other hand eludes these simple attributions. It is neither a plant nor an animal, neither male nor female. It is a single cell-organism that can feed, procreate and even solve riddles[3] and therefore poses problems for natural sciences as well as philosophy.

Detached from the anti-communist propaganda it was derived from, the blob now proves to be a decidedly anti-capitalist epistemological figure by establishing flat ontologies.[4] This article wants to follow Shaviro's experiment and expand it in thinking *with* amorphous substances such as blobs, slime and fungi. While these are distinct and different natural phenomena, they shall be nonetheless examined in the following as sometimes divergent and interchangeable in their mediating properties. Their similarities are their amorphous indistinct character, their potential to sprout and grow in networks, their devouring qualities and finally their potential to create ecologies. Blobs, slime and fungi are neither stable beings nor singular ontologies, but rather exemplify the notion of multiplicities as they constantly evolve, grow, encompass and change. The article shall explore the potential of these viscous entities for a queer and productive understanding of media.

Nature Networks

In 1976, Gilles Deleuze and Felix Guattari introduced the "rhizome", a quasi-object between symbolic and real, natural science and philosophy, as a point of departure for their *opus magnum* entitled *Capitalism and*

[3] More information can be found in the documentary Mitsch, Jacques (Director). (2019) *Le Blob. Un génie sans cerveau*. Hauteville Production.
[4] This concept is i.a. proposed in Latour, Bruno (1996). "On Actor-Network Theory. A Few Clarifications". *Soziale Welt. Zeitschrift filr sozialwissenschaftliche Forschung und Praxis*, 47 (4), 369–381.

Schizophrenia.[5] Drawing from botanical specification, Deleuze and Guattari define three types of books: the classical "root-book", that relies on binary logic and "the law of reflection, the One that becomes two";[6] the fascicular root-book, that aborts the principal root in favor of a multiple of secondary roots whilst still relying on the principle of unity; and lastly the rhizomatic book structure they propose (for) themselves. Rhizome favors the multiplicity instead of the multiple, and can therefore be applied to various contexts, be they literary, philosophical, psychoanalytical or other. Rhizome is not only a figure or a metaphor but a completely new way of thinking in anti-hierarchical, interconnected, steadily evolving networks. Rhizomatic structures are not given and stable but in a constant state of emerging, of producing and being produced, of *becoming* rather than being. Today, almost 50 years later, the influence of Deleuze and Guattari cannot be denied. In the 1980s, sociologists Michel Callon and Bruno Latour described the social as networks between human and non-human entities or actors and developed the so-called Actor-Network-Theory.[7] Similar to rhizomes, they propose that social, technical and artistic phenomena are intrinsically unstable and constantly in need of re-stabilizing acts, or else they will dissolve. "Being" in ANT is a state of coming into existence and disintegrating again and can only be analyzed in those temporally limited, multidirectional networks. Sociology, despite covering a big part of human and non-human agency, has not been the only discipline

[5] Deleuze, Gilles; Guattari, Félix (1987). *A Thousand Plateaus. Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press, 3-25.
[6] Deleuze and Guattari, *A Thousand Plateaus*, 5.
[7] Cf. Callon, Michel, Law, John & Rip, Arie (Eds.). (1986). *Mapping the Dynamics of Science and Technology*. London: Macmillan and Latour, Bruno (2005). *Reassembling the Social. An Introduction to Actor-Network-Theory.* Oxford: Oxford University Press.

affected by the seductive notions of non-linear, anti-hierarchical structures: In post-digital circumstances,[8] the rhizome and networks have proven themselves to be such powerful epistemological, ontological and aesthetic tools that digitality becomes almost synonymous with web and network structures. Although newer sociological research tries to break-away from a so-called network-paradigm,[9] it still remains prevalent.

With the influence of feminist-materialist and ecologist theories in the last couple of years, the material foundation of the seemingly immaterial network structure of digital phenomena was emphasized again,[10] and moreover, natural networks have – again – gained attention. Fungi in this sense exemplify both the visible and invisible, material and symbolic ties, that can be – as in the case of Anna Lowenhaupt Tsing's *The Mushroom at the End of the World*[11] – scaled from micro to macro levels on a global range. Like with other fungi, the mycorrhizal species of *Tricholoma matsutake* that Tsing highlights, the mushroom is only the sprouting and visible body of the widespread fungal root system that is called mycelium. Tsing traces the global commodity network of matsutake and the actors in said network, scaling the involvement from non-documented Laotian pickers in Oregon to luxury buyers in Japan, following the resurgence of the mushroom in possible – and seemingly

[8] The term "post-digital" in this case does not mean that digitality in any way is overcome. On the contrary, it refers to the point, that "the digital" is ubiquitous to such an extent, that it does not serve as a category of difference anymore, "in Heideggerian terms, from Ereignis to *Being*", Cramer, Florian (2014). What is 'Post-Digital'? *APRJA* 3 (1), 10-24, 13.

[9] See for reference Stäheli, Urs (2021). *Soziologie der Entnetzung.* Berlin: Suhrkamp Verlag.

[10] How very material the digital structures are show writings such as Starosielski, Nicole (2015). *The Undersea Network*. Durham: Duke University Press.

[11] Tsing, Anna Loewenhaupt (2015). *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton, NJ: Princeton University Press.

impossible – places and environments. In a literal and symptomatic way, the visible fungi are always connected to an invisible interconectad network, that makes them possible in the first place. Tsing's ethnographic approach is to reveal these underlying structures, may they be economical, social or literary.

Being extremely expensive and rare, matsutake became the topos of poetic musings and legends. Tsing describes the urban myth that matsutake was "the first living thing to emerge from the blasted landscape"[12] in Hiroshima after the Japanese city was attacked with the nuclear bomb Little Boy by the Americans in 1945. While she cannot confirm the tale, Tsing refers to the mere possibility: matsutake live primarily in "human-disturbed forests"[13], "places, where glaciers, volcanoes, sand dunes – or human actions – have done away with other trees and even organic soil."[14] Fungi are able to digest old wood, dead organisms and, over a long time, even rocks, therefore turning dead matter into nutrients which then again can serve as a foundation for new growth. "Fungi are thus world builders, shaping environments for themselves and others."[15] Matsutake and other fungi represent a form of an ecological revival in times of increasing destruction of nature and, more importantly, a conviviality that transcends species, spaces and spheres. Their existence in places that are not inhabitable to anything else leads to a somewhat ambiguous reputation. Fungi are mostly

[12] Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*, 3.
[13] Tsing, 2015, 3.
[14] Tsing, 2015, 50.
[15] Tsing, 2015, 138.

connected to murky surroundings, death and decay while also transforming those abject environments and creating new life.

How this form of creation is linked to an artistic practice that focuses on transformational processes as well as drawing from surroundings shall be elaborated in the following. Worldmaking abilities are also often ascribed to media, so the last part of the article will deal with the explicit mycological aspects of media.

Existing in the shadows

The association between fungi and slime (molds) to the darker and nether spheres of the world seems evident in Eurocentric contexts. As such, they are prominent motifs in the 17th century painting genre of *sottobosco,* which translates to underbrush. These paintings are mostly kept in darker, brownish hues and show primarily reptiles, amphibians, and insects, as well as poisonous and/or bizarrely shaped plants and fungi. The entire scenery is always bound to the ground and has therefore chthonic qualities, from which there are no escapes. In Paolo Porpora's still-life [Fig. 1] butterflies, symbols of the air and beauty, seem to have gone astray in the dim underwood. Their fate is sealed, one of the insects gets eaten by the toad in the foreground, which at the same time has to fear for her own life, as she is threatened by a snake on the left and a lizard on the right. Another butterfly in the background seems to escape the scenery only to get swallowed by the obscure darkness of the pictorial ground. Death as a figural or corporal annihilation appears to be always imminent, be it by poison or by being devoured. The only possible way out for the winged insects seems to be by adapting to this toxic environment, evident by the moth in the lower right corner of the

painting. Its position in the shadows makes it unclear and indistinguishable whether it is actually a butterfly or a moth and maybe it is this position in between that guarantees its survival.

[Fig. 1]. Paolo Porpora, *Still-Life with Fungi*, ca. 1655. Oil on Canvas. Museo Pignatelli, Naples.

As German art historian Karin Leonhard has shown, these pictures represent the contemporary scientific and artistic theories and their entanglement.[16] Real Fungi, as well as the depicted animals and plants, Leonhard explains, were seen as a result of *abiogenesis*, a sort of non-sexual procreation out of matter alone. With the reference to Athanasius Kircher's theory of a primordial matter, *panspermia,* and the decidedly phallic depictions and qualities, that were ascribed to fungi, Leonhard shows how very sexual and gendered this concept was.[17] Nonetheless,

[16] Leonhard, Karin (2013). *Bildfelder. Stilleben und Naturstücke des 17. Jahrhunderts*. Berlin: Akademie Verlag.
[17] Leonhard, 2013, 24-33, 60-66.

fungi didn't gain a positive reputation in Western European and US-American cultures. Their dark moist environments, their relation to mold and decay and their overall proximity to the ground and therefore nether regions places fungi in the natural and cultural shadows, in parasitic spheres of the living. Mycologist Patricia Kaishian and feminist writer Hasmik Djoulakian attest Western European and US-American cultures a *mycophobia* that is closely connected to queerphobic and ableistic discourse. In their article "The Science Underground: Mycology as a Queer Discipline" they describe how this phobia spreads from childhood on and branches out in every part of living, not stopping at natural sciences and humanities: "Fungi are seen as poisonous, agents of disease, degenerate, deadly, freaky, gross, and weird—language historically leveled against both queer and disabled people—and as having no positive interrelationships with their environment(s)."[18] Dealing with fungi in a private and mycology in a scientific way, they argue, is frowned upon, since the object it investigates cannot be pinned down neatly in categories of gender, species and scientific methods. Fungi are neither male nor female,[19] neither plant nor animal, and sometimes even procreate with – and not by – themselves: "It's as if I decided to mate with (not clone) my own arm: how queer."[20] With mycology, Kaishian and Djoulakian ask for an emancipation from Western binary scientific logic, for a queering of science and its practices: "Mycology is a science that, by its very nature, challenges paradigms and deconstructs norms. Mycology disrupts our mostly binary conception of plants versus animals, two-sex mating systems, and discrete organismal

[18] Kaishian, Patricia & Djoulakian, Hasmik (2020). "The Science Underground: Mycology as a Queer Discipline". *Catalyst,* 6 (2), 1-26, 2.
[19] *Schizophyllum commune*, of which we will talk later, has 28 000 sexes or "genetic mating types".
[20] Tsing, 2015, 237.

structure, calling upon non-normative, multimodal methodologies for knowledge acquisition."[21] By drawing from an object and a discipline that has been put on the margins of the acceptable, cast literally into the shadows, the authors invite the readers to embrace the non-normative and the – supposedly – abject.

What still has a utopian character in the sciences, is already possible in the realm of art. The Georgian queer art collective Fungus uses this embracing of the dark and the underground as a self-conception: "We thrive wherever we get even a little chance to grow. In abandoned, dark places and in luxurious halls, with the foundations crumbling invisibly.[…] we are all rooted to one fungus base, whose task it is to destroy the accepted social construct that seems to be standing firm, but actually rots from the inside."[22] Queering here means not accepting the abject status that was ascribed to oneself as a negative thing but embracing it and also mirroring it back to the majority society by throwing shade.

Bio-hacking and "Becoming with fungi"

Approaches that try to follow Kaishian and Djoulakian's claim to abandon classical binaries like the gender dichotomy or the differentiation between nature and culture or technics led to different strategies and conclusions. A xenofeminist approach, most prominently represented by the collective Laboria Cuboniks, pledges for a making use

[21] Kaishian & Djoulakian, 2020, 4.
[22] https://www.instagram.com/projectfungus/, last access on 21.07.21.

of the ongoing technological and ecological evolutions and endorses the involvement of technical possibilities. If nature is unfair and for example confines only people with uteruses to bearing children, they ask, why not change nature?

Chinese-American bio-artist Mary Maggic works with exactly this entanglement of nature, science and participative practices. Their works range from installations to videos and interactive workshops, always centering around themes of the interweaving of chemicals and hormones with the gendered and racialized body. Toxicity (as well as colonialization) is not only seen as an asymmetrical power-relationship, but also as a connection that sometimes can be appropriated to the advantage of those exposed. In the video *Molecular Queering Agency*[23] a computer-generated voice makes the viewer aware of the involuntary queering of the sexes that industrial garbage and with it a capitalist exploitation of nature enables: "We live in a toxic landscape that is colonized by hormones."[24] The xenoestrogens included in pesticides, plasticizers, electronic devices and so on, the voice explains, have an ability to change and queer the bodies on a hormonal and morphological level.

Following the xenofeminist paradigm, this change is welcomed as it leads to a biohacking of gender. Instead of trying to prevent this change, it is embraced in Maggic's video. It is a part of a conviviality, or "becoming-with"[25] these toxicities. In their interactive workshop, "Becoming with Fungi" Maggic and a group of participants explored the entanglement of the fungus *Schizophyllum commune* together with household items.

[23] https://maggic.ooo/Molecular-Queering-Agency, last access on 23.07.21.
[24] Mary Maggic (2017). *Molecular Queering Agency*, 0:36-0:39.
[25] This term is taken from Haraway, Donna (2008). *When Species Meet*. Minneapolis: University of Minnesota Press, 244.

Schizophyllum commune can detect and break down these body-altering xenoestrogens in household chemicals and even the urine of the participants. Here the fungus does not fulfill the role of nature's savior, who rescues mankind and the earth from the bad petrochemicals that are destroying the natural environment and the dichotomy of sexes. Rather, Schizophyllum commune makes us aware of our own entanglement with synthetic toxins and the unnaturalness that we expose to others and are exposed to on a daily basis. "Being" in this case always means being-with and therefore becoming-with other species, toxins and environments, be they natural or synthetic.

[Fig. 2]. Mary Maggic. *Molecular Queering Agency*, 2017. Video still 1:31.

Blobogenesis.[26] The ontogenetic qualities of slime

Leonhard reminds us of the historic and philosophical connections between amorphous substances and their ontogenetic properties. Aristotle proposed a third form of procreation next to sexual and vegetative, the spontaneous genesis or *génesis autómatos*, in which life emerges out of inanimate substances.[27] Accordingly, it was assumed that amphibians originate and arise spontaneously from mud or the vole from dust. Not coincidentally, these materials as well as the life emerging from it are of nether and putrefied nature. They come from and live at the symbolic as well as the real bottom. Leonhard comments this as follows: "At least in the lower natural spheres, metamorphic forces seem to be at work, which are able to create completely new forms of life."[28] What has only been insinuated by Aristotle will form into a condensed concept of *generatio ex putrefactione*, genesis out of rot or decay, by natural scholars in the Middle Ages. The connection of a non-sexual and therefore non heterosexual procreation with rottenness further strengthens the correlation between queerphobia and mycophobia Kaishian and Djoulakian established. Non-sexual procreation disturbes the vertical lineage that forms the understanding of a patriarchal and heteronormative understanding of family. Any kind of queer procreation gets scolded. The inherent non-tangible qualities of amorphous structures propose a similar danger to a western philosophical system that relies heavily on discrete ontologies.

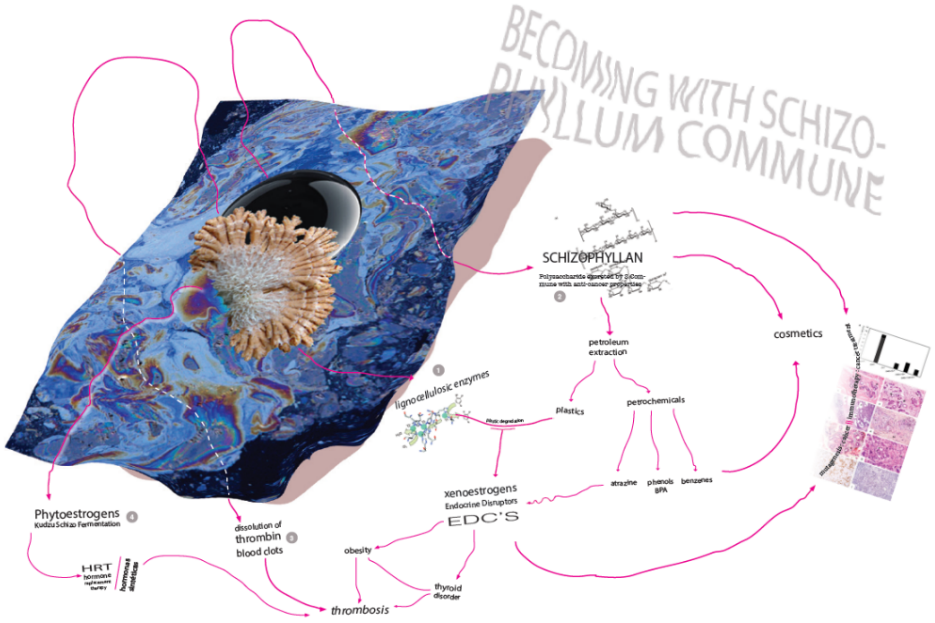
[26] Kim, Laura Hyunjhee (2019). *Entering the Blobosphere. A Musing on Blobs*. S.l.: The Accomplices, 41.
[27] Aristotle (1985). "History of Animals". In Jonathan Barnes (Ed.), *Complete Works of Aristotle, Volume 1* (777–993). Princeton University Press, 894–895.
[28] Leonhard, 2013, 55. [Translation by the author].

In the 19th century, the theory of life originating from gallant masses has a brief but important revival. German philosopher Gabriele Gramelsberger describes how from the very short time frame from 1868 to 1875 scientist and illustrator Ernst Haeckel as well as the biologist Thomas Henry Huxley proposed a theory of an *Urschleim*, after finding probes of a gelatinous mass that was supposed to be the origin of all life.[29] Huxley named it Bathybius haeckelii, in Haeckel's honor. The only problem was that Bathybius could not be found alive but only in probes conserved with alcohol. On the Challenger expedition in 1875 it became clear that the ooze Huxley found was not a primordial *Urschleim* but rather a chemical reaction of calcium sulfate with the preservation alcohol. This incident is one of the more famous mistakes in the history of science and despite its incorrect theory a valuable episode in learning about the attractiveness of amorphous substances since they provide a basis for basically any figuration, may it be artistic, scientific or semantic.

Artist and self-proclaimed blobologist Laura Hyunjhee Kim relies on this continuous possibility that the blob offers by basing her "blobservation" on the always evolving and adapting qualities on a semantic level. The blob sneaks its way into every possible word or title of famous treatises. In Kims blobosphere, a "Negative Blobolectics" by Theodor Adorno exists next to Jane Bennett's "The Force of Blobs: Steps towards a Blobology of Matter." Blobbing becomes a "language-ing",[30] an act of adopting and adapting language towards "an open field of rhizomatic reflections and

[29] Gramelsberger, Gabriele (2016). "Es schleimt, es lebt, es denkt. Eine Rheologie des Medialen". *Zeitschrift für Medien- und Kulturforschung*, 7(2), 155-167.
[30] Kim, 2019, 14.

alternative imaginative possibilities on what a 'blob' can and could be."[31] In morphing the language and thereby famous quotes and titles of philosophers and artists, blobbing becomes an epistemological and artistic practice that opens the domain of (western) philosophy towards speculative and playful potentials. Blobs and blobbing, Kim proposes, have in a sense always been there and provide the base for discourse. With reference to media theorist Marshall McLuhan's famous dictum, Kim coins "Blob is the message."[32] From an aesthetic and media studies point of view, amorphous masses serve as the ground as well as the medium to make things visible and emerge in the first place. Figure and ground as well as medium and mediated are interconnected and – even more – mutually dependent.

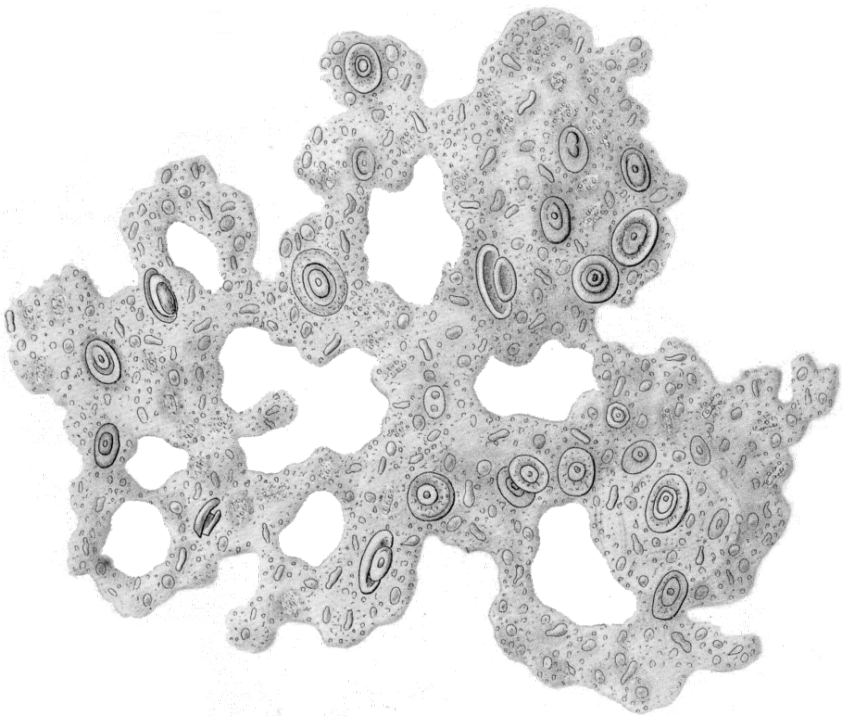


[Fig. 3]. Rian Hammond. *Schizo-zine (fanzine for research dissemination), 2017.* Courtesy of the artist.

[31] Kim, 2019, 13.
[32] Kim, 2019, 22.

Mediamycology. The worldmaking of media

"Media determine our situation".[33] The famous first sentence of *Gramophone. Film. Typewriter*, written by German media theorist Friedrich Kittler sets the framework for an understanding of media. Media situate us, not the other way around and are most effective, when they are invisible, which by no means indicates an absence. To Kittler, an unmediated situation is not thinkable.



[Fig. 4]. Ernst Haeckel. *Beitrage zur Plastidentheorie. Jenaische Zeitschrift für Medizin und Naturwissenschaft.*, 1870. Volume 5, Plate XVII, Fig. 1.

[33] Kittler, Friedrich (1999). *Gramophone, Film, Typewriter*. Stanford: Stanford University Press, xxxix.

To recognize the mediated content, one needs to distinguish the in*form*ation from the noise that surrounds it or the figure from the ground. In this dichotomy, the conditions of information are associated with amorphous qualities that need to form, to be informed into recognizable data. Again, the amorphous seems to be murky, undesirable and to be overcome. Queering this hierarchy would mean focusing on the murky, sometimes wobbly and slimy conditions of media on a material and semantic level. Gramelsberger exemplifies the integral role slime plays in everyday media use. From Liquid Crystal Displays (LCDs) to DNA-computing[34], slime seems to find a place in the past as well as in the future of media processes such as storing, processing and transferring of data.

Further, media are not stable, but in a constant state of emerging, entangled in practices and techniques:

> the idea that worldmaking as such is never fixed once and for all but is something that has to be processed and circulated time and again in different media and concomitant processes of inter- and transmedial translation: Adaptation, translation, reception, appropriation and remediation.[35]

On the spectrum of so-called mass or social media, the infecting and affecting qualities of media suggest the same discourse of toxicity we find around other mycological phenomena. Too much use of these media proposes a danger that needs to be leveled by a media detox. Since media in fact form networks around us, with or without our personal

[34] Gramelsberger, 2017, 157-167.
[35] Neumann, Birgit & Zierold, Martin (2010). "Media as Ways of Worldmaking: Media-specific Structures and Intermedial Dynamics". In Vera Nünning, Ansgar Nünning & Birgit Neumann (Eds.), *Cultural Ways of Worldmaking. Media and Narratives* (103-118) 108.

entanglement, and are invisible if they work properly, they are in close proximity to the fungus's mycelium. A queer approach to these media ecologies can help to embrace what has been so often renounced as invisible, dangerous and toxic. This text is asking for a media analysis that adapts to and enjoys the ecology created by and with media. Blob, slime and fungi can function as a new way to think about affective, amorphous and ontogenetic media.

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Mitsch, Jacques (Director). (2019) *Le Blob. Un génie sans cerveau*. Hauteville Production.

Yeaworth, Irvin (1958). *The Blob.* Fairview Productions; Tonylyn Productions; Valley Forge Films.