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## Combustive Knowledge: Fire as Medium and Interface

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Elemental media studies are on the rise. As John Durham Peters argues in his seminal book *The Marvelous Clouds*, “the time is ripe for a philosophy of media. And a philosophy of media needs a philosophy of nature.”<sup>1</sup> One way of understanding this need for a philosophy of nature is to consider media as industries that depend upon natural resources. In this way, Nadia Bozak proposes to look at cinema as “resource image,” understood as “the embeddedness of every moving image in a complex set of environmental relations.”<sup>2</sup> And Jussi Parikka proposes a “geology of media” that considers the material grounds of media and culture.<sup>3</sup> On a most basic level, the elemental turn in media studies entails reconsidering the ancient idea of the natural elements (earth, water, air, and fire in Western philosophy; metal and wood are also included in Asian elemental philosophy) as media in and of themselves and reassessing our technical media as enabled by nature, both by the affordances of the different elements as well as sparked by the cultural imaginations we associate with the different elements.

Each element involves its own properties both as a medium in itself, and in its various associative qualities. Different elements involve various epistemologies and ways of perceiving, understanding; they form the “promiscuous ways of knowing” the world.<sup>4</sup> For instance, in *Wild Blue Media*, Melody Jue demonstrates the cool and opaque epistemologies of seawater.<sup>5</sup> Here I am interested in the element of fire and its epistemic qualities as a medium. An initial investigation of fire calls for a wide range of associations: sun, (fossilized) energy, electricity, yellow/orange/red, heat, seduction, passion, explosion, aggression, danger, unpredictability, playing with fire, prohibition, destruction, purification, rebirth, phoenix, transformation, domestication of fire (controlled), wildfire (uncontrollable), Fire Gods: Hestia/Vesta vs. Hephaistos/Vulcan. The list is far from complete, but it is a good indication of the directions into which an elemental reading of fire as an epistemological medium can guide our thoughts. What is immediately striking is the sliding scale between the material qualities of fire and its more immaterial, symbolic, or imaginative associations. To the point that sometimes the line between materiality and metaphor completely blurs, indicated by Anne Harris as “matterphors” of fire.<sup>6</sup> Let me unpack all this a little further.

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<sup>1</sup> Peters, *Marvelous Clouds*, 1.

<sup>2</sup> Bozak, *Cinematic Footprint*, 5.

<sup>3</sup> Parikka, *Geology of Media*.

<sup>4</sup> Peters, *Marvelous Clouds*, 9.

<sup>5</sup> Jue, *Wild Blue Media*.

<sup>6</sup> Harris, “Pyromena,” 39.

## Fire as material medium

If we consider fire as a medium in itself, we have to start with earth's primordial fire: the sun. As Nadia Bozak argues, "we must first locate the heart of cinema, its fuel and perhaps even its spirit—the sun. The 'fossil image' is the locus where geology, industrial civilization, and cinematic history intersect into an indelible fusion that is [...] traced back to the light (and energy) that comes from the sun."<sup>7</sup> Film (and by extension other media) is something "intractably luminous," measuring in one way or another "our civilization's control of the sun in the form of the fossilized sun or carbon that we have captured, refined, and duly exploited."<sup>8</sup> In this sense, each image can be traced back to that primordial great ball of fire, the sun and the different transformations and captures it affords. Obviously, the sun has also many symbolic associations, but in all cases it entails an elemental (in the sense of fundamental) quality of any kind of mediation of the sparks of life, and literally flashing lightning of insights and knowledge.

Along this line of thinking, and equally rudimentary, it is possible to argue that fire has made humanity. Fire has actually allowed the building of our world by making the earth less inhospitable, by providing warm shelters, by repelling or attracting animals, cooking our food, providing energy, clearing ground for farming, forging tools, reshaping matter.<sup>9</sup> "Fire makes matter malleable," as ancient alchemists and metallurgists already knew.<sup>10</sup> As Peters indicates, "like all media, human fire is an ensemble of natural elements and cultural techniques, a means for creating other means. The history of technology among humans is largely a pyrotechnical history. Therefore, fire is the mother of tools as well as a tool itself, a medium as well as the precondition for almost all human-made media. As Peters maintains, fire is a meta-medium."<sup>11</sup>

Besides these primal qualities as resource and meta-tool, fire can also be considered as "environmental plasma."<sup>12</sup> As David Macauley contends, heat and cold are elemental because they greatly condition the environment in which we dwell and through which we evolve and move: the media of air, water, and land constitute an ambient setting or stage for ecological change, geological processes, and cultural life. Fire, as associated with the temperature of the climates we dwell in, equally operates

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<sup>7</sup> Bozak, *Cinematic Footprint*, 18.

<sup>8</sup> Bozak, *Cinematic Footprint*, 29.

<sup>9</sup> See Peters, *Marvelous Clouds*, 115-164; and Harris, "Pyromena", 27-51.

<sup>10</sup> Peters, *Marvelous Clouds*, 117. See also Eliade, *Forge and Crucible*.

<sup>11</sup> Peters, *Marvelous Clouds*, 117-118.

<sup>12</sup> Macauley, *Elemental Philosophy*, 202.

on our bodies and minds. In her book *Media Hot & Cold*, Nicole Starosielski looks at temperature more explicitly connected to media and proposes a revision of McLuhan's hot and cool media by looking at the cultural dimensions of temperature and thermal media of communication.<sup>13</sup> She considers the heating and cooling of digital infrastructures, as well as thermostats, air conditioners, and infrared cameras as thermal media that are fundamentally connected to the element of fire.

Besides the material dimensions of fire as resource, tool, and environmental medium, fire can also function as an interface. The notion of the interface has many significations. In media studies, the Human Computer Interface can refer to windows, screens, keyboards, control panels, and other contact zones that allow a user control, communication, or other types of influences. A more general conception of the interface is to see it as “a surface forming a common boundary of two bodies, spaces, phases.”<sup>14</sup> More elementally, Melody Jue proposes an interface of perception that is species-specific in a space or zone that can also be geographical and elementally mediated. She looks at water as an interface, or water/air contact zones as interfaces. Proposing a phenomenological reading of the interface, for humans mediated by the lungs, Jue calls attention to the potential of diving as a method to perceive and think through seawater: “When thinking through seawater, the interface is more than a surface, the archive or database may be mobile and transient, and processes of inscription and recording give way to watery processes of mediation involving residues and saturation.”<sup>15</sup> Jue sees “diving as a method of cognitive estrangement” via the non-habitual interface of water and lungs that opens up a fundamental re-examination of our usual biases and ways of speaking about and constructing knowledge of the world.<sup>16</sup> Now, my question here is, of course, what type of interface is fire? What types of knowledge, including cognitive or perceptual estrangement, does fire allow us to think? Fire is not cold, wet, and fluid like water, but hot, dry, dynamic, and intense. In contrast to other elements that are always there (oceans/rivers, earth/soil, air/atmosphere), fire needs to be ignited and will also, sooner or later, die out. As already hinted at by the associations mentioned earlier, fire is fundamental for life, for modern mediated life in particular (sun, light, electricity—tool of tools). But what about the types of knowledge that fire ignites?

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<sup>13</sup> Starosielski, *Media Hot & Cold*.

<sup>14</sup> Jue, *Wild Blue Media*, 40. Jue quotes here from *Software Studies* (Cambridge: MIT Press, 2008) by Matthew Fuller and Florian Cramer.

<sup>15</sup> Jue, *Wild Blue Media*, 163.

<sup>16</sup> Jue, *Wild Blue Media*, 163.

## Fire as immaterial medium

Fire is both destructive and life giving. In his famous studies on the poetic imagination of the elements, Gaston Bachelard considers fire as the hard to control and ultra-living element full of contradictions that “shines in Paradise and burns in Hell.”<sup>17</sup> Bachelard investigates the subjective dimensions, imagination, and inner experiences of fire that he ties to archetypes and myths, which he develops as a psychoanalysis of fire. Contrary to Freud, Bachelard is not interested in the unconscious and the symbolism of fire in our dreams. Rather, he is interested in what he calls the untutored mind, the mind that is lingering and drifting off while staring into a campfire. Bachelard elaborates “a theory of fire immanent in matter that pertains to those inner fires that burn outside of physical reality but deep enough within the imagination to feel real.”<sup>18</sup> He is interested in the immaterial aspects of fire that are hidden within its material conditions. I want to highlight here some of Bachelard’s mythic fire complexes that seem instructive for an understanding of the types of knowledge that fire carries within its flames.

A first general principle of the psychology of the pyromaniac provoked by the reverie before the fire is evoked by both the volcano and the funeral pyre. Inspired by Empedocles, the Greek elemental philosopher who allegedly died by jumping into the crater at Mt. Etna, Bachelard calls this the *Empedocles complex*. This complex signifies first and foremost that fire inspires a poetics of annihilation. Fire provokes a desire for cosmic annihilation, to be swallowed by flames, cosmic knowledge beyond human life. However, fire is also the initial object of a general prohibition of human knowledge: “what we first learn about fire is that we must not touch it.”<sup>19</sup> Obtaining knowledge through fire (whether literally or figuratively) is a problem of “clever disobedience,” as Bachelard characterizes the fiery quest for risky knowledge (the child that steals matches from the father to make its own fire). As Prometheus stole fire from the Gods, this is the *Prometheus complex*, “the Oedipus complex of the life of the intellect.”<sup>20</sup> So the type of knowledge that fire embodies in this sense is prohibited knowledge that calls for respect and caution but can only be obtained by smart forms of transgression. A third complex is the *Novalis complex*, addressing fire and sexuality, and the intimate, bodily knowledge it entails. Fire is primitively produced by rubbing (two sticks), which in itself is an intimate experience; electrical fire is even more sexualized fire, a rhythmic increase of energy. The impulse towards fire that is brought

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<sup>17</sup> Bachelard, *Psychoanalysis of Fire*, 7.

<sup>18</sup> Harris, “Pyromena,” 40.

<sup>19</sup> Bachelard, *Psychoanalysis of Fire*, II.

<sup>20</sup> Bachelard, *Psychoanalysis of Fire*, 12.

about by friction, the need for a shared inner warmth, and penetrating heat all relate to the intimate and sexualized knowledge of fire. All the connotations of inner warmth and sexuality constitute the Novalis complex, after the romantic poet Novalis and his rekindling of “primitive fires” that return to these sexualized dimensions of fire: “Eros dropped his sword. He ran to the princess and imprinted a kiss of fire on her cool lips.”<sup>21</sup>

All together, these complexes constitute fire as an interface of “combustive knowledge,” but of course this needs to be even further specified, as not all combustive types of knowledge are the same. In the longer version of this article, I elaborate on these (and other) complexes of the inner experiences of fire. But to conclude here, I want to put these scorching interfaces of combustive knowledge to the “test of fire” by briefly mentioning three case studies that deserve further elaboration but that I can only bring in here as songs at the campfire.

## Images on fire

The Hollywood film *Only the Brave* (Joseph Kosinski, 2017), the Netflix series *Archive 81* (Rebecca Sonnenshine, 2022), and the Chilean art-house film *Ema* (Pablo Larrain, 2019) are cases in point. While all three works are governed by the Empedocles principle of annihilation and reverie, I’d like to suggest that each of these cases is dominated by one of the three fire complexes proposed by Bachelard. *Only the Brave* is the fact-based story of Californian fire fighters who tragically die on duty. When it comes to fighting and controlling wildfires, Empedocles is never far away, and the film stands also for the larger environmental issues that demand an increasing knowledge of and thinking with fire. *Archive 81* presents the Prometheus complex embodied by a film conservator who gains access to forbidden knowledge, hidden pasts, folds and loops in time, all mediated by burned images in a hidden archive. *Archive 81* can be considered as a meta-reflection on the types of scorching knowledges and kindling fires that are held in the crucible of our media archives. *Ema* performs the pyromaniac drive of its interface mediated by its main character under the signs of the Novalis complex, full of burning and sizzling sexualized fires, equally dangerous and combustive, but on a very different level, even if potentially equally flammable and political.

*Only the Brave* can be considered as an environmental record of governance and management of “fire and fuels” that becomes increasingly topical in times when wildfires continue to spread across larger areas of the planet as a consequence of

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<sup>21</sup> Novalis in Bachelard, *Psychoanalysis of Fire*, 39.

climate change and mismanagement. The firefighters of the Granite Mountain hotshots are masters of fighting fire with fire and therefore embody literally dangerous knowledge that can save lives, but not without sacrifice.<sup>22</sup> As such, these Empedoclean heroes, who in reality died in the fire and yet were brought back to life on the screen, carry important combustive knowledge for our contemporary burning ecologies. In *Archive 81*, the main character, Dan Turner (Mamoudou Athie), is a film conservator who “burns his fingers” during a project to restore warped Hi8 Tapes that were rescued from a burned down apartment building. When he starts restoring the burned tapes, we are transported back to 1994 via the video images that Melody Pendras (Dina Shihabi) takes of her anthropological investigation of the apartment building. During her investigations, the building would go up in flames. Obviously a work of poetic imagination, the questions about the power of pyrotechnics of film and video as Promethean portals to other dimensions and secret knowledge are worth considering as part of an elemental epistemology of the interface, where images “burn holes” into time.<sup>23</sup> The most burning questions here concern the political dimensions of archival knowledge and the problems of preservation of (alternative) knowledge in so many undisclosed archives of the world.<sup>24</sup> Finally, *Emilia Pérez* is as explosive and enigmatic as *Archive 81* but plays on a very different pyro-level; Larrain’s film is more governed by the Novalis complex and sexualized fire, related to intimacy, bodily knowledge, passion, and desire (including the desire for reproduction). It also portrays a rebellious kind of fire. Emilia (Mariana Di Girolamo) is a young reggaeton dancer who wants to divorce choreographer Gaston (Gael García Bernal) after they return a child they had adopted but failed to raise. The child accidentally caused a fire and is no longer under their care. Emilia feels guilty and tries to find him again while she is also on a quest for sexual liberation and motherhood in an alternative family constellation. Most striking here is the sexual rhythm of the reggaeton music and dance moves of the main character, exemplified by the bodies dancing in front of a giant burning sun. From these images, the film creates a connection between the solar ecology of “pyrosexual desire” and ecologies of destruction and rebirth that *Emilia Pérez* seems to invite us to dream about, staring into the moving flames of the campfire.<sup>25</sup>

All these fire mediations present different kinds of combustive knowledge in which the element of fire, both as material phenomenon of nature and engine for

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<sup>22</sup> Neale, Zahara, and Smith, “An Eternal Flame,” 121.

<sup>23</sup> See also Bao, *Fiery Cinema*. Thanks to John Durham Peters for this suggestion.

<sup>24</sup> Global Audiovisual Archiving and the exchange of knowledge practices is gaining attention with respect to archival practices and politics and the different types of knowledges that remain hidden or are disclosed: <https://www.eyefilm.nl/en/programme/eye-international-conference-2022/563352>.

<sup>25</sup> Clark and Yusoff, “Queer Fire.” Clark and Yusoff refer to Bataille and open up the question of sex and fire to ecological questions.

modern life as well as immaterial reverie of destruction, forbidden knowledge, and sexuality are worth exploring further in light of the deeper elemental media questions that wait to be rekindled in the different ecologies of flames.



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