The Elements of Media Studies

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Elements are constituent parts, defined by their role in composition. The classical Greek elements—air, water, fire, and earth—were "substances," each of which offered its own specificity in composing the universe. The periodic table is a chart of foundational chemical elements, often seen as the building blocks of matter. Detached from specific materials and environments, "elements" refers simply to basic principles. Elements can describe ecological conditions—the elements of nature. To be in one's element is to be enmeshed with one's "natural" environment.

Over the past decade, media studies has become elemental. By this, I mean that the field has become attuned to constituent parts, especially to the substances and substrates that compose media. Media studies researchers have unearthed the minerals that comprise media technologies (Parikka 2015; Mattern 2017), the harvesting of ecological matter for media of inscription (Smith 2015), the light that sets conditions for vision (Bozak 2012), and the infrastructures that support signal traffic (Mukherjee 2017; Parks and Starosielski 2015; Plantin and Punathambekar 2018). The analysis of hardware and platforms could also be seen as an analytic practice of breaking media down into core elements. While John Durham Peters argues explicitly for a philosophy of elemental media, one that can account for sea, sky, fire, and earth as communications media (Peters 2015), other scholars investigate atmospheric media in their elemental milieu (McCormack 2018); plastic as the substrata, a *medium,* of advanced capitalism (Davis 2015); and the earth as "a medium long before it is our home, a ship, an ecosystem, a globe, Gaia, a blue marble" (Russill 2017). Although these approaches arise in different contexts and conversations, I group them together under the broad rubric of "elemental analysis," which I define as the investigation of media's material and conditioning substrates.

Although the project of tracking media's material composition takes many forms, much of the research that uses the description "elemental media" is oriented by the periodic or the Greek elements. It is part of a larger elemental

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turn in the humanities, and it draws from works such as Jeffrey Cohen and Lowell Duckert's *Elemental Ecocriticism* (2015) and David Macauley's *Elemental Philosophy* (2010). As an even broader turn in social theory, Stefan Helmreich (forthcoming) argues, elements thinking pivots "toward understanding amalgams of natural and cultural objects through their chemical connections and relations, their molecular-molar meshwork, and their material and mediated substantiations." This elemental work, even beyond the field of media studies, often involves paying attention to mediation.

I see potential in what elemental analysis, broadly construed, can do for media studies as a field. First, while not all elemental or materialist analysis is explicitly a form of environmental media studies, for many authors, tracking the elements of media is a fundamentally ecological project. It is a means by which media's substances can be politicized. The elemental offers an alternative to "nature" or "environment"—domains that remain separate from the human in popular culture, no matter the extent of research on medianatures or media environments (Parikka 2012). Elements, instead, gesture "forward (sideward and wayward) to the possibility of discovering a more fluid, open and unfolding philosophical framework and ecological field" (Macauley 2010, 4). For example, in her analysis of air as a medium, Eva Horn (2018, 8) writes that such an inquiry involves understanding air "not only as an environment but also as an intrinsic element of human civilization, human knowledge, and phenomenological experience." In other words, working with elements provides a way to come at ecological issues from an oblique angle, to refuse boundaries between human and environment, and to recast the terms of the conversation in environmental media studies.

Looking at elemental media can both destabilize traditional framings of the "environment" as well as destabilize the understanding of "media." Melody Jue's *Wild Blue Media,* for instance, uses the elements to recalibrate our understanding of mediation and to situate it within a milieu (forthcoming 2020). Elemental analysis can extend environmental studies to a wide array of media. From an elemental perspective, for example, the internet is not merely an array of computers and cables controlled by companies, but a phenomenon composed through water and water's regulation (Hogan 2015) and through air-conditioning systems and thermocultural practices (Velkova 2016; Starosielski 2016). In such a vision, all media becomes environmental media, and all media studies becomes environmental media studies. In turn, this opens up avenues for all environments to benefit from a critical understanding of mediation, broadly construed.

Whether it is situated as a subfield, a takeover, or a broad reorientation of media studies, media's elemental becoming involves both a turn inward to constituent parts and a turn outward to other fields and domains. Elemental thinking connects media studies to a network of infrastructural and ecological phenomena: to mines, oceans, roads, and social worlds otherwise located

beyond media studies. It opens up conversations with new groups of scholars—not simply those studying earth, water, air, and fire elsewhere in academia, but groups of scholars and publics invested in a greater understanding of specific forms of materiality. And it introduces theories and theorists not typically considered in environmental media studies, from Harold Innis to Luce Irigaray (see, for example, Young 2017; Horn 2018). In sum, elemental research is a contact zone, one where scholars are pushing, experimenting with, and redrawing the boundaries of media studies.

With the set of possibilities that elemental research offers, there is also a set of challenges. One of these challenges is that, while elemental research certainly offers a different framing than "environment" or "nature," it comes with its own misunderstandings. Casual readers of elemental works, relying on the popular imaginary of Greek and periodic elements alone, tend to assume that elements are bounded and discrete building blocks. Broadly construed elemental research—into the materials, platforms, and infrastructures of media—is likewise misunderstood as simple inquiries into media's solid and hard foundations. Counter to this, elemental theory, infrastructure studies, and new materialist inquiries rarely view their objects as mutually exclusive building blocks or as objects at all. Elements are not things. Scholarship on media's elements has repeatedly shown that they are processual, dynamic, and intra-active.

A second challenge is that, while substantial work has been done to outline a philosophy of elemental media, there is much room to articulate the politics of elemental media. In social and ecological theory, elemental research has dovetailed with inquiries into environmental justice. Take, for example, Catherine Fennell's (2016) description of lead in the water infrastructure of Flint, Michigan, and Michelle Murphy's (2017) description of how PCBs extend colonialism and racism into the future. Research on e-waste and the environmental effects of media's component parts have begun such a project (Gabrys 2011; Parikka 2012), but this remains an understudied area. There is also a need to politicize the boundaries of how the elements of media studies are defined. In this stream of *Media and Environment,* Yuriko Furuhata (2019) unpacks elemental media's latent cosmology and argues for a consideration of its geopolitics. Drawing attention to five elemental phases of Chinese philosophy, she asks "*which* lineages of knowledge and techniques of controlling the environment have been taken for granted and which others have been ignored within media studies"? Her study directs attention to the ways that elemental analysis can tacitly reinforce Eurocentric, patriarchal, and racist worldviews. Elemental thinking in media studies cannot be defined solely in relation to the Greek or the periodic elements. Doing so would reify Western paradigms of thought as the "natural" rubrics and languages for understanding media's composition.

Thirdly, while much research on the chemical and the classical elements assumes a uniformity in elemental composition, there is the need to grapple further with issues of difference in media's elemental forms. As Melody Jue (2016, 2) puts it: "[w]hat would an elemental theory of media look like that attended to the conditions of deviance, anti-normativity, and failure"? What would this theory look like, for example, if we were to follow Anne Pasek's (2019) analysis of carbon, which studies the element not as an a priori building block but as an entity that always has to be fixed and comes with its own set of communicative challenges? Inquiries into the elements of media are most exciting not when they offer a stable ontological space in which difference is either flattened or hard-coded, but as they open up new sites for tracking where difference materializes.

Elemental research is just one among many approaches to grappling with the environment in and of the media. In order to realize the potential of this analytic, however, it is critical to remember that elements are neither essential nor foundational. Elements *compose.* The choice of what compositions to attend to, and the language of distinction, has geopolitical implications. Elements are not discrete. They are relational. Elements never fully stand alone. They attach, bond, and transform. Infrastructures transition, hardware falls apart, and molecules separate. The elemental is not epic, it is particulate. In other words, elemental research is not the means to ground a media studies in flux—the strength of this paradigm lies precisely in its ability to open up, to destabilize, and to saturate existing ways of environmental thinking.

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