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A Media-Theoretical Armamentarium:

From the Pharmakon to Pharmacologies of Media

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Abstract

This essay provides an introductory account of the concept of pharmakon and its uses in different traditions relevant to media theory. First, we chart existing media-theoretical uses of the pharmakon and the main points of reference in this body of work, such as Plato, Jacques Derrida and Bernard Stiegler. Second, we present the alternative genealogies of the pharmakon in reference to material, chemical and medical contexts. Taking the approach Galen developed to the pharmakon in the context of medical practice in Classical antiquity as its guide, this section presents an alternate history of the concept in order to illustrate how else it might be conceived and used. Finally, we introduce the contributions to this special issue which, as a whole, explicate a range of "pharmacologies" and "pharmacologics" available to media theory.

Keywords

pharmakon, materiality, technology, chemicals, Plato, Galen, Derrida, Stiegler

The concept of the *pharmakon* has a few key antecedents in media theory. It's obligatory to note, first of all, that this concept is derived from an Ancient Greek word that can mean either "remedy" or "poison," depending on the context in which it is used (King, 2018: 26). After noting this provenance, a media theorist might introduce their use of

this concept by invoking one of two or three key philosophers: Bernard Stiegler, who made the concept key to both his critique of contemporary "hyper industrial society" and his prescription for remedying its ill effects (2010); Jacques Derrida, whose deconstructive engagement with the concept treated its undecidability as representative of the undecidability of meaning itself (2016); or, perhaps, Plato, whose use of the concept to critique the medium of writing in the Phaedrus could be said to be the first extant, properly media-theoretical text in the Western philosophical canon (2009; see also Sutherland, this issue). These antecedents have shaped the dominant conception of the *pharmakon* in media theory, investing it with a particular set of *normative* and *epistemological* premises. This ambiguous and suggestive concept tends to be used to understand how media – typically understood in technical terms – cause us ill or do us good.

We have been motivated to assemble the articles that make up this special issue by the conviction that the concept of the *pharmakon* has much more to offer contemporary media theory than this. What if we returned to the Greek concept, the medicine or drug that can act as either remedy or poison, and asked what *else* it can tell us about media today? What if we stripped this concept of its more recent normative and epistemological baggage, instead conceiving of its suggestiveness and its ambivalence as a material, substantial, or relational property of *pharmaka*? What if, that is, we drew the *pharmakon* into the expanded conception of media that is being developed through engagements with media's materiality, its alternate histories, or its constituent techniques, or by extending the media concept to encompass other objects, processes, or phenomena, like environments, chemical substances, medical practices, or bodily prostheses? We've called this special issue "pharmacologies of media" because we want to signal our intention to expand this concept's remit.

In what follows, we introduce the contribution we want to make with this special issue by outlining some of the alternate forms that the *pharmakon* might take. We start by offering an overview and genealogy of what we characterise as the standard, media-theoretical conception of the *pharmakon*. After outlining how the concept has been understood by Plato, Stiegler, and Derrida – whose work is far from congruous – we argue that media theory has developed an *applied* conception of the *pharmakon* defined by what Mark B. N. Hansen calls a "pharmacologic" (2015: 50). In short, the standard

media-theoretical pharmacologic treats media as technologies that extend some of our capacities while curtailing others. But Hansen's formulation also contains the possibility that we could identify, formalise, and apply *alternate* media-theoretical pharmacologics.

This, in short, is what this special issue sets out to do. Each of the articles we've collected here offers its own take on the *pharmakon* concept and – sometimes implicitly, sometimes explicitly – formulates an alternate pharmacologic. To frame the individual contributions made by these articles, to offer a conceptual key for reading them as a set, and, indeed, to indicate some of the ways in which the *pharmakon* might be thought differently – particularly given the recent expansion of the media concept – we use this introduction to offer a few alternate pharmacologics of our own. Adopting an unlikely theoretical guide – Michel Serres' reflections on the *pharmakon* in *Statues*, part two of his *Foundations* trilogy – we propose that the *pharmakon* need not only be applied to technical objects, but can also be used to challenge distinctions, uncover relations and entanglements, link disparate domains or broach scales. We offer three examples. One of these emphasises the concept's origins in Ancient Greek medical practice, using the figure of Galen – the ancient world's most influential physician – to prise its physiological and pharmacological meanings apart from its media-technical ones and to conceptualise medicines and drugs as media. Another puts Susanna Paasonen's argument that we don't spend enough time engaging with the *pharmakon's* positive aspects, like their capacity to enchant – developed in the pages of this journal – in dialogue with the drug culture of Plato's time to draw out the concept's capacity to denote substances and objects that intoxicate. The third and final returns to Serres and uses the example of lithium to demonstrate how the *pharmakon* concept can be used to deepen our critical and conceptual engagements with media by expanding what we mean by "mediation" to encompass processes like using mobile media, extracting raw materials from the Earth, and administering psychopharmacological remedies within the same theoretical frame.

The final part of this introduction offers a summary of the articles contained within this special issue. Each of these articles realises our ambition to extend the *pharmakon* concept in a variety of ways. Some contributions take inspiration from the work of the late Bernard Stiegler, using his conception of the *pharmakon* as a starting point for novel

and nuanced engagements with digital media and the complex, automated technical systems in which they are entangled. As a preface to his contribution to this special issue, Patrick Crogan – whose work is heavily influenced by Stiegler's – also offers a brief memorial for the philosopher, who sadly passed away as we were assembling these articles. Some contributions adopt an expanded and ecumenical conception of media themselves, extending the concept of the *pharmakon* to objects or domains that might not have been considered "media theoretical" until very recently. Some contributions use the *pharmakon* to rethink the relationship between bodies, substances, and environments, expanding not only what we might mean by both "media" and "mediation." And some contributions use extended meditations on the *pharmakon* to turn the concept back on media theory itself, asking what it can teach us about our own relationship to the media we theorise and the kinds of thinkers, objects, and critical and rhetorical styles the field valorizes.

We want to stress that our aim is not to present an exhaustive overview of the different ways in which the pharmakon might be used to engage with media. We treat the *pharmakon* both as a critical concept that can be used to analyse media *and* as a guide that can be used to inform an approach – a *method* – for thinking *with* media: a *pharmacology*; or, rather, a set of *pharmacologies*. What we want to present is an invitation to think pharmacologically, whether this means expanding the term's normative implications or extending it into new theoretical, critical, and analytical domains. Hence, "pharmacologies of media."

Treat this special issue as an armamentarium, part-stocked, with the invitation to take what's inside and formulate your own preparations and medicaments for contemporary media situations.

The Media-Technical *Pharmakon*: Plato, Derrida, Stiegler

What we're calling the *pharmakon's* media-technical genealogy stretches back to Plato's early dialogue, the *Phaedrus* (2009). In this dialogue, Plato's intermediary, Socrates, encounters the eponymous Phaedrus outside Athens. Socrates and Phaedrus embark on a discussion that touches on a variety of topics, including the relative merits of writing versus speech. The scene that concerns us is one in which Socrates invokes a

mythic encounter between Egyptian King Thamus and the god Theuth. In this mythic scene, Socrates reports, Theuth offers Thamus a gift, writing, which Thamus rejects. For Thamus – and, via a chain of proxies, for Socrates and for Plato – this scene is often read as an originary moment of media-theoretical criticism. Thamus rejects Theuth's gift on the basis that any proclamation he might make as king will necessarily be diluted by being transcribed from speech into writing. For Socrates, the medium of writing has positive effects: it can be used to record speech and act as a memory aide. But it also detracts from the *reader's* capacity *to* remember. It is akin to a *pharmakon*, a substance that can harm or heal depending on how it is used.

The lesson of this mythic encounter and its delivery via this dramatised dialogue is typically taken to be that Plato was critical of the medium of writing. This claim has a specific valence in Plato's work, because it is tied to a precise understanding of what philosophy is and how it can be practised. For Plato, writing can't replace the function of *logos*, or living speech, in the cultivation of a properly philosophical mind, because it's only through the back-and-forth of dialogue that a participant can be made to remember philosophical truths *that they already know*. We'll return to this point later on when introducing Thomas Sutherland's contribution to this special issue, because it's not the main one that concerns most media theorists. Rather, what's important to note now is that Plato's dialogue has a strong claim to being media theory's primal scene, the earliest – or rather, earliest recorded and extant – example of a thinker grappling with what a medium is and what it can do (see Peters, 1999: 36).

Yet this claim doesn't fully explain why the concept continues to circulate. Its contemporary fortunes arguably owe a lot more to Jacques Derrida's deconstructive reading of *Phaedrus* in "Plato's Pharmacy" (2016). This essay extended Derrida's concept of the "supplement" – the idea that speech is always already supplemented by writing, its putative other, deconstructing both the difference between them and, therefore, speech's claim to secure the presence of the speaker (1979) – to Plato's *pharmakon*. In Derrida's hands, the *pharmakon's* ambivalence becomes a means to both delimit and deconstruct the difference between not only speech and writing, but between a whole series of formative oppositions that underwrite Plato's text – and which media theorists tend to skip over. These include oppositions that correspond to speech and writing, respectively: the opposition between *father* and *son*, where the

former is mapped on to the speaker, who produces living speech and the latter on to writing, construed as speech's orphaned offspring; or the *living* and the *dead*, where *logos* is construed as living speech, and writing as dead speech that is unable to defend itself in dialogic exchange (see also Derrida, 1988). But they also include oppositions that Derrida draws out of the constellation of connotations that orbit *pharmakon*.

As Derrida notes, the *pharmakon* is related to the *pharmakos*, the scapegoat who would be ritualistically cast out of the body politic in moments of crisis in an attempt to propriate the gods and secure the integrity of the polity. This other derivative set of meanings draws the *pharmakon/pharmakos* into a second series of oppositions, which include inside and outside, proper and improper, sacred and profane, citizen and outcast. In a claim that echoes his engagement with archives (1996) and the work of René Girard (see Vanheeswijck, 2003), Derrida points to such constitutive acts of scapegoating to demonstrate how the integrity of a polity frequently relies on arbitrary and often violent acts of differentiation. If one were invested in Derrida's deconstructive project, one might say that he doesn't formulate the *pharmakon* as a concept that can be extricated from this essay and put to use. Still, after Derrida, the *pharmakon* gained a productive capacity to signal the impossibility of establishing hard and fast distinctions not only between good and bad, but between that which *belongs* inside or outside, whether substance, author, citizen, or medium. Extrapolated to media theory, Derrida draws our attention to the difficulty of differentiating the medium from its others – where does a medium end and its subject begin? – *and* to the tendency for distinctions to corrode when probed and, ultimately, to rest on arbitrary distinctions between what's included and what's excluded.

As influential as Plato's and Derrida's work have been on media theory, the *pharmakon's* contemporary media-theoretical fortunes arguably owe most to Bernard Stiegler's reconceptualization of the term. For Stiegler, the *pharmakon* helps to express a fundamental ambivalence built into modern technology: technology can have either positive or negative effects, depending on how it is used. What Stiegler does with this basic insight is combine it with a strikingly novel conception of technology that is inspired by Derrida (see Stiegler, 2012), but which rests on wholly different ontological premises to Derrida's deconstructive approach to the Western philosophical canon. For Stiegler, technology can neither be thought of as a tool – a means by which humans

express their agency – nor a manifestation of its designers' agency (1998: 54-7). Rather, technology plays a fundamental ontological role in constituting humanity itself by allowing us to exteriorise our thoughts in the form of marks, they constitute our sense of interiority (1998: 141). To make this claim, Stiegler develops a post-phenomenological philosophy of technology that dares many of Derrida's phenomenological interlocutors – Martin Heidegger and Edmund Husserl – as well as mid-century anthropologists and philosophers of technology, including Andre Leroi-Gourhan and Gilbert Simondon.

Husserl's phenomenology of memory and subjectivity is particularly crucial to this claim. For Husserl (1991), our sense of time is created by the relationship between our experience of the present (protention) and memory (retention). Husserl distinguishes between two forms of memory: memory of what's just passed (primary retention) and memory of the past (secondary retention). The flow of perception passing into recent and not-so-recent memory shapes our sense of who we are. Stiegler's innovation is to argue that technology functions as a third kind of *exteriorised* memory: what he calls "tertiary retention" (2008). Derrida's influence inflects how Stiegler conceptualises this process: tertiary retentions are constituted out of a series of discrete marks, or *grammes*, which are part of a tissue of other marks and which knit our subjectivity to its exteriorizations, plural (2000). This claim has fundamental ontological implications: it means not only that we, individuals, are shaped by our own individual technical exteriorizations, but that we are collectively shaped by the technical ensembles that stitch us into social and cultural worlds. Marks can be translated into grammes; conversely, through a process that Stiegler calls "grammatization" (2010: 29-33; 2000), and through the mediation of technology, marks can shape our collective subjectivity by shaping how we become – or, drawing on Simondon (2020; 2017), what Stiegler (1998) refers to as our *individuation*.

Stiegler's concept of the *pharmakon* thus has a very specific meaning. Abstracted from his philosophical framework, we could summarise this concept by saying that it refers to the capacity for technology's shaping influence to be used either positively or negatively. For Stiegler, our relationship to the externalisations that define our interiority is pharmacological in character (2013: 20-22). Scaled up to the level of contemporary technology, this means that technology's capacity to shape our

collective individuations by instituting tertiary retentions has implications that exceed the relation of an individual to a set of marks.

In what Stiegler calls our "hyperindustrial" present (2010: 35), technology operates as a *pharmakon* at a massive scale. In turn, the *pharmakon* offers theorists a critical concept that can be used to identify the influence that technology – including media technology – exerts over collective individuation and over the way society develops. Stiegler argues that contemporary technology – and, in particular, digital media – institutes what he calls "short circuits" in processes of individuation, restricting who and what we can become both individually and collectively (2013: 27-8; 2010: 41-2). In the process, he argues that we are becoming "proletarianised," or having too many of our capacities outsourced to machines and, in the process, losing too much of our ability to individuate (2010: 48). At the same time, though, the basic premise of Stiegler's philosophical framework – that technology is what makes us human by allowing us to exteriorise ourselves via the marks we make – also locates the *remedy to these ills* in technology itself (2013: 55; 2010: 48).

For him, this "remedy" requires that we turn technology to the task of cultivating what he called "spirit," or the work of the mind *in* opposition *to* the deleterious diminution of our capacities (2013: 55; see also Abbinnett, 2018: 180-181). Riffing on the *pharmakon* concept, he calls this a "therapeutic" and argues – by returning to Plato – that it can only be developed by restoring the "long chains" by which individuation develops through exteriorisations. Put another way, what Stiegler advocates is not a Luddite rejection of technology, but a more mindful and therapeutic relationship to technology that would emphasise its capacity to extend our human capabilities and to institute positive individual and collective individuations – to allow us to flourish. For this, he suggests, what we need is not only to resist technology's negative effects, but to take "care" of our inextricable relationship to it (2013: 35).

What ought to be apparent from these summaries is that these three thinkers do not offer us a coherent, singular concept of the pharmakon. Despite this, they are often cited together when media theorists introduce the concept of the pharmakon – and, more curiously, we can detect a coherence in the concept that media theorists tend to use. This is because these thinkers form part of a genealogy of speculative work on media and on technology that provides the basis for what Mark B. N. Hansen calls a

"pharmacologic" (2015: 50). Commenting on Stiegler's work and its relationship to Plato, Hansen argues that the *Phaedrus* ought to be understood as the progenitor and "paradigm" of a logic in which "the very act of harming" an "internal," human capacity or sense simultaneously "extends the scope" in which it can operate by "exteriorising it into a technical support" (2015: 50). This reading draws Plato into a media-theoretical genealogy that includes Marshall McLuhan's conception of the medium, which extends some capacities while "amputating" others (1964), as well as Sigmund Freud's concept of the "prosthesis," which extends some of our capacities while curtailing others (2002; see also Wills, 1995). It also helps us understand how this concept escapes being strictly reduced to, or determined by, these thinkers' work. This "pharmacologic" has escaped the letter of their texts. Instead, the "pharmacologic" that the *pharmakon* has come to signify has developed over time and through successive generations of media-theoretical speculation. It can be used to think the relation of media to bodies; media's ability to extend some capacities while curtailing others; the possibility that these effects can scale up, shaping how collectivities and how societies develop; and, indeed, media's tendency to produce unforeseen effects.

The crucial point to make about this "pharmacologic" is that it is premised on the idea that *pharmaka* are *technical*. The point we want to make with this special issue is this: *pharmaka* can be situated in alternate genealogies and thought otherwise.

Other *Pharmaka*, Alternate Logics

In his book *Statues*, the second volume of the *Foundations* trilogy, Michel Serres offers a reflection on the Greek term "pharmacy" that we want to use as a guide for formulating these alternate pharmacologies. Like other commentators, Serres notes that it "signified poison and remedy at the same time." But its stakes are necessarily different today. As Serres puts it, "[t]oday's languages are for better or worse formed by science and technology":

> Who doesn't know now that we kill and heal with the same drugs? The same word designated the victims excluded from the group or immolated in human sacrifices… A same operator can at [the] same time turn bad or

> good: we can improve collective life or abruptly do away with it by means
> of the same energies (2015: 11).

Though using "pharmacy," Serres' references to that which harms and heals *and* to the individual excluded from the polity makes clear that he's commenting on the *pharmakon*. Alongside its normative implications, this gestures towards a general theoretical framework for thinking pharmacologically about scientific practices and, more importantly, media – understood as technical objects, or more broadly.

One of this special issue's major inspirations has been media theory's recent tendency to revisit, question, and expand the media concept. In part, this expansion has been influenced by broader trends, as poststructuralism's decline has given way to the emergence and spread of new materialisms and new relational theoretical frameworks (James, 2012; Bryant et. al., 2011). Within media theory, though, this expansion has been informed by the translation of key work by German media theory emphasising media's materiality, history, and (deep) temporality (Parikka, 2012; 2015; Ernst, 2013) or decomposing media into the constituent "cultural techniques" that comprise them (Geoghagen, 2013). Inspired by once-overlooked concepts, like Aristotle's *metaxy*, from which the term "medium" is derived, has led other thinkers to conceive environments, elements, geology, or the non-terrestrial milieu of water as media (Somaini, 2016; Peters, 2015; Parikka, 2015; Jue, 2020). Interdisciplinary engagements with infrastructure have also inspired media theorists to think about how large-scale systems mediate us by affecting the distribution of goods, people, resources, and materials (Rossiter, 2016; Mattern, 2017).

The media-technical concept of the *pharmakon* we've outlined above fits this trend. Stiegler, in particular, has played a central role in reviving questions about technology's "mode of being." But this expanded media concept also offers us other means of conceiving the *pharmakon* itself. Though Serres has the atomic bomb in mind in the typically allusive passage quoted above, he cautions about thinking the *pharmakon* as a concept of technology. His suggestion that our conceptions of natural, biological, or material phenomena are imbricated with scientific and technical epistemologies also suggests the converse: our conceptions of scientific practices and technical objects – including media – are, themselves, imbricated with nature, biology, and matter. This is

the epistemological situation that the *pharmakon* operates in – and which we can use as a starting point for thinking it differently.

We'll return to Serres at the end of this section. First, though, we want to start with the premise that "media" refers to a category of things that affect the human body. For McLuhan as for Hansen, the media-technical pharmacologic helps us analyse and critique such effects as they play out on the human sensorium. Given the expansion of the media concept and the epistemological situation that we have briefly outlined, could we not think of substances – drugs or medicine, for instance – as media? As we'll show, these substances are also entangled in a pharmacologic – which supervenes on entirely different forms of mediation.

Instead of nominating Plato as the progenitor of this particular pharmacologic, we want to trace it to Galen. Galen was a Greek physician and philosopher whose writings were hugely influential through to the early Renaissance and informed what we'd now call medicine, physiology, and anatomy (Cunningham, 1997). It ought to go without saying that his medical practices aren't recognisable by contemporary standards. They aren't underpinned by what we'd call "science." Still, his texts are some of the earliest extant compilations of "*materia medica,*" the effects of particular material substances on the body (Vogt, 2008: 305). Sabrina Vogt describes the knowledge he produced as a kind of "drug lore" developed through practice and experience. For our purposes, what's important is that the *pharmakon* played a large role in Galen's writings. Galen is representative of an ancient medical epistemology in which *pharmaka* weren't considered *intrinsically* harmful or beneficial substances. Indeed, this epistemology didn't distinguish between medicine and poison. As texts like his *Mixtures* (2018) make clear, *pharmaka* belonged to a class of substances that could be ingested – like food (Vogt, 2008: 306). What specifically defined *pharmaka* was that rather than nourishing the body, they engendered an alteration within it. As Frederick W. Gibbs succinctly puts it, "[n]ot only was the idea of *pharmakon* employed to signal ambiguity itself, but it most fundamentally implied an element of change" (2019: 3).

It's here that we begin to be able to detect the outlines of an alternate "pharmacologic." This pharmacologic would begin not with media and technology, but body and substances. Nor would it focus on what *pharmaka* add or subtract. What defines it is *pharmaka's* capacity to engender *transformation*, or to bring about alterations in ways that

can't necessarily be foreseen, but can only be discovered and conceptualised as they unfold. This pharmacologic recapitulates the body as a *mediated* site of experimentation and discovery (see Sawday, 1995) – and such substances as agents of mediations. Dave Boothroyd's work on drugs illustrates the distinction we're drawing between these two pharmacologics. Rather than seeing recreational drugs, for instance, as "personal, chemical prostheses" that act on "sovereign subjects" – drug abusers – acting as agents of "the contamination or falsification" of their bodies and, thereby, the "body of society as a whole" (2006: 40), this pharmacologic could instead be used to illuminate other epistemological and ontological media-theoretical problems. What form of mediation do drugs or medicines adduce? What does such mediation tell us about the sequencing and emergence of different bodily states? What temporalities emerge in the mediation of bodies by substances?

These kinds of questions draw a range of other theoretical and philosophical resources into media theory's ambit. Elizabeth A. Wilson's work on antidepressants, for instance, invokes the concept of the *pharmakon* to conceptualise how drugs and bodies interact with and transform one another. Rather than using this concept to divide such medicines into "remedy" or "poison" (2015: 145), Wilson subordinates the *pharmakon* to a feminist mode of critique that engages the "political terrains" created by antidepressants' widespread use (167). Or else we might take instruction from Paul B. Preciado's theoretical engagement with hormones (2016). For Preciado, the hormone injected into the body or administered via a patch isn't just a molecule; it is a "chemical agent" by which one might modify one's gender (166), a "bio-artifact[]" composed of "carbon chains, language, images, capital, and collective desires" (167). These medicines and hormones *mediate* our bodily states by engendering changes in our biochemistries and our embodied experience. They make us aware of the technical panoply that subtends the maintenance of what we might otherwise see as "normal" or "pathological" mental or physical states (Canguilhem, 1989). They are engaged in forms of mediation that adduce transformations or maintain homeostasis. They allow us to interface with, and discover new knowledge about, alternate modes of interiority and/or exteriority. In other words, they are *pharmacological* techniques engaged in mediating relations to the world – only linked to *pharmakon* that is markedly different from the standard media-technical one.

This Galenic *pharmakon* can also be read back against the Platonic, media-technical one we outlined above. For Gibbs, the lack of "definitive conceptual boundaries" placed around the *pharmakon* concept by physicians fed directly into its "unusually rich etymological interplay," because the term signified not only "poison" but also "potion, drink, and gift" (2019: 2). In his study of Ancient Greek drug culture, Michael A. Rinella further notes that the term was also associated with witchcraft, ritual and magic, religion, sacrament – even spells (2012: 73-4). This latter meaning is significant, because it ties the transformative capacity of the medicine or drug to *language*. Spells have a linguistic form. Treating as an artefact of drug culture and reading this culture back into Plato provides a crucial bit of context for the *pharmakon's* application to the mediums of speech and writing. As Rinella convincingly argues, for instance, the medium of speech occupied the same conceptual space as remedies and poisons because it can convince through both reasoned disputation and through *intoxication* (2012: 213). This brings us to another of the *pharmakon's* meanings: the "*philtron,*" the potion meant to incite love; or, "something which is in turn placed on a spectrum of possible ways of influencing another's desire, a spectrum that also includes spells and words" (King, 2018: 26).

One doesn't need to take the *pharmakon's* links to witchcraft, potions, or spells literally to put them to work. As Susanna Paasonen has recently reminded us in the pages of this journal, networked media may "flatten" the world and "dull" our senses, but they also and reciprocally "enliven" our experience and "enchant" our minds (2020: 17). Paasonen's point in this article is that media theorists tend to focus on the negative side of this extending/amputating pharmacologic. But she also traces the outlines of an alternate pharmacologic that co-exists alongside extension and/or curtailment. Yes, too much of a good thing might make us sick; that which intoxicates can also captivate and transform. If we pay attention to the rhythms and tempos of our engagements with media, which oscillate between boredom and liveliness, we find ourselves engaged in relationships which can also "(re)make the self" (18). Paasonen understands this as the "copresence of mututally conflicting and intermeshing intensities" (18). We suggest it also traces the co-presence of two distinct but complementary pharmacologics: one Platonic, one Galenic.

Paasonen's work leads us away from the substances we've been focusing on in this section and back to media technologies. Only rather than focusing on discrete devices (or technical prostheses), she focuses on our relations with distributed media-technical processes: platforms, services, environments, circulating data, interfaces, content. This is the aspect of her work that we want to emphasise most. For us, it represents the kind of pharmacological thinking that has the most utility for media studies today. By 'pharmacological thinking,' though, we don't mean to advocate for any one particular "pharmacologic" as opposed to another. Rather, we mean to advocate for an approach to *doing* media theory; a pharmacologic *method*. To conclude this section, we want to return to Serres to formalise what this means.

In the lines that follow on from those quoted above, Serres substantiates his idiosyncratic take on the *pharmakon*:

> The same unstable function becomes reversed, either unpredictably or beyond a certain threshold; the usefulness found here becomes harmful there, describing here a physical area, drawing there a social space (2015: 11).

His *pharmakon* is an "operator" or a "function" that is bound up in a set of relations. This operator or function doesn't need to be a discrete, individual object; it could be an ensemble, like Paasonen's distributed media. As with the standard, media-technical concept, this *pharmakon* is defined, in part, by its unforeseen effects; instead of characterising these using the normative language of good and bad, Serres instead describes it as an "unstable" phenomenon that can become "reversed." Crucially, he adds two further characteristics that we want to underscore. First, the *pharmakon* can only be apprehended *in situ*; it can't be abstracted from the context in which its unpredictable effects take hold. And second, its instability cuts across categories and boundaries that we might otherwise use to classify the objects or processes we call *pharmaka* – and, indeed, our concepts of them. *Pharmaka* don't just undo the distinctions we draw between phenomena; their instability also *defines* such distinctions in turn.

Here, media; there, body. Or: here, mediated perception; there, diminished capacity. Invoking the *pharmakon* to conceptualise or critique this relation allows us to

apprehend it – and to *think with it*. The *pharmakon* has epistemological implications: it can be used to theorise phenomena *and, simultaneously, our knowledge of them.*

Serres' conception of the operator or function is also, fundamentally, a theory of media. Serres doesn't just give us a language that captures opposed, oscillating terms, but a concept that starts in the middle and opens up space to think with and think through the point from which sudden reversals, threshold crossings, the establishment of relations, or the institution of differences produces outcomes we might not have seen coming. Or, to put this another way: it gives us a conceptual language that we can use to complexify and ramify our understanding of what the "middle" – media theory's most basic conception of media themselves – might actually be.

To illustrate: take the element lithium. Media theorists likely associate lithium with batteries in devices or cars. It has a range of other applications, too, including – notoriously – psychopharmacological ones (see Wark, 2022). These uses don't *seem* to be related: a battery is not a body. But Serres' pharmacological language of thresholds and operators lets us see lithium differently. If we follow lithium, we can trace a path from the salt flats of South America and their entanglement in a globalised extractive industry that treats the planet as a "mine" (Arboledda, 2021), through industrial refinement, processing, and production, and – bifurcating – through the pharmaceutical industry and its entanglement in medical research, diagnostics, and standards; or else through an automotive industry bound up with the threat of global heating, the promise of green technology, and the technical, social, and political challenge they pose. Lithium describes "here a physical area, there a social space," in each use inscribing thresholds – too little of the substance and it won't treat a manic patient, too much and it might kill them; here an extraction or production bottleneck, there greater air pollution and oil use; here a greater demand for lithium, there an extractive industry benchmarked by its efficiency. In the middle, a chemical element, rendered scarce by its distribution at the time of the Earth's formation and its reactivity in terrestrial conditions.

This "operator" *mediates*. It makes connections and enforces distinctions. It is bound up with "media," understood as media technologies – or, more capaciously, as elements and environments or even the constituent element of a more expansive concept of mediation. Lithium articulates bodies, industries, logistics, extraction,

medicine, technology, and the – heating, polluted – planet in one epistemological frame. Invoking the *pharmakon* to think all of this together gives us critical purchase on lithium's media cultures and the antagonistic politics in which it's entangled.

The *pharmakon* is often linked to a phrase of Paracelcus's: "What is there that is not poison? All things are poison and nothing is without poison. Solely the dose determines that a thing is not a poison" (quoted in Grandjean, 2016: 126). The principle contained therein – *the dose makes the poison* – has obvious toxicological import. But it also contains a counter-intuitive proposition about *pharmaka*, about the pharmacologics that they describe, and about pharmacologic thinking. Starting in the middle – with media technology or with substances or elements, an "operator" – and focusing on its thresholds and the points at which they produce certain effects or, reversing, spill over into others, we can do a kind of media theory that makes use of the *pharmakon* in new ways. These uses might begin with alternate pharmacologics or take alternate objects. They might ask whether media are for the good or the bad; or, they might use the concept to expand our understanding of media's politics and media theory's epistemological premises just as we have already expanded the media concept.

The Contributions

We turn now to the articles collected in this special issue, highlighting how they push the *pharmakon* concept – and media theory – in new directions. These articles do not necessarily use the conceptual language that we've mapped out here. What we've outlined thus far is best thought of as a conceptual key for the special issue as a whole. Taken individually, each of these contributions shows us how we can think media beyond the typical media-technical pharmacologic – either by extending this pharmacologic to new objects; by expanding the *pharmakon* concept itself; or, by using the *pharmakon* concept reflexively, to question what media are and how we do media theory.

The first three articles in this special issue attend to contemporary media technology. We open with Patrick Crogan's contribution, 'Dis-automation: Creative Making with Automation and AI', which offers a brief memorial for Bernard Stiegler before providing an exploration of creative making in the context of computational

technologies through Stiegler's organological and pharmacological approach, demonstrating the relevance of the latter to our contemporary context. Responding to the ever pervasive and pre-emptive operations of 'AI-driven automation,' he asks: 'What is the desire of creative makers seeking to make a difference to how we see a digital world increasingly shaped by AI? To dis-automate it. At least, that is what makes for a therapeutic creative practice today; it is what we need right now'. This article engages with a series of creative projects to reflect on the techno-cultural situation, while underscoring the agential limitations of individual creative practitioners and media theoretical critiques. Jakko Kemper's article, 'The Environment and Frictionless Technology: For a New Conceptualization of the *Pharmakon* and the Twenty-First Century User', also takes the AI context as its starting point. Kemper's engagement is directed towards the "seemingly frictionless" operations of AI-based technological infrastructure, services, and environments. He approaches 'frictionlessness' as a pervasive design philosophy that informs a range of digital phenomena, including 'cloud storage, smart devices and one-touch ordering.' On one level, the *pharmaka* concerned here are perceptual: they pertain to the notion of 'user experience' and its technological cures. Their poisons, though, are very material, implicating the web of matter, labour, and operations that render such perceptual qualities possible.

Aleena Chia and Joshua Neves's article, 'The Data Pharmacy: Wearables from Sensing to Stimulation', links the effects of media on the body to the psyche through the figure of the 'data pharmacy.' The discussion extends from the biopolitical paradigm of Michel Foucault to the psycho-political project of Byung-Chul Han. Although remedies and toxicities have a *medical* aspect in the objects of analysis of the authors – third-generation wearable technologies, which produce embodied effects and discursive formations – their pharmacology is primarily concerned with psychic modulations. Through 'data pharmacy', this contribution provides a link between the biological and informational politics of media and an entry into the prescriptive use of media devices.

Two articles in the issue take pharmakon as a way to address the materiality and the qualities of exposure to media in different cases and across time. Yiğit Soncul's article, 'A Media Pharmacology of Face Masks: Between Asbestos and Plastic,' proposes a material pharmacology of media by examining the toxicity of matter used in face-

masks. Soncul examines the gas masks in WWII distributed to the population as a protective measure against chemical warfare in urban areas. Although these masks did not see any effective use in wartime, the asbestos that was used in their filters became a health issue, through the lingering of its fibres in the environment and its ongoing toxicity. By reading these masks alongside medical face masks made ubiquitous by the COVID-19 pandemic, this article investigates how plastics and co-existing chemicals offer temporary protection to bodies in pandemic conditions, but also how these substances contaminate environments and have detrimental effects on the body at nano scales and in unpredictable ways. Patricia Pisters's article, 'Canary in a Coal Mine: Carbon Cinema and Three Ecologies of Energy', attends to coal. As a key matter of modernity, coal made a range of technologies – and ways of relating to one another, and to the world, across space and time – possible. By tracing the status of carbon in both the energy networks that organise life in political economic ways and the cinema that animate it through images, Pisters's paper looks at this material's range of uses and effects across several registers while also unearthing the politics involved of what coal makes seeable. The examination of coal in Pisters's work links the microscale of carbon emission with the longer duration of climate change by charting its connection with the perceptual temporality of cinema. In her words, it offers "[a] humanities perspective on energy that makes [...] invisible energetic forces visible in culture, [which] may contribute to an understanding of the environmental problems humanity currently faces".

Building on this work of de-centring the human scale, two articles in this issue focus on the oceanic and the arboreal. Nicholas Anderman's contribution, 'Notes on Oceanic Pharmacology: Nature, Technics, Time', expands the temporal and spatial limits of pharmacologies offered here. Anderman's work begins with a scientific observation: that the Atlantic Meridional Overturning Circulation (AMOC), a circulatory system that is vital to life across species, is weakening, threatening to undermine marine ecologies. The tension between supporting and undermining conditions of life in oceans allows Anderman to read them as a *pharmakon*: a "material space of ambivalent effects, yielding up both life and death on a planetary scale." Adam Fish's paper, 'Pharmacology of the Plantationocene: Drone Forestry and Drone Activism in Indonesia,' also begins with a scientific warning against a planetary threat: the need to reforest at a vast scale to address global warming. What stands out in this

article is the relationship it traces between technology and life: through nuanced engagements with this case study and with the *pharmakon*, Fish takes a technology associated with warfare and negativity towards life – the drone – and reconfigures it as a technology that supports life.

The final pair of articles collected in this special issue use the *pharmakon* as a point of departure for critical appraisals of media theory itself. In 'Plato's Prescription: The Origin Myth of Media Theory', Thomas Sutherland uses the *Phaedrus's* putative status as media theory's origin to ask precisely what this text has "bequeathed" to us today. Arguing that we ought to take the fact that it offers a critique *of* writing *in* writing more seriously, Sutherland outlines how, for Plato as for Socrates, philosophy entailed the acquisition of 'true knowledge': that is, not knowledge acquired from the outside, but knowledge that one's soul already possesses and that can only be accessed through dialectical processes that elicit *remembrance*. Taking aim at Derrida's reading of Plato, Sutherland argues that instead of offering a critique of writing, the *Phaedrus* demonstrates *maieutic* engagement that has a *therapeutic* function – neutralising the damage writing can do even as it puts writing to use. It's message for contemporary media theory: to remain mindful of "how theory might transform us and our relationship to media" and to remember "how media continue to shape our practices of theorization". Finally, Marcel O'Gorman's contribution rounds out the collection with a very personal and very political demonstration of what we've been calling "pharmacological thinking." This article uses a "philosophical primal scene" – the author meeting and interviewing Bernard Stiegler many years ago – to catalyse a pharmacological confrontation with media theory itself. It's difficult to do this deftly-woven, personal, complex essay justice in a brief description: it contains a reflection on the author's own status as a white man doing theory; an argument for thinking the *pharmakon* as representative of a "dynamic range of asymmetries" rather than a "dichotomy"; reflections on how the distinction Plato's *Phaedrus* sets up between true and false knowledge – or *intelligence* and *stupidity* – haunts *pharmakon* with chauvinist elitism; the recurrence of the figure of the table, which divides and mediates the relation between philosopher and pupil, making and thinking, and normal and typical embodiment; and a proposal, combining on the now-(in)famous notion of the Bechdel test with insights from Audre Lorde, that media theory ought to be subject to a 'House of Lorde' test to ensure it draws on diverse sources. What these essays on media theory

and the *pharmakon* provide us with is a programme for approaching media theory "slantwise" and "turning" it from straight to "queer."

These articles don't share a particular conception of the *pharmakon* or a particular pharmacologic. Instead, they illustrate what the *pharmakon* offers contemporary media theory as a concept that encounters division or distinction, and sees ambiguity; that troubles any clean separation between domains, like the technical and social or the material and biological; that is unwilling to separate media from their relations to bodies, or to the material, social, cultural, or political worlds in which they are enmeshed; and that extends media and mediation into other domains that might not strike one as falling within the purview of media theory. Or: a tool to add a critical, political, and epistemological edge to our expanded media concept.

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