

## Technology's Hidden Curriculum and the New Digital Pharmakon

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We have entered the age of ubiquitous and autonomous computing, where networked collections of sensors and chips, gadgets, and devices sleeplessly perform their smart work along the withdrawn, preperceptual surfaces of our everyday lives. This exponential growth and connectivity of the digital, paired with the recent philosophical recognition of the primal significance of technology in the anthropology of human becoming, opens new questions: How do we experience relations and the realities of intimacy when new media act to collapse all distance into nearness? How is the formation of smart, atmospheric infrastructure reforming our experience of reality and initiating us into new ways of being, doing, and thinking? What does it mean to teach and to learn in an age when interiority becomes indistinguishable from exteriority, when subject melds with object, and when we humans are always already becoming the Borg?

In this chapter, I reflect on the Digital and its manifold implications and significances for us humans, but too, the pedagogical work of tomorrow's teachers. Elsewhere, I have described digital technology as a teacher (Adams 2012) and explored the Digital in its variety of curricular impulses

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and manifestations (Adams 2015). Here, I reflect on nearness and on the nearness of predigital things. I examine the “very close coupling” (Licklider 1960, p. 4) we now share with the Digital and suggest that our relationship with its designer algorithms is more productively understood as pharmacological. By the Digital I mean not only the obvious—mobile phones, tablets, laptops, and other such networked gadgets and devices that we find always at hand today—but also the not-so-obvious—the proliferation of ambient intelligences, autonomous robots, and software materialities that are embedded and whispering smart things to us and one another just beneath the surface of our everyday lives. Together, this immense Internet of Things—a lightning speed and global, human-technology assemblage—constitutes the unblinking, 24–7, cyber-infrastructure at our fingertips.

#### ON NEARNESS AND THE EVERYWHERENESS OF THE DIGITAL

In *Being and Time*, Martin Heidegger (1962) described us as the kind of being (*Dasein*) for whom “*there lies an essential tendency towards closeness.*” We want to be near and we want to belong. He noted then, already almost a century ago, that “all the ways in which we [are] speed[ing] things up, [we] push ... on towards the conquest of remoteness” (p. 140). Heidegger then opens his lifelong investigation of *Dasein*’s “everyday Being-in-the-world” by turning to the *there* or *world* part of Being-in-the-world, to that “which is closest to [us: our *Umwelt* or] *environment*” (p. 94). What follows is Heidegger’s account of the “worldhood of the environment” and his now famous tool analysis of the proximal, ready-to-hand (*zuhanden*) hammer.

Some 20 years later, in his 1949 Bremen lectures, Heidegger revisits nearness in the context of his questioning concerning technology. He prophetically announces how “all distances in time and space are shrinking” (1971, p. 165), and how everything is becoming “equally far and equally near” and again, “neither far nor near.” In such an age, which is now our age, nearness faces its greatest jeopardy. Heidegger goes on to show that nearness cannot be encountered directly, but may only be found in nearing, by drawing close to and bringing near *what* is near, that is, things. The thing, it turns out, is an “intense and condensed” locus that gathers and brings forth world: it is the seat and, as Edward Casey describes it, the “scene of Being’s disclosure and of the openness of the Open in which truth is unconcealed” (Casey 2013, p. 244).

Nearness is thus much more than mere proximity: it is dwelling with and in *what* is most nigh. Nearhood is lived closeness, just as our home is lived shelter, and our neighborhood our lived locale. The problem is that the fate of nearness—and specifically its radical withdrawal—is intimately tied up with our current technological age, what Heidegger calls *das Gestell*, variously translated as the Enframing or Positionality. Our long history of trying to engineer closeness and nearness through media, communication, and transportation technologies has indeed conquered all distance. Yet these techniques have not given rise to genuine nearness at all, but ironically to its short-circuiting, dispersal, and shallow imitation.

Today, as we enter the era of ubiquitous computing, Heidegger's questions concerning nearness, things, and technology are all the more relevant and urgent for our ways of being in the world and with each other. Via the command(ing) language of the Digital, we are in the midst of a mass requisitioning and repositioning of things, including ourselves, into a state of ubiquitous proximity, and indeed a collapse of our world into what Heidegger so aptly calls "uniform distancelessness" (1971, p. 165). We interface and connect with the Digital via keyboard and mouse, touchscreens and interactive whiteboards, game controllers, and remotes. Our public and private landscapes are increasingly peppered with networked congregations of sensors and tags, robots and smart appliances, webcams and recording devices, all nestled in inconspicuous corners, lining our fabrics, walls, and ceilings, all quietly performing their smart work primarily on the outskirts of our attention.

Our nearly seamless interfacing with this machined and algorithmed realm is not only interactive but also interpassive; that is, we increasingly hand over our human thinking and doing to the Digital to think and do for us. We apprehend and deliver ourselves over to this world less at a glance than at a touch, a gesture, or voice command. A tap of the enter key, a point and click of a mouse, a screen swipe or credit card wave, each press, movement, and utterance we make casts yet another skip rock of bits along the immense surface of the Digital's massive and expanding body. Heading out the door, phones in our pockets, tablets tucked in our bags and purses, fitness bands and smart watches around our wrists, our digital engines spew endless trails of data exhaust as we consume and contribute to the web's staggering mammon of information.

Scanning our library card, passing through airport security, taking a photograph, or even strolling a city street, we add yet another telling but invisible thread of 1 s and 0 s to the pulsing zettabyte-size ( $10^{21}$ ) "big"

data canvas. As of 2015, there are more than 3 billion Internet users, with 14 billion active smart devices in pockets, briefcases, and backpacks (this includes mobile phones, laptops, tablets, watches, fitness bands, and so on, so almost five such devices per person). Yet these *users*—us—and our smart trinkets are merely the glinting surface of the much deeper, organized inorganic sphere of the Digital.

Our interfacing with this gigantic subterranean algorithmic body are multiplying and extending daily, seeping into the unattended cracks and fissures of our prereflective lifeworld, demanding the minutiae of our moments, and drawing us into evermore sophisticated architected virtual spaces in which our fleshy, gestural bodies are gently imbricated, embrocated, inventoried, and finally implicated. We email, skype, text, tweet, blog, Facebook. We are shifting our once face-to-face sociality to Web 2.0 and committing our professional practices to Google docs, PowerPoint, and NVivo.

We upload our personal and collective memories to iPhoto, YouTube, and Wikipedia, entrust our futures to Google calendar, Tripit, online banking, and stock trading, all of which are big data fodder that our devices readily access via the “cloud,” an amorphous troposphere prophetically reminiscent of the mythical nimbus that once surrounded the earthly deities of the Greeks. Yet what really is this nebulous giant called the Digital that seems to touch, enthuse, and infect so many aspects of our lives today? Here, phenomenology as “the study of the hidden” and guardian of the pathic is particularly well positioned to assist in this investigation.

### PREALGORITHMIC THINGS AND THE PATIENCE OF PLACE

But first: look around you at what is most near. Perhaps, like me, you are on campus, sitting in your office. Feel the chair firmly supporting you, the engineered floor beneath your feet. Touch the desk or table before you cluttered with books and papers, pens and paperclips, a coffee cup, keyboard, and screen. Breathe the room’s conditioned air, in then out. Notice the artificial lighting, the many palettes of color, and the warm and cool textural surround. Appreciate the ceiling sheltering you, the door and windows opening unto other places, inside and out, each with their own welcoming possibilities and occasionally frustrating constraints.

These decidedly earthly objects and architectures were built by and for us humans. And for the most part, they unobtrusively and ergonomically structure and make sturdy the world as we know it, shepherding our

practices, shaping and habituating social relationships, and sedimenting our cultural traditions. Here, time is tuned to the slower rhythms of wood, brick, mortar and metal, assuring us of the longevity and durability of the university, and of a peaceful, educated existence.

Too, this world in which we dwell is always already there, it is *pregiven*: waking in the morning, for example, I always find my world *there*. There is my pillow, my soft bed, my bedroom, the warm covers still welcoming my sleepy body, there is the sun peeking through the curtains, my iPhone on the bedside table—about to demand to be swiped lest it disturb my slumbering husband. This is the familiar *pathos* of place. Things linger here, waiting patiently on our comings and goings, our endings and beginnings. Place is our cradle, our captor, and our grave, granting us location and locale, our inertial “there”-being in the world. Its manifold things—themselves places—give us our existential security and vouchsafe our memories of the past (Olsen 2010). As Sylvia Benso (2000) puts it, things are our “topological founders” (p. 117).

Endowed with a persistence which echoes with obsessiveness, things saturate the world with their presence. When the I turns, there are things, and when it closes its eyes, they still haunt its imagination with the presentation of odors, sounds, tastes, almost imperceptible sensations through which things pulse their vitality. (p. 143)

Things persist, but they also *resist*. Even in the transparency of our most skillful ready-to-hand apprehension, a thing must resist and stand firm in order to do its work for us. The guitarist, for example, relies on the sturdy neck of the instrument in his hand, the taut harmonic resonances of its strings against his fingertips, the warm hollow thump of a palm beat against its body. Indeed, the thing's chaffing resistance is what matters: it is in the bite of friction that significance, *différance*, and meaning is founded. Like our bodies, things are our primal support, but too, they are wholly other. Things are perceptual, gestural, and interpretive but uncanny prosthetics or extensions intimately interwoven with our own fleshy bodies. In this necessarily hidden but rapturous incorporation, new worlds are opened and founded for us.

But increasingly, this thingly, topographical founding is being encroached upon and reworked by a materiality of a wholly different order, speaking to us in the seamlessly soft and tactile tongues of new media. The Digital is requisitioning our world in its subatomic particularities and

elemental minutae, conscribing all things—including us—to a new phenomenological order, the “Internet of *things*.” In this cyber realm, there are no subjects and no objects, only requisitioned and commandable bits of stuff and quantified selves, massive collections of data, and giant networked and mobile assemblages of all “things given.” Via the Digital, we are grammatizing and programmatizing our world into terabytes and teraflops, cleaving and fragmenting our existence into ever shallower slices of space and shorter splices of time.

Today, we are located in the midst of a complex ecosystem of old and new technologies and materials, where the actual is porous with the virtual (Kozel 2007). Brick-and-mortar architectures are being adapted and reconfigured, their tangible surfaces and substrates pierced and breached by invisible networks smuggling in new software architectures and places. Via this hard, knock-on-wood realm, the soft digital world is reaching through and drawing itself ever closer to us, palpating and recording, following and cataloguing, calculating and conditioning our movements with algorithmic precision. We are being coaxed and carried (with invisible hands) preperceptually but swiftly along new avenues, corridors, and pathways and into a wholly synthetic landscape with its own curricula and outcomes.

### TECHNOLOGY AS PHARMAKON

Lucas Introna (2011) describes the hidden landscape of the Digital as “an increasingly complex geography of encoding [that] is evolving with its own emergent performative outcomes...[and] silently shaping our present and future possibilities of becoming” (p. 114). And Bernard Stiegler (1998) describes how our humanity is inextricably bound up with our technologies, and they with us: *we must learn to think the human and the technological in a single breath*. Yet how do we begin to see the world in this way?

For media ecologists, technology is the petri dish in which a culture grows, silently shaping political impulses, social organizations, and habits of thinking. Every medial world convened by a technology is ecological: dilating and contracting, infecting and permeating human perception, action, and understanding, with potentially far reaching implications and reverberations in our personal, social, cultural, and political lives. Media, we could say, is *lived* technology. And like Stiegler, media ecologists view the evolution of human becoming as inextricably intertwined with their technologies.

In his book *Technopoly*, Neil Postman (1993) recalls Plato's cautionary tale in *Phaedrus* of King Thamus who was visited by the god Thoth.<sup>1</sup> Thoth, an inventor, has arrived bearing some of his best inventions—number, calculation, geometry, astronomy, and writing—and proceeds to offer them one by one to the king. In presenting the gift of writing, Thoth proudly proclaims that it would “improve both the wisdom and the memory of the Egyptians,” to which, King Thamus replies that Thoth had much too much faith in his own creation and was not able to see its true end. “This technology of writing,” he admonishes,

...will produce forgetfulness in the soul of those who learn it because they will cease to exercise their memory and will put their trust in what is written ... therefore, it is not memory but reminding for which you have found the remedy [*pharmakon*]. (Plato in Stiegler 2012, p. 13)

Postman points out that King Thamus was actually wrong, or at best he was only half right in his judgment: the technology of writing, as with all inventions, never issues a single negative (or positive) effect. Rather, technology exercises a twofold gesture. This duplicity, which Jacques Derrida (1981) refers to in his essay, “Plato's Pharmacy,” was in fact given in the original text by the word *pharmakon*, usually translated as receipt, recipe or—as in this translation—remedy. The Greek *pharmakon*—from which our words pharmacy, pharmacology and pharmaceuticals derive their origin—means recipe, cure, life-giving potion and sacrament, but ironically also drug, charm, perfume, and poison.

Evoking writing as a *pharmakon* then, Plato *reminds* us that every technology is always a flickering mirror play of both poison and cure, interior and exterior, recipe and spell, white magic and dark sorcery, life-giving potion and dangerous intoxicant. Every pharmacological prescription is remedial only in its carefully measured application. Too little and it does not work. Too much and it acts as a poison. Moreover, we are all ferocious *users* of this potent drug called technology. Having tried and become accustomed to the magic of Thoth's bag of pharmaceuticals, it becomes impossible to imagine our lives without them. Indeed, it is not an exaggeration to say that we are addicted—wholly habituated to and dependent on the many pharmaceutical *fixes* that modern technologies afford us. When it comes to technology, we humans are *users* through and through.

Yet despite how intimately involved and intertwined we are with our technologies, we have remarkably little understanding of technology's

pharmacology, that is, its therapeutics but also its toxicities and side effects. On account of this, Stiegler suggests that it is not enough to strive to be the wise therapists prescribing the “right” combination of technological pharmaka—as, for example, we hope more critically enlightened teachers might do in today’s classrooms. Instead, we as phenomenologists must become the pharmacologists of the Digital, in search of its interactive mechanisms and interpassive pathologies. Only in this way, says Stiegler, can we hope to understand how we are dramatically reconfiguring ourselves as human beings under the ubiquitous intoxications of the spell of the Digital.

### RED PILL, BLUE PILL

In the film *The Matrix* (1999), Morpheus offers Neo two capsules. He warns him,

“This is your last chance. After this, there is no turning back. You take the blue pill—the story ends, you wake up in your bed and believe whatever you want to believe. You take the red pill—you stay in Wonderland, and I show you how deep the rabbit hole goes. Remember, all I’m offering is the truth—nothing more.” (Morpheus in *The Matrix* 1999)

If Neo takes the blue pill, he will remain in the fabricated virtual world of the Matrix. Alternatively, he can take the red pill, a kind of pharmaceutical “location device” that will reunite his consciousness with his body and the “real world,” and allow him to be unplugged from the Matrix. Here, we have the Digital reduced to its simplest binary. Do you want this world or that world? But the question is do we really have this choice? And do we know what this choice means?

In the 2011 political documentary, *Marx Reloaded* (2011)—which includes an animated parody of *The Matrix* pill scene—Slavoj Žižek points out that “What we experience as reality, always needs an illusion even to function as reality.” In other words, to be the human beings that we are, we need at least one originary or inceptual technology—the red pill or blue pill—to have a world at all... reminding us that humanity shares its wakeful beginnings, as well as its sleepy becomings with its magic medicine bag of technological solutions.

So how might we begin a pharmacology of the Digital’s medications and uncover its medial activities and unfoldings in our everyday lives?



Marshall McLuhan and his son Eric suggest that “the action of new technologies is only possible while the users are ‘well adjusted’ [meaning] sound asleep” (1988, pp. 127–128). And that the only way for us sleepy users to discern a technology’s medial “lines of force” and its reverberating “vortex of side-effects” is by “standing aside” from it.

For any medium has the power of imposing its own assumptions on the unwary. Prediction and control consist in avoiding this subliminal state of Narcissus trance. But the greatest aid to this end is simply in knowing that the spell can occur immediately upon contact, as in the first bars of a melody. (McLuhan 1964, p. 15)

Technology, McLuhan tells us, is atmospheric and ecological. As we take up, use, and ultimately habituate to a new technology, it silently disperses and permeates our world, releasing and setting in motion its intoxicating “utterance,” the active pharmaceutical ingredient (API) needed to perform its work for and on us. McLuhan’s recommendation to “stand aside” from a technology in order to discern its medial effects is a phenomenological problem—and he admits as much in his last publication, *The Laws of Media* (McLuhan & McLuhan 1988). In order to grasp a technology’s technologizing influences and atmospheric intoxications, we must be “in” it. But of course when we are in it, we are necessarily (directly and immediately) subject to and thus asleep (or sleepy) to its effects.

Here, McLuhan offers us one possible approach: a technology’s potent existential analgesics and inviting epistemological hallucinations are made momentarily visible in the opening of its Siren song. But then, having heard and grasped hold of ‘the first few bars of its melody’—that is, having taken up and begun to use the thing—like Psyche opening the casket of Aphrodite’s beauty ointment as she emerges from the underground, we too succumb to technology’s perfumed toxicity and fall profoundly asleep to it.

We can also temporarily break the seductive spell of a particular technology by abstaining from the blue pill of the Digital and then pay attention to what is put back in play, including any withdrawal symptoms and side effects. I have found this approach particularly enlightening for my Educational Technology graduate students, whose work and personal lives tend to be almost completely immersed in the latest technologies. To do this, as a class we agree to go without twenty-first century technologies for a 24-hour period—usually it is a Sunday to make things a little easier—and journal the experience.

Some are surprised at how quickly they begin to suffer phantom cell phone syndrome, wherein they find themselves reaching for their phone persistently throughout the day only to discover its absence, or feeling irrationally panicked at not feeling its familiar weight in their back pocket. One or two inevitably find it impossible to go without at least one Internet-enabled device, and sheepishly give in after only a couple of hours. For others, the day strikes as inordinately long or filled with intolerable stretches of fidgety boredom. But for some, the day unfolds as a welcome relief from the tyranny of attending to texts, Facebook, and email. Of course, they had warned their many friends in advance that they were involved in a class experiment and would be back online in 24 hours.

But perhaps most remarkable for them was *the unexpected return of nearby others*. One student, in the absence of having his cell phone at hand, described finding himself tuning into a conversation that his teenage son was having with his friend in the backseat of the car while they were waiting in a lineup. He said it was as if he had suddenly seen his son for the first time in years. He vowed to make the weekends his cell phone Sabbath.

#### A BRIEF PHENOMENOLOGY OF THE DIGITAL PHARMAKON

So under the thrall of digital's blue pill, how *do* we experience our world? Bernard Stiegler (2010) has suggested that our prereflective but schooled umbilical to local space (cardinality) and time (calendarity) are being destabilized by the current global "mnemotechnical system." This existential disorientation at the digital hand of the "programming industries" involves a collapse of and resituating our attentional structure—consciousness—in a synthetic, deeply programmed substratum. For Stiegler, the outcome of our submergence in this digital psychotechno-*pharmakon*, a global infrastructure designed to anticipate and thus exercise control our acting and thinking patterns, will be the loss of individuation, a "dissolve into a globalized, impersonal One," (2011, p. 5) and ultimately profound existential suffering or quasi-inexistence: a bleak prognosis to be sure.

It occurs to me that our current ontotheological predicament requires of us to probe phenomenologically the new realities of the mediating technologies that Heidegger prophetically predicted would become our fate. What are the phenomenologies of the new digital orders of immediacy? of nearness? of memory? A few twenty-first century moments for your consideration:

**Immediacy and “integrated circuit of perpetual solicitation” (Baudrillard 1990)** Opening my email, for example, I am immediately thrown into its now familiar ‘chain of requests’ world. Each email appears in the same Name and Subject fashion, each unread one is marked with the same little red circle and bolded to more thoroughly solicit my attention, each demands that I respond to it in some way: to read and reply thoughtfully, to look for a file and attach it, to spend hours reading an article or dissertation and writing a review or a report, to return a book to the library, to report it as spam, to ignore it, to mark it as unread and hopefully attend to it later, to note it as information, and perhaps to forward to someone else, or simply to delete it. On the surface, each email appears equal to the rest, though of course, certain names command my attention and interest more than others.

Regardless, I am swiftly and with little thought drawn in, conscribed to and enrolled in Jean Baudrillard’s (1990) “integrated circuit of perpetual solicitation” (p. 163) or what Heidegger (2012) calls “the chain of requisitioning” (p. 28), whereby I enter and am caught up in a circular, never-running-out world of requests. Indeed, sometimes I disappear into this read-and-respond world for hours, battling its perpetually refreshing supply of solicitations. And then, having at last conquered the last unread email in my inbox, I take a break, only to compulsively return again shortly to see if there is another.

**Spatial relocations and nearness** Traveling a new city by car using GPS, I pass over its places. The “where” of the city is lost on me—later I remember little of the route I traveled, neither its contours nor its landmarks. Instead I move through and traverse a technologized landscape, the city as it has been expropriated, requisitioned, and overlaid by a digital veneer, thinned to mere positions and distances, yet mapped in breath-taking detail. The world is given to me as just-in-time directions: “Turn left in 1500 meters, take the second exit out of the circle,” and so on. Before I know it, my “destination is on my right.” In truth, I don’t turn myself over entirely to the GPS. Rather, I am occupied trying to match my on-coming traffic situation to the directions given to me by the GPS. I am not dwelling in the city, but flying through on the wings of the Global Positioning System, apprehending the world in its mapped and digitized version. The “poignancy and plenitude” (Casey 2013, p. 342) of place is unmet and drifts away. Of course, I do get to where I intended to go in

fairly short order! With GPS at hand, I am neither lost, nor disoriented. Rather, I am oriented to my GPS, while remaining strangely unoriented to or rather unlocated in my locale.

Under the spell of Global Positioning System (GPS), I may turn over and entrust my ground and wayfinding to the Digital. If, for whatever reason, the GPS gives out or does not guide me correctly, I am suddenly thrown into the middle of things, *in medias res*. In this *medias res*, my GPS-world suddenly evaporates and I may find myself in a pickle indeed, as if abruptly awoken from a deep dream, I now find myself with no bearings at all. Here, we catch a glimpse of our confident, efficient yet dangerously blind trust in the Digital to show us the way. In the reliable thrall of GPS, our grounding sense of place—the familiar nearness of home and the uncanny remoteness of the exotic—is gently lifted from us, and replaced with the uniform distancelessness of a “you are here” positionality.

**Memory and the retreat of memory** Even as I ‘teach’ my new iPhone 5 to recognize my thumb and finger prints, I commit one more surface of my increasingly quantified and colonized being to signature and trace, definition and invasion along its organic, uniquely striated and convoluted shores. My tactile, networked, digitized self may now relinquish the now less meaningful 4-digit PIN from its finger-tip-tap memory, and instead perform a single soft but meaningful touch of a concave button to release the many treasures of my Smartphone. Like my friends and family’s phone numbers, my PIN may now disappear without a trace into the oblivion of forgetfulness.

Indeed, most of the detritus of factoids that once cluttered my twentieth century mind—times tables, spelling and grammar rules, historical dates, birthdays, and anniversaries, may now be released to float sleepily down the River Lethe, given over and entrusted to calculators, spellcheckers, Google, Cloud services, subscriber identification module (SIM)-cards, Radio-Frequency IDentification (RFID) tags. In gathering and digitizing our memories, we are also witnessing a massive retreat of memory in light of an instantly accessible, zettabyte-size ( $10^{21}$ ) database world. Our memory is now only a fingerprint away, yet neither is it intimate nor genuinely near.

## CONCLUSION: "RESISTANCE IS FUTILE"

I want to conclude with two quotes. One is a famous line derived from the 1990s television series, *Star Trek: the Next Generation* (SNG), and chillingly issued by the Borg in the box office film, *Star Trek: First Contact*.

"We are the Borg. Lower your shields and surrender your ships. We will add your biological and technological distinctiveness to our own. Your culture will adapt to service us. Resistance is futile." (The Borg in Frakes 1996)

The other quote is from the novel, *Homo Faber: A Report* (1959) by the Swiss writer and playwright, Max Frisch.

Technology [is] the knack of so arranging the world that we don't have to experience it...technology [is] the knack of eliminating the world as resistance. (Frisch 1959, p. 179)

While things persist and resist, the Digital *transists*. Transistors are *trans*-resistors because they literally transfer, convey, or "carry across" resistors and thus afford us the precise control and flow of electrons. Today's Integrated Circuits (ICs), that is, the physical basis of the Digital, are each composed of billions of such transistors. The transistor permeates and cuts through the heart of our firm standing.

Anything and everything digitalized—that is quantified or grammaticalized—may be drawn into its trans-resistive circuits. Thus, digital technology's greatest danger may ultimately be its preperceptual frictionlessness, its lack of resistance and thus mattering, wherein every *thing*—including ourselves—no longer exists as thing but is requisitioned and subsumed into the "Internet of *things*." Through the Digital, the world is set in a perpetual motion of availability and rendered controllable at the push of a button, a wave of a hand or voice command. The patience of place is being superseded by the impatience of the Digital. The Digital draws everything infinitely near at lightning speed, but as bits and bytes, not as the lived nearness of things thinging.

Meaning, the ontological project of the human, is borne out of and is now thoroughly saturated in the complex medial atmospheres and habitual intoxications of technology. Over the last few centuries, our human meaning project has been extended dramatically by typographic Man and his orthographic consciousness. Today, we are in the overtures of the Digital,

each of us variously awakening to the local significances and global responsibilities of our cyber lives in the midst of the Digital pharmakon. Our ontological workings out with and through the Digital are To Be Announced. But this we do know:

1. *Our instruments instruct us.*

Technologies are our teachers. The responsive software architectures of digital media are our new hidden curricula, reschooling adults and children alike in new modalities of knowing, perceiving, and acting.

2. *The relationships we share with our technologies are coconstitutive.*

Our tools make and remake who we are as human beings. We may no longer separate the anthropological *who* from the technological *what*. Each time we grasp hold of new technology, it too takes hold of us. As we invite and then submit our practices to be guided, supported, and finally empowered by the Digital's responsive programs and scripts, previous gestural regimes and patterns of thinking are toppled in order to make way for new ways of being, doing, and thinking.

3. *Lived technology is pharmacological.*

It is atmospheric, ecological, and ultimately ontological.

4. *Tomorrow's educational researchers and pedagogues must also be pharmacologists of the Digital, seeking to uncover the prereflective meanings but also the preperceptual influences of its engineered environments on human or better—posthuman—becoming.*

The Digital—whether in our hands or just beyond the periphery of our attention—is inexorably intervening and pervasively intertwining itself in our future human becoming. Teachers and educational researchers must stop imagining technology as “just a tool” and begin the urgent work of uncovering the Digital's programmed atmospheric influences and its trans-resistive, transgressive, interpassive, and disburdening workings in the material, corporeal, relational, temporal, and spatial niches of our everyday lives.

## NOTE

1. Interestingly, it was the Ancient Egyptian goddess *Seshat*, not Thoth, who was the original goddess of wisdom, knowledge, and writing. Seshat, whose name literally means “she who scrivens” (i.e. she who writes), was known as

“Mistress of the House of Books” and credited with inventing the alphabet and writing. She was the divine keeper of the scrolls of history and sacred spells. Later, she was demoted to mere consort of Thoth (a moon deity), and Seshat’s dowry of inventions (writing, architecture, astronomy, astrology, mathematics, and surveying) was subsequently accorded to Thoth.

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