The Information of History Triptych

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I.

       The archive is a haunted place, they say. Where the dead speak to the living. Where human contact becomes a transcendent matter. Where the living are left suspended even after they leave. All those loose pages, pamphlets, photocopies, tracts, and trinkets that comprise the archive becoming, in the moment of encounter, conduits of other-worldly communiqués.

       The dream of communicating with the dead and their letters, of telling *their* story on *their* own terms has only intensified since the nineteenth century. Indeed, the séance table and the science of history were but two harbingers of this secular age—often sites of tragic recognition—in which attempts to experience the real presence of history have been foiled, frustrated, demystified and debunked. But finally, once and for all, this dream will soon be realized. Everything, historically speaking, will change with the coming "appearance of an intercommunicating network of archives."[1] Everything will be known as it should be known. The past as it really happened. History shorn of petty bias and human foible. Forever and ever. Amen.

       Or so predicted an article in the *Journal of American History* in 1967. In "Computers and Historical Studies," Jerome M. Clubb and Howard Allen declared that intellectual habits would change, for the better, as computers were increasingly relied upon in historical research and writing. With a certain optimism in the "rich potentialities of electronic data processing equipment" for humanistic research, they predicted that a new kind of sober empiricism would take hold in the historian's relationship to the past. An unprecedented scientific rigor would be enabled. A bigger, convincing picture would provide proper context and right meaning to those singular events, lives, and words described by the historian. "Computers facilitate generalization, and historians become increasingly concerned with the common properties of human affairs and less concerned with supposedly unique and transitory occurrences, however dramatic they may be." The past could be known to the degree that it could be stabilized, shorn of jagged and statistically insignificant edges. Uniqueness was indecipherable. But sameness lent itself to quantification. *Data points providing leverage for building scale into an ever expanding explanations of the past. Scalability grounding a series of models. Systems of various shapes and forms—all coded for temporality—proliferating into an increasingly dense network.* The model of these correspondences and meta-correspondences is meant to transcend mere modeling. The end-goal, in other words, is prophecy. *To not only predict but to generate the future.*

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[1] Jerome M. Clubb and Howard Allen, "Computers and Historical Studies," *The Journal of American History* 54:3 (Dec., 1967): 599-607.
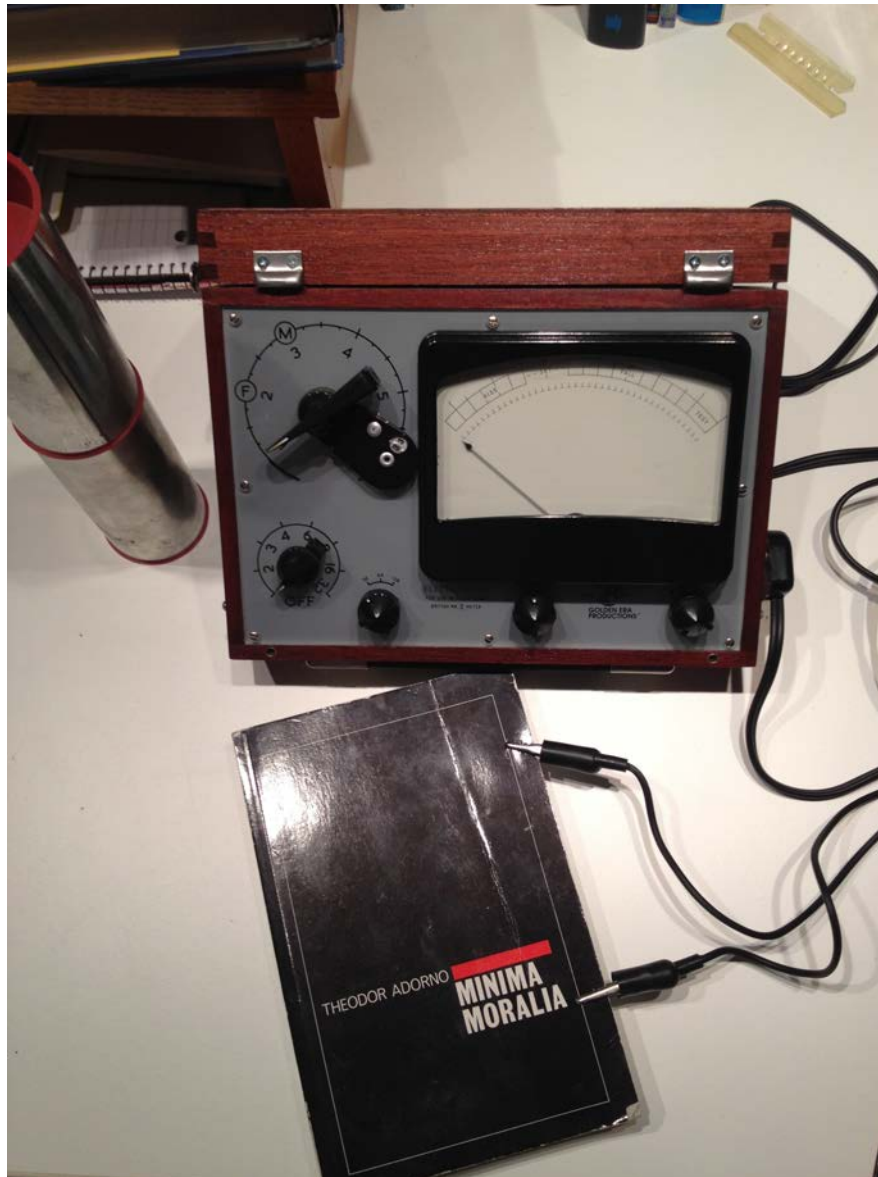
II.

When I was writing a book on *Moby-Dick*, or more precisely, a history of Melville's scene of writing, I sometimes fell asleep in front of the eBay screen, looking for this or that piece of the past, the patterned and terminal search around 'melville moby 1851.'[2]

The packages would then arrive: original journals with Melville stories inside, old scrimshaw and things mentioned in *Moby-Dick*! The early printings of Andrew Jackson Davis from the library of Evelyn Carr, civil engineering manuals, medical textbooks, spiritualist pamphlets etiquette manuals, and phrenology self-exams! Discarded library runs of journals and magazines! Evangelical tracts all battered and torn and worm eaten! They began life on my screen, bookmarked and returned to over days of bidding and

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[2] John Lardas Modern, *Secularism in Antebellum America* (Chicago: University of Chicago Press, 2011).

being outbid, massaged ever so gently through the keyboard, joyously, expectantly. Until the item was mine.

The archive, of course, has its pleasures: the human generosity and deep knowledge of librarians and archivists, the stillness of the reading rooms, the patience rewarded by seemingly unexpected discoveries.

But the thrill of the computer machine in front of you and delivering something so *precious*, so *precisely* attuned to your historiographical desire—gives goose bumps. It is a pleasure, as Clubb and Allen had predicted in 1967, born of "modern information technology, and the automated data archives that this technology facilitates." It is a pleasure that disturbs one's sense of self as non-submissive, liberally and ironically detached, perhaps even immune to the appeal and pitches of the screen. But on eBay one soon comes to know that one knows better than that.

The thrill, then, is a disturbing reminder, complex and complexly arrived at. Pixelated fascination and a little bit of shame and joy and fear. The archive, one might say, when encountered by way of the screen, becomes doubly and deliciously haunted— by the past and by the technological conditions that mediate the object of the historian's imagination. Entanglement all the way around.[3]

This thrill, then, is also a history lesson. Or rather, it is a lesson in critical history or, if you prefer, genealogical critique. For how did it come to pass that the past could be conceived of in terms of pure relationality, largely on the screen and the product of algorithms behind it? How could history come to be defined by its capacity to be coded?

The problem with this satisfying and professionally rewarding deferral to data is not primarily the disciplinary displacement of the historical guild's initiation ritual (Who amongst us does not believe in the archive, housed, secured, its atmosphere regulated!). Nor does it solely concern the aggregation of human labor into silicon, how search engines can tally and specify (however imperfectly) when and where a word or phrase has been uttered, how often and by whom. The problem, on the contrary, is primarily how the past is imagined, from the beginning, and how, in the end, it is written. For the archive should unsettle as much as it soothes. It should amplify voices that are not speaking to us, that are algorithmically indecipherable, that do not speak our language and, perhaps, never will.

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[3] The media, in becoming ever more concretely the message, may well be the primary object of interest for the historian. At the very least, the question of mediation must be front and center to any historical analysis. Such is the demand for immanent critique

III.

All history, as Ethan Kleinberg, Joan Wallach Scott, and Gary Wilder so eloquently declare in "Theses on Theory and History," is of the present. For better or for worse, that is, *by necessity*, historians are consigned to anachronism. They must admit, first and foremost, that the words, gestures, and choices that go into making sense of the past are, themselves, products of the past. Hence the need to be conversant and engaged in theoretical reflection. Hence the need, as this blistering manifesto declares, for "critical historians [who] are self-reflexive; [who] recognize that they are psychically, epistemologically, ethically, and politically implicated in their objects of study."[4]

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[4] Ethan Kleinberg, Joan Wallach Scott, and Gary Wilder, "Theses on Theory and History" (2018). [www.theoryrevolt.com]

"Theses on Theory and History" sets a high bar for those who aspire to immanent critique. But at the bare minimum it should inspire historians to further reflect on why they have chosen particular subjects and how they have chosen to write about them.

At least that was its effect upon me, having become increasingly interested in concepts of feedback and theories of information and self-regulating systems.[5] Such theories not only construct and compose our contemporary material environment but also—and here is the genealogical payoff—they also suggest that any environment (material, historical, ideological) cannot be understood as passive. Machines, from this generative perspective, are not merely prosthetics of the human will. The body and mind cannot be understood as discrete entities. Rather, both mind and body must instead be approached as always already embedded within relays and circuits of power that constitute them and perhaps even transcend them.

My current interest in cybernetics is not unrelated to my attempts to conjure a history that informs our present obsession of taking the measure of everything as an attribute of mind, that is, in terms of information.[6] Factories, machines, selves, and collectives of selves all process information. Each resembles the other because of their shared relationality to a neural network. Each operates, at their best, as a self-organizing system. Each is legible in terms of their correspondence with the logic of neurons, nets, dendrites, and synapses.

The brain, as common sense would have it, receives and communicates patterns internally and outward, into the environment or a computer, perhaps.[7] The history that has conditioned this common sense, however, was largely suppressed within the cybernetic fold and those who forged our contemporary paradigms of the brain.[8] (This, by the way, is how common sense works—future authority ever built into its present pronouncements). As cybernetics pioneer, Stafford Beer, declared, "if the world is beyond our capacity to know it, and if, even worse, it continually changes, knowing the

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[5] John Lardas Modern, *The Religion Machine, or; a prticular history of the brain* (University of Chicago Press, forthcoming).

[6] The desire remains to use "information theory [] to pose mathematically precise questions about the function of the nervous system" and "to describe the performance of neurons on an absolute scale, making precise the intuitive notion that these cells are telling the brain something about the sensory world" (Fred Rieke, David Warland, Rob de Ruyter van Steveninck, and William Bialek, *Spikes: Exploring the Neural Code* (Cambridge: MIT Press, 1997), 101, xiii).

[7] The first assumption and final ambition of information theory is that communication does not simply happen in the human to human, face to face way—but rather "statistically." (Claude E. Shannon and Warren Weaver, *A Mathematical Theory of Communication* (Urbana: University of Illinois Press, 1949), 27). Or as Norbert Wiener would declare a year later, "It is quite possible for a person to talk to a machine, a machine to a person, and a machine to a machine" (*The Human Use of Human Beings* (New York: Haughton Mifflin, 1950), 95).

[8] On the history of this cybernetic fold, see N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999); Jean-Pierre Dupuy, *The Mechanization of Mind: On the Origins of Cognitive Science* (Princeton: Princeton University Press, 2000); Andrew Pickering, Orit Halpern, *Beautiful Data: A History of Vision and Reason since 1945* (Durham: Duke University Press, 2014); Ronald R. Kline, *The Cybernetics Moment: Or Why We Call Our Age the Information Age* (Baltimore: Johns Hopkins University Press, 2015)

past is of limited utility."[9] Cybernetics was "a dynamic science [that] has no need of its past," quipped, Marvin Minsky, co-founder of the MIT Computer Science and Artificial Intelligence Laboratory in 1959, "it forges ahead."[10] The paradigms proffered by cybernetics precisely because it theorized, on a fundamental level, that is, the neuronal level, that the past was largely irrelevant. In the process of firing or not, a neuron had little use for the history of the signal it was communicating. Only the present existed in the moment of becoming the future. The presence of any nerve signal in the form of information was purely pragmatic. Such a signal carried no baggage with it and existed, for all intents and purposes, to spur on other signals..

According to Edgar Adrian, who won the Nobel Prize in 1932 for his work on the functioning of neurons, "the propagated disturbance at any point in a nerve fibre depends only on the local condition of the fibre at that point and not on the previous history of the disturbance before it arrived there."[11] In extending Adrian's "all-or-none" principle, Warren McCulloch and Walter Pitts also extended his refusal to account for any other ecological confound that might affect the transmission of signal, including all the other transmission that were already occurring as a sense organ conveyed a particular signal to the nervous system. Those who would seek to know the brain must model their approach on the brain's approach to complexity. For, ideally, like the brain, what we really want is "freedom toward the future—freedom from affairs intercurrent between our ideas and our deeds."[12]

I have become disquieted by the clean lines of the cybernetic story and the restagings that now accompany every click, linger[13], and swipe. Which is to say that I am suspicious of a subject who strives to escape history and culture, an ontology not unrelated, of course, to the evacuation of interpretation proffered by information theory wherein signals are measured and mapped rather than interpreted for their meaning. This is a neural subject whose information processing capacities enable him to feel this way or that, that generate the possibilities for her to choose or not. This is a subject who, like the neurons inside their head, lives in a moment bound up in nothing but the singular presence of an unfolding present.

Drawing theoretical inspiration from "Theses on Theory and History," I seek to convey the density of a present atmosphere thick with modes of *endless* analogy in which the language of information guarantees correspondence across all domains. For informational paradigms took hold so rapidly and so intractably at mid-century that appeals to the neural processing and/or digital computation do little to explain a present situation that is well-nigh encompassing, a situation that begs the question of "information determinism" and suggests the existence of a "discursive web that unites

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[9] Stafford Beer, *Management Science: The Business Use of Operations Research*, 252.

[10] Minsky quoted in Dupuy, *The Mechanization of Mind*, 43.

[11] Edgar D. Adrian, "The All-or-None Principle in Nerve," *The Journal of Physiology* 47 (1914): 460.

[12] Warren S. McCulloch, "Through the Den of the Metaphysician," in *Embodiments of Mind* (Cambridge: MIT Press, 1970), 149-50.

[13] https://www.wired.com/2015/06/forget-click-online-time-may-meaningful/

agencies, institutions, and cultural agencies across society toward the promotion of an information future."[14]

The computer revolution is ongoing, fueled by the synergistic combinations of mind-brain-machine made possible by the advent of information theory at mid-century. The timing may be coincidental but the incessant conflations of systems and selves under the banner of a universal mechanics of neural processing reminds one of Theodor Adorno's "Theses Against Occultism," published in 1947 as part of *Minima Moralia*— "The cardinal sin of occultism is the contamination of mind and existence, the latter becoming itself an attribute of the mind . . . In the concept of mind-in-itself, consciousness has ontologically justified and perpetuated privilege by making it independent of the social principle by which it is constituted."[15]

With Adorno as my witness, gripping my rolled up copy of "Theses on Theory and History," I contend that history—*its* sociality and *its* pressures—as much if not more so than any neuron or neural network, best explains why we so readily defer to data or how, in McCulloch's words, "we desire anything—either physically, as we want food and drink or a woman and a bed, or mentally, as we seek in music the resolution of a discord or, in mathematics the proof of a theorem."[16]

"Theses on Theory and History" is a wake up call for our viral time. For lest we forget that all critique is immanent, it is necessary to appreciate that history is present in ways other than the algorithmic. Lest we celebrate too much and too soon our easily-achieved access to the information of history, it is necessary to consider the difficulties and noise of desire historically conditioned. Lest we disregard the historicity of digital humanities fellowships, Google Books, and Boolean searches that now, quite literally, surround us anytime a wi-fi connection is public or purchased for a nominal fee, it is necessary to become critical.

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[14] Ronald E. Day, *The Modern Invention of Information: Discourse, History, and Power* (Carbondale: Southern Illinois University Press, 2001), 91.

[15] Theodor W. Adorno, *Minima Moralia* (New York: Verso, 1978), 243.

[16] McCulloch, "Machines That Think and Want," *Embodiments of Mind*, 307.