CHAPTER 11

American Literary Studies @ Scale

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Does "America" signify the United States, the hemisphere, the continent, or more? What is the validity of the nation-state as a meaningful category? What other forms of location shape the study of nineteenth-century American literature in the transnational, postnational, and posthuman era?

Over the last few decades, these and related questions have productively engaged those of us who work, think, and write about nineteenth-century American literature. And, at their core, these are questions of scale.

From Wai Chee Dimock's observation that a different "scale of analysis" would be productive for American literary studies to Hsuan Hsu's exploration of the different spatial scales that American writers create to Susan Gillman's attention to the fluctuating scales of time and space that result from adaptation across languages, nineteenth-century Americanists have grappled with the geopolitical and temporal dynamism of scale. In fact, the essays in this collection are part of this collective endeavor, further enunciating the ongoing need to focus on scale, on the myriad times and spaces of American literature.

And yet, during the same period of time that we have focused on questions of scale to rethink American literary studies—to conceptualize the field as transnational, global, and postnational in scope—we have paid relatively little attention to how the technological modes of our scholarly analysis might converge with, and further, our transnational or global research programs. In other words, we have focused "on scale" but have not worked "at scale"—we have not scoped the critical lens we bring to our field imaginary to accommodate the "brilliant technologies" that Andrew McAfee saliently argues have "fundamentally changed the economic landscape as we know it" over the last few decades.¹

Matthias Oppermann points out this oversight, asserting that "the success of efforts to transnationalize American studies largely hinges on our ability to recognize digital environments as generative sites for social interaction and cultural critique." In short, the very same digital media, information theory, and global communication networks that have changed the scale at which we research, write, and think have, in Oppermann's estimation, had "little impact on the project of transnational American studies."² Oppermann's challenge to those of us invested in the transnational turn in American literary studies is to "understand that digital media have not only blurred the boundaries between 'inside' and 'outside' the United States, but have begun to substantially transform the epistemologies and pedagogies of transnational American studies" (307).

Nineteenth-century Americanists, it seems, need to work at scale as well as on scale if we want to create the most robust, far-reaching, and informed critical analysis. And yet, to work at scale seems to take us far afield-into neither the time nor the place of our discipline, as we have long understood it. After all, the powerful capabilities of digital technologies and digital innovation, in the form of mobile, analytics, social media, sensors, and cloud computing, are largely twentieth- and twenty-first-century phenomena, seemingly far removed from the world in which Emerson, Hawthorne, and Melville lived and wrote. If "brilliant technologies" ease our access to these authors' work through digital repositories and archives, they don't seem, at first glance, to fundamentally alter the substance of nineteenth-century American literary studies. Singleauthor digital archive projects, whether focused on Emily Dickinson (https:// www.edickinson.org), Ralph Waldo Emerson (http://digitalemerson.wsulibs .wsu.edu), Mark Twain (http://www.marktwainproject.org), or Walt Whitman (https://whitmanarchive.org), to name but a few, reinforce a lone genius notion of authorship and a model of literary production that is time and location bound. In other words, we can now surf the Whitman archive from anywhere in the world with internet access, but his writing remains, to crib Talking Heads, "same as it ever was," only more easily retrieved, searched, and annotated.

Or is it?

Let's begin to answer that question by taking up a nineteenth-century American literary classic that has been the subject of much excellent transnational work in recent years. Eric Sundquist's magisterial analysis first brought Herman Melville's 1855 *Benito Cereno* to the attention of Americanist scholars focused on race, nation, and empire, and in the last few decades the hitherto little-known story has become one of the most frequently read accounts of nineteenth-century U.S. geopolitics. Most recently, Susan Gillman and Kirsten Silva Gruesz have turned to this particular text to model a "worlded American literature" that conceives of individual texts as nodes of a larger global network, rather than as firmly geopolitically fixed.³

Gillman and Gruesz persuasively argue that if we are "bent on bringing 'America' into conversation with the rest of the globe," we need think in terms of "the movements of texts across space, time, and language." Doing so is essential to create a "worlded analysis that maps out a network of crosshatched, multidirectional influences rather than drawing one-way or even two-way lines of comparison." And they make their case by showing how Benito Cereno "spreads in mysterious ways" (245), charting its adaptive path from the French poet, novelist, and dramatist Victor Hugo's Bug-Jargal (1826) to Leitch Ritchie's The Slave King (1833) to Gomez de Avellaneda's Sab (1833) to C. L. R. James's Black Jacobins (1963) and beyond. This is a worlded text indeed, creating transnational linkages that ultimately refuse national rubrics and linear time lines. They focus on how the major and minor chords of Melville's text are inextricably embedded in a larger meaning-making enterprise connecting different parts of the globe, but they also predict that digital media can "world" old text networks in ways that could be dramatically "different from what we thought we knew" (245).

We can begin to see this dramatically different text network, enabled by digital scale and the resulting architecture and capabilities it affords, by following *Benito Cereno*'s path through e-space and time, as well as through nation space and time. As Gillman and Gruesz show, the material conditions of texts—for example, the impact that the rise of print culture and the cult of the author during the nineteenth-century had on texts' publication and republication history—do reorient Melville's narrative within global contexts. But, as the following pages delineate, born-digital, multimodal communication capabilities place *Benito Cereno* in spaces and times well beyond the world that we thought we knew. In other words, once we recognize a nineteenth-century American literary world that operates at scale as well as through transnational text networks that include Hugo, Melville, James, and Ritchie, we can see how a text that is literally "out of this world" radically bends the time and space curve of our discipline.

In Jay Bushman's 2008 born-digital adaptation of *Benito Cereno*, we find a case study of nineteenth-century American literature @ scale—a timely

example of how American literature leverages brilliant technologies to create a space and time network sufficiently robust to bring past, present, and future into dynamic play. Set in the future time of the twenty-second century and in intergalactic space, *The Good Captain* takes us into neither the times nor the places we associate with our field imaginary, and it does so by using authoring tools that also reconceive the time and space of American literary production. Recognizing and exploiting the fact that space looks, feels, and acts differently because of digital scale and its resulting architecture and capabilities, *The Good Captain* propels us into fabricated spaces that seem to leave the "real" world behind. This particular born-digital adaptation makes for a long and nonlinear nineteenth century, reaching from the late eighteenth to the mid-twenty-second century and beyond. And it makes for an America worlded in all sorts of unexpected ways—space occupied and contested between galaxies rather than nation-states.

Though it largely takes place within a twelve-hour period, *Benito Cereno* has, of course, long defied neat chronologies. Focused on a 1799 slave rebellion on board a Spanish merchant ship, published in *Putnam's Magazine* over three months in 1855, its primary source material and some text deriving from Amasa Delano's 1817 *Narrative of Voyages and Travels in the Northern and Southern Hemispheres*, with adaptations including Robert Lowell's 1964 stage performance *The Old Glory* and poems such as Yusef Komunyakaa's 1996 "Captain Amasa Delano's Dilemma" and Gary Whitehead's 2003 "Babo Speaks from Lima" in 2003—this is a text network that reaches aggressively backward and forward in time.

But time takes on new dimensions in Jay Bushman's 2008 text. Selfdescribing as a transmedia producer and designer as well as "a purveyor of platform agnostic fictions," Bushman exploits digital technologies and innovations in his adaptations of major American literary texts. Using the twitter feed created by those who took part in Bushman's broadcast in late 2007 and early 2008, *The Good Captain* is a story that is written 140 characters at a time, by multiple people whose words are strung together in two- or three-line paragraphs. There are no chapter breaks other than these short paragraphs, no page numbers, and the temporal nature of twitter exploits the temporal compactness of the events that Melville's text describes—the roughly twelve-hour period during which another ship's captain boards a Spanish merchant ship in the wake of a successful slave rebellion. *The Good Captain* exploits the digital medium not only to capture the temporal urgency of the events as they unfold but also to experiment with the first-person point of view that has made Melville's story so ripe for multiple, contradictory interpretations.

Rather than being written in rural Massachusetts with pen and paper, *The Good Captain* is authored in a place that doesn't have latitudinal and longitudinal coordinates—the fabricated space of cyberspace. As such, this adaptation of Melville's text defies geolocation even as it depends on the worlded nature of the "original" narrative. A human-made domain created when individuals connect all the devices, satellites, fiber optic cables, routers, and computers that let us move large amounts of data at high speeds, cyberspace is literally space conceived at scale. Such a space seems, at first glance, as far away from Melville's nineteenth-century setting as possible. And yet, once we think more about this digitally created space, we can begin to see its alignments with those elements of space that have long interested transnational American literary scholars.

Cyberspace is, at once, like and unlike other geopolitical domains that have been the subject of Americanist inquiry. As with land, sea, and air spaces, cyberspace is home to activities that have felt social, civil, economic, and political consequences—it is a place where activities that benefit or harm individuals, entities, and governments occur. Yet cyberspace exists purely in the space of representation and communication—within a computer space, distributed across increasingly complex and fluid networks. As such, it is an imaginative place, creating a sense of social setting through adjacencies that are more invented than found. It is exactly the kind of space that literature would dream into being. Which probably explains why the word originates in the writing of American Canadian sci-fi novelist William Gibson, who coined the term in a 1982 short story and then further developed it in his seminal 1984 cyberpunk novel *Neuromancer*.

And just like the other spaces that interest nineteenth-century Americanists, cyberspace has politics. In fact, it is cyberspace's facility with adding new dimensions to both economic competition and politically driven conflict between nations, governments, and people today that makes it of urgent concern for governments. Major General Brett Williams, director of operations, U.S. Cyber Command, for example, contends that cyberspace is part of the global commons and, as such, should be treated like other physical domains, with governance mechanisms analogous to those applied to land, sea, and air spaces to protect individual, business, and nation-state rights. In short, its distinctive manufactured and constantly changing features do not preclude cyberspace from being subject to the same "policy, domestic and international

law, safe operating procedures, individual rights, commercial use, national interests and myriad other issues that we have worked through for the maritime and air domains."⁴ The fact that cyberspace can be accessed for good or evil easily, cheaply, and without attribution, with a facility and immediacy unavailable to other geopolitical spaces, makes it a domain more, rather than less, in need of government oversight and management. The recent General Data Protection Regulation passed by the European Union to protect all EU citizens' personal data signals a substantial step in developing this oversight.

Shot through with real-world politics, populated with virtual bodies, originating in American literary imagination, this is dynamic space indeed. Like other kinds of space with which transnational Americanists have been concerned, cyberspace creates opportunities for resistance and revolution as well as submission and compliance. What needle does American literature thread through such a space and what kind of literary fabric is woven as a result?

In the case of *The Good Captain*, cyberspace becomes the literary ecosystem for writing a story that takes us out of the spaces and times of American literature with which we are familiar and into worlds bizarre and far away. Written by nameless contributors from all over the world, *The Good Captain* is a text that reaches back to nineteenth-century American literary roots to reimagine the geopolitical and temporal parameters of Melville's tale of slave insurrection as well as the modes of writing and forms of collaboration that constitute the text-networks of a worlded—or rather "other-worlded"—American literature.

With its born digital apparatus, *The Good Captain* offers a radical future reenvisioning not only of how the original story looks on the page but of the content of Melville's story as well. Repurposing an American literary classic replete with its distinctly American story of slavery and emancipation, Bushman's version of *Benito Cereno* envisions a time in 2143 when carbon fiberskinned slaves are known as artificials, or fishes for short; when American empire has taken on intergalactic proportions such that ships from the Namerican Branch of the Mercantile Empire of the Greater Earth mine planets' water and minerals throughout the solar system; and when the live-cargo ships carrying fishes from alien worlds on both sides of the Empire's borders collide with comets and meteors that cause their onboard reactors to melt down and human spacers (as fish overseers are called) to die from radiation poisoning.

It is in this world that Ty Lockham, captain of the *Skipstone*, spies a Russian ship wandering off course, which he boards to render assistance. Once on board the *Mother Volga*, Captain Lockham hears a story of woe told by

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Captain Dziga, with the help of his fawning fish Babo, that explains the deteriorated state of the ship but not the actions, glances, and behavior of the fishes and spacers on board. Just as the slaves on board Melville's San Dominick played a desperate game to free themselves, so too are the fishes in search of freedom at all costs, and the now-freed fish control every action, word, and gesture of the spacers to throw Lockham off the scent. In this twenty-firstcentury born-digital adaptation, *Benito Cereno* is a worlded text in multiple senses: not only does it now reach to the galaxy but, as importantly, textual production is multimodal, transnational, and crowdsourced—the net effect of Bushman working at scale with digital tools to reach a global community of Melville fans who know the story well and jumped at the chance to take part in a global literary flash mob of sorts.

If the events that Melville describes take place over a twelve-hour period, Bushman's story ran four months, from November 3, 2007, through February 2008. During this period, world economic markets plummeted in what would become known as the global financial crisis of 2008, initiated by the Chinese correction of 2007 and the U.S. subprime mortgage crisis. Vladimir Putin ended his first term as president of Russia, lauded by *Time* as Person of the Year. Fidel Castro resigned as president of Cuba. A massive earthquake shook Chile, a cyclone hit Bangladesh, and a total lunar eclipse crossed the Americas, Europe, Africa, and Southwest Asia. The New Horizons space probe made a gravitational slingshot against Jupiter, which changed its trajectory toward Pluto, and the Messenger space probe had its first flyby of Mercury.

But most importantly for our purposes, 2007 and early 2008 were a watershed in technology innovation, and the tech developments during this brief period have irrevocably transformed how humans and machines interact. In early 2007 Steve Jobs publicly pulled an iPhone out of his pocket as part of an announcement that Apple had reinvented the mobile phone, and the following months, as Thomas Friedman has persuasively shown, saw an explosion in technology innovation unprecedented in the modern world.⁵ During this one year, Amazon brought Kindle to market; an open standards platform that helps smartphones scale, called Android, launched; a crucial company for cloud computing called VMware went public; the microblogging company that Bushman was using, called Twitter, spun out as its own separate platform, enabling it to scale globally; AT&T invested in software-enabled networks that permitted it to scale mobile data traffic on its national wireless network more than 100,000 percent from 2007 to 2014; and IBM began building Watson—these examples only scratch the surface

of innovations in computationally enabled communication that happened in 2007 and that have irrevocably transformed how we have lived, worked, and connected with each other in the past decade. In sum, during the period in which Bushman was curating the authorship of *The Good Captain*, the tools of his digital literary trade revolutionized, and he and his coauthors were able to experiment with digital tools empowered as never before as they rewrote an American literary classic.

This watershed year in communication technologies and computational innovation not only coincided with the text's creation, enabling and supporting its development, but became an important theme and element of Bushman's adaptation. As futuristic versions of the slaves that were aboard the San Dominick, fishes do the routinized, menial labor on the ship—but even more than the mutineers in Melville's text, they seem to be real automatons, doing only what they are "programmed to do and not a thing more." The fish "work mechanically, never looking up from their tasks," their "circuits humming while they work away at their mindless" tasks. Captain Lockham interprets the workroom slogan of "follow your leader" to be "some sort of programming reinforcement," observing that "it must be nice to follow the simple programming you've been given by your superiors." Racial hegemony and oppression have been replaced with a seemingly depersonalized technology-enabled workplace in which fishes are "slaves to their programming," rather than slaves to their masters. They automatically follow the orders that have been uploaded into their operating systems and, as a result, are an ideal workforce, compliant, want-less, need-less, built to serve. In short, every employers' dream.6

And Lockham admires the technological advancements of these particular fish, which have stronger, more flexible parts and next-generation system upgrades. Because "fishes are too stupid to do anything but follow orders, while humans are responsible for all kinds of choices, moral and otherwise," Lockham cannot imagine a world in which the fish would disobey their programming and revolt. And yet the substantial improvements in the artificial intelligence of Babo's model raise a small concern, causing Lockham to "wonder if their programmers fully understand the complexity of what they've created." One fish in particular indicates that human intelligence might be in danger of being outstripped by computer intelligence, a concern that was realized only a few years after publication of *The Good Captain* when the IBM supercomputer Watson beat *Jeopardy* long-time champions at their own game in 2011. A2fl is the same model and make as Babo and refuses to comply with his master's demand that he ask forgiveness—in short, A2fl "won't

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respond to master codes or respond to new programming." As a result, A2fl is in a standoff with Dziga, who refuses to "deactivate or jettison him," but instead insists that the fish be brought to him three times a day to be asked if he is ready to apologize. A2fl clearly has a bug in his system, but his master's refusal to deactivate him reflects a bug deep in the ship's power structure. Lockham belatedly comes to understand that this bug has enabled the fishes to successfully revolt against the humans who programmed them. Once discovered, such malfunctions are easily dealt with, and Babo is "marched to an incinerator and melted down into slag." Symbolically, however, Babo continues to exist: the crystals of his eyes are mounted and publicly displayed "as a message and warning of the growing danger of artificials" to humans. But for Dziga that lingering danger is not only that AI might be in danger of outwitting human intelligence but more fundamentally that distinctions between fishes and the humans who built them do not finally hold and thus that the resulting power structure is in danger of deconstructing.

With its early twenty-first-century engagement with communication technology innovations, multimodal authorship modality, and futuristic intergalactic setting, neither the time nor the space in which The Good Captain was composed nor the time and space it focuses on seem to be the stuff and substance of nineteenth-century American literature. And yet, on closer inspection, these unlikely times and spaces-times like 2007 or 2143 and spaces like cyberspace and the Namerican Branch of the Mercantile Empire of the Greater Earth-may indeed be part of the time and place of our field, a logical extension of the American exceptionalism with which transnational American literary scholars have long grappled. The times of nineteenth-century American literature, it seems, extend not only further backward than we supposed, to the seventeenth- and eighteenth-century slave systems driving American abundance, but further forward as well, to a world envisioned as the logical result and net effect of American-style, Silicon Valley-enabled capitalism unchecked, operating at and beyond global scale. In such a world, national spaces have given way to larger-scale systems of power and trafficking in computationally enabled subordinates, built to serve. The affluent extend their scope of operations into outer space, which becomes the new frontier economy of a world developed from and beyond its nineteenth-century imaginings. While it sounds far out there, the future that Bushman imagined only a decade ago seems to have already arrived, Siri and Elon Musk's SpaceX just two cases in point. In the age of acceleration that began the year of The Good Captain's authorship, the future is now.

As *The Good Captain*'s adaptation of *Benito Cereno* suggests, nineteenthcentury American literary studies @ scale encompasses not only the seventeenth- and eighteenth-century legacies of slavery and colonization that are part of our national past but, as importantly, it grapples with the brilliant technologies that are the defining element of our current age of acceleration. Consequently, American literary studies @ scale is integral for understanding not only American literature but, as importantly, American technological innovation—its past, present and possible futures.

And so, when we think of American literary studies @ scale, we can begin to see that American writers long ago began to imagine the age of acceleration in which we now live. Long before technologists and scientists engineered it into being, American Renaissance figures conceptualized the robust networked interconnectivity that has come to define our times. When Walt Whitman imagined a future global era in which "the earth [will be] spann'd, connected by net-work"—a network so powerful as to cause "the oceans to be cross'd, the distant brought near" and the "lands to be welded together" he seemed to be foretelling the present time.⁷ And Whitman's vision had its own genealogy extending back to communication systems in early New England. As Matt Cohen has cogently observed, long before technologies like the printing press transformed how textual and literary expression circulated, native American peoples depended on intricate informational topographies and sophisticated networks that demanded that people understood communication as a system and network of meaning making.⁸

Edgar Allen Poe understood the networked nature of literary language only too well, exploiting the mutually enabling features of code breaking and literary writing in his 1839 cryptographic challenge, published in *Alexander's Weekly Messenger*. Gaining notoriety by challenging readers to submit cryptographs and declaring he could solve them all, Poe published his solutions to the one hundred ciphers in the *Messenger* and then in *Graham's Magazine*, where a year later he also published "A Few Words on Secret Writing." This essay caught the attention of a code maker who submitted two cryptographs that defied Poe's skill. Whether this mysterious contributor was, as some thought, Poe in disguise remains a question, but quite clear is that the links that Poe forged between encrypted code and linguistic systems precede and enable the work of contemporary cryptographic pioneers of the digital age, in particular Claude Shannon, the twentieth-century MIT scientist who has been widely hailed as the founding father of information theory and the communications systems that have made the age of acceleration possible. Indeed, Shannon and others repeatedly turned to American writers of the past for direction, instruction, and inspiration for their own work. Twentiethand twenty-first-century scientists, mathematicians, and software engineers continued to cite stories like "The Gold Bug" as powerful models for their own scientific work. Poe's contributions to cryptography are part of the official histories of efforts to crack the Enigma code, for example. Top secret official National Security Association histories contain long discussions of Poe's cryptographic writing, and arguably the most famous war cryptographer, Colonel William. F. Friedman, had a career-long involvement with Poe's work. In fact, Friedman mused that "it is a curious fact that popular interest in this country in the subject of cryptography received its first stimulus from Edgar Allan Poe." Friedman recalled that his own boyhood was filled with "excitement about a world he had discovered through Edgar Allan Poe's "The Gold Bug.""⁹

Playing as he does at the boundaries of literary and computational code, Poe is, unsurprisingly, integral to the beginnings of the field of information theory that Shannon founded and on which current networked infrastructure depends. Shannon had a lifelong fascination with Poe's work, and he self-described as a great fan from the moment of reading Poe's cryptograms as a boy. Late in his life Shannon continued to remember fondly the details of Poe's literary career-and not only Poe's literary depictions of intrepid cryptographers but also his challenge to the American public to decode the cryptograms that he published. Shannon found in Poe's confidence both inspiration and provocation for his own pioneering work. More fundamentally, Poe's sensitivity to the tempo and rhythm of language, and his attention to the endemic coding properties embedded in sentences and lines of poetry, stimulated Shannon's sensitivity to the literary dimensions of communication coding. If Poe's literary genius came, in part, from seeing literary lines of text as code, Shannon's computational genius came, in part, from being aware of the literary properties of word strings. Shot through with double, encrypted, and secret meanings, Poe's work helped Shannon evolve a theory that, at its core, grappled with the problem of time and communication-that sought to build a computational environment able to ensure the successful transmission of accurate but encoded information over time.

American literary studies @ scale, among other things, shows us that the scientific underpinnings of our current age of acceleration didn't suddenly emerge in the "second machine age" with no antecedents, nor did it spring into spontaneous being at MIT, in the scientific labs of Claude Shannon and

other scientific pioneers like Vannevar Bush. Rather, it is, at least in part, the result of communications systems and networks that were enabled in American contexts long before the printed word, extending back to foundational encounters between native Americans and settlers in the new world. Bushman's early twenty-first-century born-digital text, in other words, takes part in a longer American literary history in which authors engage with and help to architect technologically innovative communication systems.

From such a vantage point, the current time of brilliant technologies can be seen as a kind of fantastic realization of what antebellum-era American authors like Poe only could imagine in his cryptography essays, of what Whitman wishfully envisioned as America's future, and of the complex communication networks that early inhabitants generated before the United States was formally founded. In such a brave new world, Melville not only would be part of a global network featuring unlikely literary figures like James, Ritchie, and Hugo. He would be part of a multimodal network that includes information theorists like Bush and Shannon—part of an ecosystem of those who architect the internet and the information systems that are its backbone.

American literary studies @ scale therefore not only links the antebellum era to 2143, air and land space with cyberspace, the space between galaxies with the space between nation states. At its core, it colocates figures like Melville and Shannon in a multimodal communication network forming the backbone of the era of brilliant technologies in which we now live. A scaled approach to American literature is not one in which we simply have faster, easier, and better access to nineteenth-century literary material because of high-speed internet and digital archives. Rather, it is one in which we recognize how the authors whose materials we download have helped to inspire and bring into being the technologies on which we have come to depend, much as Dziga relies on his fawning fish Babo to anticipate his every need.

In other words, approaching our field with an eye to scale requires, among other things, recognizing that picking up Poe's "The Gold Bug" doesn't temporarily transport us away from the accelerated pace of our current time nor relieve us from the ongoing distractions of our smartphones, instant messaging, and twitter feed. Rather, turning to our old literary favorites and the less fragmented and distracted America in which we might imagine they are set leads us directly back to our present time, a time characterized by a dramatic change in the pace of change that we have experienced over the last century. And so, it is no accident that Thomas Friedman describes how he finds in Ralph Waldo Emerson wisdom and inspiration for navigating this

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accelerated pace of change—the title of his book, *Thank You for Being Late*, an intentional adaptation of Emerson's "in each pause, I hear the call" (4). Just as Poe's and Whitman's writings have served as inspiration and provocation for those who developed the technological infrastructure of the present day, so too can we find wisdom and direction in American writers like Emerson for how to steer our course in this age of acceleration.