

The Today's Issues group is meeting at 9:30 on Sunday mornings in the RE building next to the Church, observing social distancing guidelines. This Sunday, July 19, we will discuss two essays from the New York Review of Books\

From the July 2 issues, page, 48, Jessica Riskin, "Just Use Your Thinking Pump!" a review of Henry Cowles book *The Scientific Method: An Evolution of Thinking from Darwin to Dewey*. This is related to controversies about the role of science in current controversies.

From the July 23 issue, page 25, Finian O'Toole, "[Unpresidented](#)," about the enlargement of the public sphere as a response to Donald Trump's mastery of belittlement.

Both essays are attached to this email. Please do the reading and join our lively discussion, new participants are most welcome!

Just Use Your Thinking Pump!

Jessica Riskin JULY 2, 2020 ISSUE

The Scientific Method: An Evolution of Thinking from Darwin to Dewey

by Henry M. Cowles

Harvard University Press, 372 pp., \$35.00

A woodcut illustrating a proposed experiment to test the behavior of falling bodies

Omikron/Science Source

A woodcut from the correspondence of René Descartes illustrating a proposed experiment to test the behavior of falling bodies, seventeenth century. The French text reads, 'Will it fall again?'

A few years ago, when my daughter was in middle school, she had to study for a quiz on "the five steps of the scientific method." She had no problem memorizing five words in a given order, but she also had to be ready to explain them, and there she ran into trouble, until she was seized by a bright idea: here was a chance for her mother, who taught and wrote about the history of science, to make herself useful. "I guess it makes sense for it to be observation, hypothesis, prediction, experiment, confirmation," she said to me, "but why couldn't it be hypothesis, observation, prediction, experiment, confirmation? Or prediction, observation, confirmation, hypothesis, experiment? Or..."

"Exactly," I interrupted, before she could offer me all 120 permutations of the five words. Then, rather than solving her problem, I made it worse. (What are mothers for?) "They could really go in any order. Actually, I think they're likelier to occur simultaneously. Also, they could include plenty of other parts, like comparison, formalization, analogy, interpretation, visualization..." She gave me her "parents are charming but of scant utility" look and turned back to her notes. If only I could have referred her to Henry M. Cowles's *The Scientific Method: An Evolution of Thinking from Darwin to Dewey*. Cowles's book doesn't solve her problem either, but makes it into a much bigger and more interesting phenomenon. (What are books for?)

What is the scientific method, and when, where, and how did it become, as the kids say, a thing? Authoritative definitions of “the scientific method” often state that it consists of a set of procedures including observation, experimentation, and the formation and testing of hypotheses by inductive and deductive reasoning. Such accounts, as a rule, ascribe science’s successes to the application of these procedures ever since the seventeenth century and the work of people such as Francis Bacon and Isaac Newton. But neither Bacon nor Newton nor anyone else in the seventeenth century would have recognized the phrase; moreover, neither would have agreed with current standard definitions. Bacon, for instance, rejected deductive reasoning as the bad old Aristotelian approach, and Newton, author of one of the boldest hypotheses in the history of science—the universal aether—denied any role for hypotheses in his science, famously declaring “hypotheses non fingo” (I frame no hypotheses).

Cowles traces the scientific method to a later period than the Scientific Revolution—the late nineteenth and early twentieth centuries. This makes sense, since it coincides with a tectonic shift in intellectual geography: the splitting of the sciences and the humanities into two diverging continents. To prove its distinctness among human endeavors, science required a defining method. It hadn’t always been so. Until sometime around the end of the nineteenth century, one could seek to understand the world in a way that was neither scientific nor humanistic but both—though even writing “both” implies a distinction between the two. Perhaps “integral” is better. A consequence of intellectual seismic shifts is that, by shifting the language too, they impede one’s efforts to think, write, and speak about a time before they had taken place.

A prominent example of someone who predated this shift—or at least predated its final accomplishment—and developed an integral approach to understanding the natural world is Charles Darwin, who provides Cowles with a starting point. Darwin originated what others retrospectively claimed as the scientific method by, according to Cowles, projecting his own method of experimentation and hypothesis-testing onto nature, and by simultaneously seeing that method as its own offspring: evolution had produced Darwin by the same experimental method as that by which Darwin had produced evolutionary theory. For Cowles, the salient features of Darwin’s method are its naturalism and universalism: Darwin understood his method as common not only to all human thought and creation but to living nature itself. His followers, though, ultimately transformed the method utterly, turning it from a natural process characterizing all of living nature to an artificial one that set science apart from everything else.

Many users of the phrase “the scientific method” pointed back at Darwin. He, however, as far as I know, never used it either in print or in private writings. Moreover, as Cowles emphasizes, the phrase “the scientific method” implies an insistence on the distinctness of science at odds with Darwin’s integral, universalist approach. Darwin was an observer, thinker, naturalist, philosopher. He was a splendid writer, also a meticulous one, no less an artisan of the English language than his contemporary Anthony Trollope, whose writing he followed closely and passed along to friends and whose language he occasionally borrowed.

Darwin was not a scientist. Now—since I can hear the creationist wolves howling at the gate—let me hasten to add that when I say Darwin wasn't a scientist, I don't mean he was unscientific or wrong or misguided. Please read "Darwin wasn't a scientist" as you might read "Aristotle wasn't a journalist" or "Benjamin Franklin wasn't an ophthalmologist." I mean that "scientist" was barely a thing during Darwin's lifetime and certainly wasn't the thing that he was. As with "the scientific method," as far as I know, he never used the term "scientist," although it did exist, and for an interesting and relevant reason.

The word "scientist" first appeared in March 1834, while Darwin was surveying the Falkland Islands on overland expeditions from the HMS Beagle, being no scientist but an explorer, adventurer, observer, and diarist. The word began as a passing joke in *The Quarterly Review*. The wit who coined it was the English philosopher and Anglican clergyman William Whewell, and the context was a positive, though excruciatingly patronizing, review of a best seller of popular science by the mathematician and physicist Mary Somerville, entitled *On the Connexion of the Physical Sciences*. Whewell praised Somerville for applying her womanly art to the project of unifying the rapidly fragmenting sciences. "One of the characteristics of the female intellect," he observed, "is a clearness of perception, as far as it goes." Unburdened by excessive powers of discernment or analysis, women could take in a whole intellectual landscape, serenely innocent of its variations in terrain. What they understood, they understood clearly; "what they see at all, they see in sunshine." These advantages of her sex allowed Somerville to shed her feminine sunshine over the sciences, casting off the mutual obscurity that was overtaking them.

Whewell remarked that the sciences' increasing fragmentation was plain in the lack of any general name for those who studied the material world. He canvassed the possibilities: "Philosopher" was too lofty, "savant" too French; the German "Natur-forscher," rendered into English, became "nature-poker," which was plainly out of the question. "Scientist," Whewell reported, had been the suggestion of an "ingenious gentleman" at a meeting of the British Association for the Advancement of Science, who had justified his free use of the suffix by invoking, among others, "sciolist" (pretentious possessor of a smattering of knowledge, from the Latin *sciolus*). Whewell, who died in 1866, several decades before "scientist" caught on, would surely be astounded to learn what posterity did with his farcical word, including retroactively attaching it to two millennia of nature-pokers and sciolists from Aristotle to Newton to Whewell himself. Imagine Stephen Colbert, transported two hundred years into the future, discovering that "truthiness" was the twenty-third century's standard of belief, and everyone from Socrates to Einstein was now a "truthineer."

Cowles places Whewell's neologism at the beginning of an extended period of anxious preoccupation with scientific methods, and Whewell's remarks do betray anxiety, political as much as methodological. Science's "disintegration," Whewell wrote, was "like a great empire falling to pieces." He echoed the Reverend William Vernon Harcourt, founder of the British Association, who, at its first meeting in 1831, had promised that the new association would do what the Royal Society was failing to do: protect British science against catastrophic dissolution. Without such an association, Harcourt warned, "colony after colony dissevers itself from the

declining empire.” The actual British Empire was not declining or falling to pieces—it was expanding—yet it felt in perpetual danger of disintegration, particularly under pressure from French competition, as Cowles explains, and Harcourt was among those who associated this political danger with the fragmentation of an outdated scientific establishment. The British Association was the institutional expression of an anti-elitist, liberal movement seeking to place science and its empire on a new footing.

The old footing had been no less imperial. The Royal Society, for almost two centuries, had served as the institutional locus for science and empire. In 1620 Francis Bacon—natural philosopher, lawyer, statesman, and the society’s patron saint—had announced the equivalence of imperial dominion and applied science: printing, gunpowder, and the compass had changed the world such that any civil or religious authority now came second to “mechanical inventions” in the struggle for power over human affairs. Devices facilitating conquest and the administration of an empire had been all very well in the 1600s and 1700s, but by the 1830s there were those who believed that science and empire, in their conjoined pursuit of power, urgently needed to shift their approach. In the words of Charles Kingsley, zealous believer in Anglo-Saxon racial superiority, they must do so—as Cowles relates—by “inventing, producing, exporting, importing, [till]...the whole human race, and every land from the equator to the pole must henceforth bear the indelible impress and sign manual of English science.” Global industrial capitalism was the new Baconian program.

Rebellion against the reign of classical education was a defining feature of this new program, as it had been of the older one. Its supporters emphasized the specificity of science as distinct from literary and humanistic knowledge. When in 1875 Josiah Mason, Birmingham industrialist and mass-producer of key rings, pens, and pen-nibs, founded Mason Science College (later the University of Birmingham) “to promote the prosperity of the manufactures and industry of the country,” he specifically banned “mere literary instruction.” Thomas Henry Huxley, the bellicose Darwinian anatomist and paleontologist, gave the college’s inaugural address and devoted almost all of it to celebrating this act of exclusion. Adopting his signature pugnacious stance, Huxley argued that for students of physical science whose mission was to foster industrial progress, literary instruction would be a waste of valuable time, acknowledging with satisfaction that these views were “diametrically opposed to those of the great majority of educated Englishmen.”

Were they? Not according to Matthew Arnold, who objected that during the previous decade, the science-not-letters movement had progressed from the “morning sunshine of popular favor” to its “meridian radiance.” Arnold, with whom Huxley had picked a fight by invoking him as the personification of literary culture, rose to the defense of letters by arguing that theirs was the quintessentially human task of integration: relating separate forms of knowledge and interpretation—moral, scientific, aesthetic, social—to one another. Science and literature, he urged, must be integral parts of the same larger task of “knowing ourselves and the world.”

As further evidence of the turn against English letters, Arnold invoked Longfellow's *Song of Hiawatha*, which drew on a semi-fictional jumble of Native American languages to present the ideal type of a noble savage: unburdened by Greek or Latin, Hiawatha fared inexorably "westward," arriving, in the words of an admirer, at the very antipodes of Tennyson. George Eliot appreciated the poem for being "indigenous." The other reviews of *Hiawatha* were mostly blistering, but it was enormously popular with readers and reading clubs in England as well as America.

At first glance, *Hiawatha* might seem to have little in common with Mason Science College, but Arnold was not wrong in associating Huxley's inaugural address with populist America and its reading public. The American magazine *The Popular Science Monthly* took up Huxley's cause against Arnold. To Arnold's suggestion that literary scholarship was scientific as long as it was rigorous and systematic, while science was literary when it included the writings of Copernicus, Galileo, Newton, and Darwin, the "Editor's Table" column in the journal chided that he obviously didn't understand "the scientific method."

This brings me back to the central question of Cowles's book: the rise of "the scientific method" turns out to have happened crucially within the American continuation of the science-not-letters movement, particularly, as Cowles shows, through the medium of *The Popular Science Monthly*. "The scientific method," admonished the magazine's founder and editor, Edward Youmans, was not just different from "the literary method" but downright antithetical to it. Whereas the literary method had confined itself for centuries to sterile exercises with words, the scientific method had launched "an open and declared revolt" to demand the "actual study of things."

The revolt of "the scientific method" provided Youmans and his magazine with a cause. Youmans, the son of a wainwright from upstate New York, was an autodidact and member of what his sister described as the "hard-working class" who worked his way to cultural prominence as a popular science writer. As a young man, Youmans had discovered the writings of Herbert Spencer, then at the height of his powers. Spencer was churning out best sellers of social theory and popular science that Darwin described as "detestable," obscure, unedited, clever but empty, a lot of "dreadful hypothetical rubbish," and a disappointing tissue of "words and generalities," and inspiring Darwin's friend the botanist Joseph Hooker to characterize Spencer as "all oil and no bone...a thinking pump." (If you're finding that image obscure, so did Hooker. "I can attach no meaning to the simile," he confessed, but "it ought to have one." Darwin was so pleased with it that he read it aloud to his family, by whom "it was unanimously voted first-rate, & not a bit the worse for being unintelligible.")

Youmans made it his mission to apply Spencer's oily thinking pump to America via *The Popular Science Monthly*, for which Spencer wrote the first article in the first issue, proposing that social phenomena were no less susceptible to scientific methods than biological ones. Ultimately, Spencer contributed almost a hundred articles to *The Popular Science Monthly*, championing the manifest destiny of the scientific method, whose territory, Youmans announced, was inexorably expanding. Cowles recounts that as a result of his exposure through the magazine,

Spencer was greeted by crowds of “adoring fans” during his 1882 visit to the United States. He had become a household name in America, and “the scientific method” a household phrase and idea.

Thanks in no small part to Youmans’s Spencerian pump, the scientific method permeated American popular culture and influenced the major American intellectual movements of the late nineteenth and early twentieth centuries, notably pragmatism and behaviorism. These movements’ most important figures—including Charles Sanders Peirce, John Dewey, and, later, B.F. Skinner—developed their ideas about “the scientific method” partly in the pages of *The Popular Science Monthly* and its 1915 spinoff, *The Scientific Monthly*. In the series of articles introducing the philosophy of pragmatism, Peirce granted a monopoly on truth to “the scientific method,” which consisted of restricting one’s conception of a thing to its sensible effects. This method alone, Peirce promised, would carry people past their diverse points of view to converge upon a single, certain answer to any question, “like the operation of destiny.”

From pragmatism and behaviorism, Cowles follows “the scientific method” into the professional and business worlds. Abraham Flexner, in his 1910 assessment of the state of American medical education for the Carnegie Foundation, used the new slogan to launch the professionalism movement. Flexner called for a refounding not only of medical education but of social life and politics upon the scientific method. Frederick Winslow Taylor provides Cowles a further example: in his manifesto for scientific management, Taylor promised great increases in output if companies were run according to the scientific method.

Here, then, is the answer to when, where, and how “the scientific method” originated: not in any field or practice of science, but in the popular, professional, industrial, and commercial exploitation of its authority. This exploitation crucially involved the insistence that science held an exclusive monopoly on truth, knowledge, and authority, a monopoly for which “the scientific method” was a guarantee.

Cowles is an engaging narrator of this important story and a sensitive analyst of its outcome. But he ultimately assigns it a different emphasis than I would choose. As we’ve seen, he traces a development from Darwin’s original notion of nature’s own evolutionary experimental method through various stages of “repurposing” in the service of programs and movements including pragmatism, behaviorism, professionalism, and scientific management. Through this successive repurposing, Cowles shows that what began as a universal process embracing human thought and natural evolution became a prescriptive list of rules setting science apart from everything else. “The rise of ‘the scientific method,’” he concludes, was “less a success than a tragedy.” I agree that the enthronement of “the scientific method” was lamentable, and not only for middle schoolers tormented by quizzes. But to call it a tragedy implies immense powers at work, gods or fates or forces of nature, whereas the rise of the scientific method resulted from human activity of the most banal variety. Instead of a tragedy, I would call it a feat of branding equal to “diamonds are forever” or “Coke is it”: “The scientific method” became science’s brand.

This is not to deny, of course, that the sciences include procedures of observation, controlled experimentation, and analysis, and that these procedures are crucial to the progress of scientific understanding. But no list of four or five discrete steps can describe them, and they don't operate the way Peirce and the others suggested, carrying the scientist inexorably toward transcendent truth. Interpretation remains present at every level. Everything we know is known by us; we can't eliminate ourselves from the picture. Defining methods, choosing which ones to use, deciding how to use them, understanding what they produce: each of these acts is fundamentally interpretive.

To say so is not to be a radical relativist: Karl Popper, scourge of relativism, whose theory of falsifiability came to dominate discussion of the scientific method in the middle decades of the twentieth century, emphasized this very point. "Out of uninterpreted sense-experiences science cannot be distilled, no matter how industriously we gather and sort them," Popper wrote in 1935. "Bold ideas, unjustified anticipations, and speculative thought, are our only means for interpreting nature: our only organon, our only instrument, for grasping her."

During the same period that saw the establishment of the "scientific method" brand with its monopolistic claim on transcendent truth, certain scientists were arriving at revolutionary new theories of the physical world precisely by focusing upon the ineradicability of interpretation. In 1906, Henri Poincaré gazed at the Pantheon in Paris and rejected the notion of absolute space when he reflected that he could know with certainty neither the Pantheon's dimensions and location, notwithstanding its hulking presence at the center of the city, nor his own, despite his obvious proximity to the building, nor even his distance from it. Perhaps he, his meter stick, and the Pantheon were all constantly changing dimensions; as long as they maintained the same relations to one another, he would be none the wiser. His knowledge could be rigorous and empirical, but never absolute: it could describe only relations between himself and other things.*

Niels Bohr and Werner Heisenberg made similar points when laying out their interpretation of quantum mechanics. Bohr reflected that any observation involves an interference with the thing observed. Our own acts of observation are a part of the world we see: we are "both onlookers and actors in the great drama of existence." Heisenberg elaborated the idea by emphasizing that "what we observe is not nature in itself but nature exposed to our method of questioning," and that science was therefore "a part of the interplay between nature and ourselves." Scientists in this period were recognizing the necessity of interpretation and putting that recognition to work in radical new ways that were neither humanistic nor scientific but integrally both. Meanwhile "the scientific method" continued in pursuit of its manifest destiny.

American universities did much to advance this destiny; the first to take up the call were those founded in the last decades of the nineteenth century to promote the partnership of science and industry. Ira Remson, chemist, codiscoverer of saccharine, and president of Johns Hopkins University (founded a year later than Mason Science College, in 1876), declared that "the nation that adopts the scientific method will in the end outrank both intellectually and industrially the nation that does not." Stanford University, where I teach, was created in 1885, an embodiment

of the scientific method's westward expansion. Stanford's founding statement of purpose begins and ends with "mechanical" programs. But at Stanford, unlike at Mason Science College, a general liberal arts program made the cut when Leland Stanford Sr., who cofounded the university with Jane Stanford, his wife, decided this was important to fostering "business capacity," observing that "technically educated boys do not make the most successful businessmen." When the sciences reorient themselves around engineering, apparently, the humanities turn toward consulting.

A painting of Charles Darwin in his greenhouse

Down House/DeAgostini/Getty Images

Charles Darwin in his greenhouse; painting by Victor Evstaf'ev, circa 1950s

David Starr Jordan—Stanford's first president, an ichthyologist, and avid eugenicist—announced that the extended application of the scientific method had transformed education, calling it a "magic wand." Among Stanford's twenty-two founding faculty members was (the confusingly named) Fernando Sanford, a physicist specializing in electricity and its applications, and a partisan of the scientific method. Sanford gave the address at Stanford's eighth commencement in 1899 where, with great simplicity and lucidity, he bestowed the scientific method upon the new graduates. First, collect facts; second, seek out causal relations among these; third, deduce conclusions; fourth, perform experiments to test these conclusions. Sanford also warned his audience to be on their guard against practitioners in fields such as history, philology, and even Latin who, "wish[ing] to appear especially progressive," had "learned to use the language and to adopt the name of the scientific method." These were mere pretenders; the scientific method bore no relation to language or literature, nor they to it, and Sanford closed by advising these scholars that if they didn't want to be left in the dust, they could bloody well go out and find their own methods.

Little wonder that Stanford students have traditionally divided themselves into Techies and Fuzzies; their institution was founded on the divorce between the two. Reading Cowles in my office at Stanford, I understood with new clarity that Silicon Valley is the logical extreme of the Baconian program as Youmans et al. reconstrued it in the late nineteenth century.

Traveling to a later episode in the great divide between science and humanities, we alight on a spring evening at Cambridge University, 1959. Charles Percy Snow, CBE, fellow of Christ's College, novelist, physicist, and government administrator, is delivering his "Two Cultures" lecture, which will create an immediate sensation and remain continuously in print for the rest of the century and well into the next. For the most part, however, people who cite Snow's lecture don't bother with anything beyond its two-word title, taking it to represent a lament over the division of the intellectual world into two mutually uncomprehending cultures, literary scholars and scientists. This was Snow's window-dressing but not his main merchandise. In fact, he was censuring Britain for undervaluing applied sciences in education and politics, in contrast with Germany, the United States, and the Soviet Union. More generally, he was making a case for industrialization as the path to social as well as economic prosperity.

Snow scolded literary scholars and the old elite they represented for looking down their noses at their colleagues in engineering fields. These industrious young “handymen” might be unacquainted with Shakespeare, he argued, but they would soon be saving geopolitics by elevating the Third World to the living standards of the First. Where the Third World might have heard that one before, Snow did not pause to consider. India, he pointed out, was very poor, with a life expectancy less than half what it was in England. In pressing what was certainly then a progressive argument that “the only hope of the poor” lay in industrialization, Snow nevertheless omitted any mention of its ugly side, its history of exploitation and inequality. His audience may well have included South Asian witnesses to the Raj’s dismantling of their economies as part of England’s industrialization. Their perspective would surely have offered reasons to temper Snow’s faith in the benignity of industrial capitalism, even if we didn’t have the vantage point of 2020, with its ever-polarized living standards and environmental and geopolitical crises, and with its economy and culture dominated by Shakespeare scholars. Wait, sorry, no, I mean by engineer-capitalists elevated to the very heights Snow demanded on their behalf.

Snow’s lecture was—as anyone who reads Cowles’s valuable book will recognize—less a call to arms than the expression of a change already accomplished. It confirmed not only the economic and political power of engineering-capitalism but its cultural supremacy. People loved the lecture, not because Snow announced a revelatory truth but because he said something they already believed. They loved to hear their own views presented as radical expressions of truth to power, and what’s more, by a fellow of Christ’s College, Cambridge. Who doesn’t love having their cake and also licking the last speck of frosting off the plate? Snow’s idea that engineers would solve the world’s problems specifically by not reading Shakespeare, i.e., by devoting themselves single-mindedly to inventing industries to generate wealth, has since become so commonplace that we express it in a single word: “Innovation.” Definitively lost, between Whewell and Snow—or rather, vigorously shouted down—was just the idea that the title of Snow’s “Two Cultures” lecture seems to promote: that Shakespeare and the sciences might be jointly relevant to one project of understanding.

Finishing this review no longer in my office at Stanford but sheltering in place at home in an effort to help flatten the global pandemic curve, I am thinking that recovering that integral project of understanding (which we might also call intellectual integrity) is an urgent matter. Covid-19 has presented the world with a couple of powerful ultimatums that are also strikingly relevant to our subject here. The virus has said, essentially, Halt your economies, reconnect science to a whole understanding of yourselves and the world, or die. With much economic activity slowed or stopped to save lives, let us hope governments find means to sustain their people through the crisis. Meanwhile, with the din of “innovation” partially silenced, perhaps we can also use the time to think our way past science’s branding, to see science once again as integral to a whole, evolving understanding of ourselves and the world in the manner of the old nature-pokers.

Unpresided

Fintan O'Toole JULY 23, 2020 ISSUE

Donald Trump walking past riot police in Lafayette Park

Tom Brenner/Reuters

Donald Trump walking past riot police in Lafayette Park during protests following the police killing of George Floyd, Washington, D.C., June 2020

In "The Jesting of Arlington Stringham," a story by Saki (H.H. Munro), the eponymous politician in a debate on the Foreign Office in the House of Commons remarks that "the people of Crete unfortunately make more history than they can consume locally." The United States is experiencing the same excess. More outrage is being perpetrated and felt than can be contained within the existing frame of institutions and discourses. The image of things bubbling over, of energies and emotions that can no longer be enclosed, is physically manifest on the streets, as those who have been privately confined for so many weeks spill out into the public realm. But what there is too much of is not just present injustice. There is a superabundance of the unresolved past.

This sudden enlargement of the public sphere is a response to Donald Trump's mastery of belittlement. For all his logorrheic meanderings and florid hyperbole, Trump's method is essentially reductionist, with mocking nicknames ("Crooked Hillary"), three-word slogans ("Lock her up!"), and an entire presidency predicated on four letters: MAGA. It is ironic that, on May 29, just as protests at the killing of George Floyd four days before were spilling out from Minneapolis and spreading nationwide, Trump achieved peak concision with a one-word Tweet that contained what was supposed to be his entire strategy for reelection: "CHINA!" While the country he misgoverns was boiling over, Trump was still boiling down. The American crisis could, he evidently still believed, be reduced to this distillate of foreign perfidy.

A central feature of Trump's practice of malign minimalism is the erasure of American history. It is not just that his own ignorance (exposed, for example, in his suggestion in February 2017 that Frederick Douglass was still alive) seems almost total. It is that Trump is obsessed with a pseudo-history in which the past exists only as prelude to his own greatness and to the unique evil of his enemies. In the days after George Floyd's death, Trump tweeted repeatedly about history: "The Greatest Political Crime In the History of the U.S., the Russian Witch-Hunt"; "the greatest political, criminal, and subversive scandal in USA history"; "Our Country has just suffered through the greatest political crime in its history." He twice tweeted versions of a quote from Fox News host Lou Dobbs describing Trump himself as "arguably the greatest president in our history" and "Absolutely 100% the greatest President in history." And he claimed that "My Admin has done more for the Black Community than any President since Abraham Lincoln."

In this demented solipsism, the entire American past is shrink-fitted so that it hugs Trump's own ample figure, cleaving both to his greatness and to his victimhood as an object of unparalleled persecution. The immediate backdrop for this obliteration of history is the catastrophic failure of Trump's administration to control the spread of the coronavirus. A word Trump has repeatedly used to characterize both the crisis itself and his allegedly brilliant response to it is "unprecedented." (He used it twice, for example, in his address to the nation on the pandemic

on March 11.) The virus must exist in a temporal vacuum. Nothing like this has ever happened before, so how can Trump be blamed for not being prepared? There is no history of pandemics.

In the world of Trump and the Republican Party, history itself is in lockdown, securely contained and distanced from any threat of infection by reality. Yet the terrible power of the video of George Floyd's killing lies not just in its almost unbearable brutality. It is in its double sense of temporality. It is measured out in minutes and seconds and in cries: the eight minutes and forty-six seconds that Derek Chauvin has his knee on Floyd's neck, the sixteen times that Floyd says, "I can't breathe." But it is also measured out in centuries. It is the opposite of "unprecedented." It exists in that excessive history that is produced over and over without ever being fully consumed, the violence against black people that changes its methods but not its intimate, bodily reality. It is just one more strange fruit on the hanging tree whose roots lie deep in the soil of slavery. As Mary Tyrone puts it in Eugene O'Neill's *Long Day's Journey into Night*, "The past is the present, isn't it? It's the future, too. We all try to lie out of that but life won't let us."

And death won't let us either. The slow, public killing of George Floyd gave the lie to Trump's attenuation of American history to a tale of his own pain and glory. In December 2016 Trump misspelled "unprecedented" as "unpresidented." The far too preceded act of violence against Floyd, coming the day after the official US coronavirus death toll passed 100,000, found America disastrously unpresidented, led by a man who can acknowledge the deaths of his compatriots neither en masse nor one by one. Trump described that grim 100,000 number as a "milestone," a word he had previously used in conjunction with "historic" to hail his alleged achievements: the number of right-wing judges he had appointed, stock market gains, rises in employment. Tombstones, milestones—all timeless monuments to his own unprecedented self.

Any vaguely conscious American can understand George Floyd's death not just as an event that happened but as something happening again and again. In Trumpworld, however, any acknowledgment of historical patterns can express itself only as a burlesque. Thus, in explaining Trump's authorization of a violent attack on peaceful, law-abiding protesters outside the White House on Lafayette Square to clear the way for his Bible-toting photo opportunity at St. John's Church, his press secretary, Kayleigh McEnany, suggested that history was indeed repeating itself across time:

Through all of time, we've seen presidents and leaders across the world who have had leadership moments and very powerful symbols that were important for our nation to see at any given time to show a message of resilience and determination. Like Churchill, we saw him inspecting the bombing damage and it sent a powerful message of leadership to the British people.

While most of the world could see in the choking of George Floyd a historic recurrence that is all too real, Trump's enablers produced an unconscious parody. In this fantastical travesty, Trump's assault on the bodies and the rights of his fellow citizens echoes Churchill's rallying of

a people under assault from Nazis. A bizarre performance in which the leader is kept away from his citizens by armed force is a replay of Churchill's mingling with bombed-out Londoners. An act of extreme and literal division (Trump cannot share space with the protesters) was foreshadowed by a British leader's show of unified national purpose. To adapt Karl Marx, this is history repeating itself, the first time as calming reassurance, the second as disgrace under pressure.

There is a single prism through which McEnany's analogy with London during the Blitz is not entirely inane: Trump's desire to make the Black Lives Matter protests substitute for the one thing his presidency has lacked—his very own war. Lincoln and Churchill are evoked because they are the archetypes of wartime leaders. After the protests began Trump's barely latent lust for armed conflict surfaced with extraordinary rapidity, with the president instructing governors in the imperative for "overwhelming force" and "domination" over the enemy citizenry and conjuring "vicious dogs" and "ominous weapons." Defense Secretary Mark Esper defined the streets of US cities as the "battlespace."

One of Trump's closest congressional allies, Senator Tom Cotton from Arkansas, tweeted that the protesters should face not just combat troops on those streets but death from the skies: "Let's see how tough these Antifa terrorists are when they're facing off with the 101st Airborne Division," a unit whose official mission statement is to provide "our Nation an unmatched expeditionary Air Assault capability." Presumably worried that an expeditionary air assault might not seem sufficiently tough for Trump, Cotton then drew up his own battle order: "And, if necessary, the 10th Mountain, 82nd Airborne, 1st Cav, 3rd Infantry—whatever it takes to restore order. No quarter for insurrectionists, anarchists, rioters, and looters."

These threats were not mere bloviation: seven hundred soldiers from the 82nd Airborne were in fact summoned to Washington. The face of war showed itself on the streets, not just in the legions of heavily armed men in uniform but in the low-flying helicopters and sand-colored Humvees. These machines themselves have a history, evoking in turn America's wars in Vietnam and Iraq. The resonances are rather apt. This militaristic response from Trump and the Republicans is, of course, too much—outrageously in excess of any actual threat, even from the violent fringe of overwhelmingly peaceful demonstrations. For what constitutes this moment is a kind of overkill. It brings together the historical surfeits of three wars. The US has engaged in many armed conflicts, but three of them have never ended: the Civil War, the Vietnam War, and the so-called war on terror. Their toxic residues flow from different directions into the current breakdown of the American polity.

The unfinished business of the Civil War is the most obvious, shaping as it does both George Floyd's death and the reaction to it. His killing is just one more episode in the unending consequence of the shredding, in the aftermath of the Civil War, of the promise of equality for black Americans. It is still, all too recognizably, an act of counterrevolutionary violence. It can be understood only as an outcome of the way, after the abolition of slavery, "dominance" was transferred from the plantations to black rural communities and urban neighborhoods. It signifies

a fact that has not fundamentally changed since the defeat of Reconstruction: black people can be subjected, usually with impunity, to arbitrary aggression. George Floyd does not, like the man who was his president, have imaginary historical heroes—Lincoln, Churchill—behind him. He has unarmed men, women, and children shot by police and white civilians, lynched, incarcerated en masse, reminded by purposeful terror of their physical and social “place.”

It is striking that the US currently has a president who, so far as we know, has never even read the constitutional amendments (the thirteenth, fourteenth, and fifteenth) that emerged from the Civil War. His sometime aide Sam Nunberg told Michael Wolff of being given the job, early in the 2016 presidential campaign, of teaching Trump about the Constitution: “I got as far as the Fourth Amendment before his finger is pulling down on his lip and his eyes are rolling back in his head.” Trump’s knowledge of the Civil War itself can be gauged from his claim in May 2017 that Andrew Jackson (who died sixteen years before it began) “was really angry that he saw what was happening in regard to the Civil War.” This week his preemptive and heavily stage-managed announcement that army bases named in honor of Confederate generals would keep those designations showed how much he fears that even the idea of engaging with the meaning of the war might create anxiety among his base. His understanding of racism was best expressed in November 2018 when the PBS News Hour reporter Yamiche Alcindor, who is African-American, asked him about his apparent embrace of white nationalism: “I don’t know why you’d say that. Such a racist question.”

Donald Trump

Donald Trump; drawing by John Springs

This turning of racism inside-out—the black woman is being racist when she asks a white president about white nationalism—may be absurd but it is not casual. It is fully congruent with the supremacist claim that whites are the real victims of racism. In this regard, it’s worth recalling one of Trump’s earliest direct political interventions. His full-page ads in *The New York Times*, *The Daily News*, *The New York Post*, and *New York Newsday* in May 1989, headed “Bring Back the Death Penalty. Bring Back Our Police!” marked the beginning of his idea of “American carnage.” Trump declared nothing less than “the complete breakdown of life as we knew it.” The prompt for this jeremiad was the appalling rape and attempted murder of a white woman who had been jogging in Central Park. Trump cited this outrage as evidence of the “dangerously permissive atmosphere which allows criminals of every age to beat and rape a helpless woman.” Five young men—four African-American, one Latino—were wrongfully convicted of the crime.

The assault in this instance was all too real, but the framing of black men for the alleged rape of white women is inextricably woven into the pattern of lynching. Trump may not know much history, but he surely knew the racial resonance of his demand that the guilty men should be physically abused and killed:

I want to hate these muggers and murderers. They should be forced to suffer and, when they kill, they should be executed for their crimes. They must serve as examples so that others will think long and hard before committing a crime or an act of violence.

This rhetoric had its own dark history. Trump was not explicit, but he did not need to be: the rape of a white woman leads properly to the killing of black men (whose guilt does not need to be established) as an example to the rest.

Particularly relevant to the present crisis is the way the Central Park assault turned on the notion of racially motivated violence. There was no evidence whatever that the woman was attacked because she was white. But the idea was both irresistible and highly politicized. In the same issue of *The New York Times* that carried Trump's ad, a column by Sam Roberts under the headline "Park Rampage and Mayor Race: Fear and Politics," contemplated the impact of the case on the politics of a city that was about to elect its first black mayor, David Dinkins:

To deny its possible political ramifications is to be blind to expressed fears and frustrations and to underlying, if often unspoken, references to race.

Regardless of whether the brutal rape of a 28-year-old jogger is classified by the police as racially motivated, most New Yorkers don't need to be reminded that the victim and her assailants happened to be of different races.

It was in this context that Trump elaborated in his ad the underlying belief that shapes his attitude to the killing of George Floyd and other victims of police violence: society is breaking down because the police are not allowed to rough people up anymore:

Let our politicians give back our police department's power to keep us safe. Unshackle them from the constant chant of "police brutality" which every petty criminal hurls immediately at an officer who has just risked his or her life to save another's.

This continuity between the Trump of 1989 and the man in the White House in 2020 is also the return of the barely repressed. The complex of images on which he drew in this first big statement on domestic politics—white victimhood, rape, killing black men as an "example" to others, unshackling as a metaphor, not for the end of slavery but for the necessary violence of the police in defense of "life as we knew it" (with no doubt about who "we" are)—is the mental structure within which black men can be done to death by the police and white vigilantes. When people talk of Trump's id, this is surely part of it. But it is also America's id, and, through Trump, this putrid leftover from the unfinished Civil War has now reoccupied the seat of power.

Which brings us to the second unfinished war, Vietnam, and its unprocessed consequence: the derangement of the US presidency. On June 2, Trump issued another of his minimalist tweets, which said in total: "SILENT MAJORITY!" The great predecessor he was summoning this time was not Lincoln or Churchill but Richard Nixon, who used the phrase in his televised address to

the nation in November 1969. The speech was specifically about the Vietnam war, Nixon appealing to “the great silent majority of my fellow Americans” to stand with him against the antiwar movement. Trump’s own Silent Majority is neither a majority nor silent—his base is a very noisy minority. But his evocation of that speech is more meaningful than Trump can have consciously intended. For Nixon began the address by raising questions of truth and lies:

Many Americans have lost confidence in what their Government has told them about our policy. The American people cannot and should not be asked to support a policy which involves the overriding issues of war and peace unless they know the truth about that policy.

That, though, is precisely what they were never permitted to know. The Vietnam War was conducted through a fog of lies. That sustained campaign of deception—of Congress and of citizens—broke something in the presidency itself. One of the most gifted politicians of the twentieth century, Lyndon Johnson, was shattered by it. Nixon, a formidable operator with a substantial domestic program and a wide popular base, ended up as a political racketeer, authorizing and covering up illegal dirty tricks against his opponents. Watergate was a side-effect of Vietnam.

In 1974 James Mann, a conservative southern Democrat and a member of the committee of the House of Representatives that was considering the impeachment of Nixon for his role in Watergate, explained his support for that process: “If there be no accountability, another president will feel free to do as he chooses. But the next time there may be no watchman in the night.” There is now “another president” who feels “free to do as he chooses.” As Trump told a right-wing student rally in July 2019, “I have an Article 2 [of the Constitution], where I have the right to do whatever I want as president.” The great difference is that the watchman is now a willing accomplice.

Nixon was forced out because Republican-appointed judges and Republican members of Congress joined with Democrats to reassert constitutional checks on the abuse of presidential power. Now the Republican Party is a wholly owned subsidiary of Trump Entertainment Resorts Inc. Trump’s wild response to the coronavirus disaster and to the Black Lives Matter protests must be seen in connection with the refusal of the Republican-controlled Senate even to go through the motions of a trial after his impeachment by the House. “Unshackled,” like he wished the cops to be, from any notion of accountability, Trump has also become unmoored from any relationship to reality.

The Senate Republicans told him, in effect, that he can exercise power arbitrarily. Absolute power deranges absolutely. During the 2016 election campaign, Trump was asked about whom he consulted on foreign policy: “I’m speaking with myself, number one, because I have a very good brain. My primary consultant is myself.” Freed from any need to pretend that there is anyone else he might possibly need to talk to, Trump is now openly talking to himself in public. He is, often on live TV, communing with the voices in his head that tell him that he is a combination of Lincoln and Churchill, that coronavirus will suddenly vanish, that it can be cured

by ingesting disinfectant, that Joe Scarborough is a murderer, that George Floyd is looking down on him and rejoicing.

Here, too, there is that sense of a spilling over of history, of the madness that, with Nixon, was revealed to close confidantes in the White House and recorded on secret tapes, now parading itself naked before the world. And perhaps what defines this particular moment in America is its monstrous play on the idea of restraint. Citizens have a dizzying, sickening double vision. On one side of the screen, they see a show of violent restraint: George Floyd pinned down, trapped, immobilized to the point of paralysis while his life is squeezed out of him. The cry that echoes from the past through his voice and into the mouths of the protesters on the streets—"I can't breathe!"—is the ultimate expression of the terror of absolute confinement. It was Eric Garner's cry too, when he was dying in a policeman's chokehold on Staten Island in 2014. What makes it so much more politically potent now is that on the other side of the screen, there is the embodiment of absolute unrestraint, the president's unchecked exhalation of hallucinatory gibberish.

The third remnant of unfinished war is the runaway momentum of the war on terror. The arrival on the streets of American cities of troops and military vehicles camouflaged for desert warfare provides a stark image of domestication: the war on terror coming home from those hot, dusty places where it is supposed to be fought. Trump and the Republicans have consistently refused to confront or even name actual domestic terrorism, which comes mostly from the white supremacist far right that, as Trump notoriously claimed after the violence in Charlottesville in August 2017, includes some "very fine people." Repeatedly asked then whether a neo-Nazi killing a young woman there was terrorism, Trump eventually answered: "You can call it terrorism. You can call it murder. You can call it whatever you want.... Because there is a question. Is it murder? Is it terrorism? And then you get into legal semantics."

Trump was right in one sense: the war on terror has always been a war of definition, and for every US administration since September 11, that power of definition is arbitrary. You can call "whatever you want" terrorism—or not. The semantics are the keys that unlock a vast array of state capacities, up to and including the right to kidnap and imprison people indefinitely without trial, to conduct summary executions, and to invade foreign countries and overthrow their governments. Authoritarian regimes abroad grasped this quickly—once you define your critics as "terrorists," there is no need for even the pretense of due process. Conversely, if you refrain from using the word, those you approve of—for example, armed white men invading the Michigan state capitol—enjoy complete impunity.

The Republicans wasted no time in exploiting that power of definition: they deliberately subverted the distinction between peaceful protesters and looters, and labeled them all terrorists. This was not merely an example of Trumpian hyperbole—the term was used by many senior Republicans including, most ominously, in a written statement of May 31, by Attorney General William Barr announcing that "to identify criminal organizers and instigators, and to

coordinate federal resources with our state and local partners, federal law enforcement is using our existing network of 56 regional FBI Joint Terrorism Task Forces (JTTF).”

Trump, however, extended the “terrorist” label, not just to “criminal organizers” of violence but also explicitly to the peaceful protesters who were assaulted with chemical sprays, rubber bullets, and flash bombs on Lafayette Square, to clear the way for his Bible-waving stunt at St. John’s Church. On June 4 he tweeted a copy of a letter “from respected retired Marine and Super Star lawyer, John Dowd” with the instruction: “Read it!” Dowd, in this open letter of rebuke to the former defense secretary James Mattis for his criticism of Trump, claimed that “the phony protesters near Lafayette were not peaceful and are not real. They are terrorists using idle hate filled students to burn and destroy.” The logic is clear: the FBI’s terrorism task forces can and should use their sweeping powers and immense resources to investigate the protesters.

And those protesters can also be assaulted on the streets by the police and by uniformed men who are not identified (either collectively or individually) and are therefore impossible to hold to account. In response to images showing police in Buffalo push over and seriously injure a seventy-five-year-old man, Martin Gugino, Trump tweeted that “Buffalo protester shoved by Police could be an ANTIFA provocateur.... Could be a set up?” Trump had already declared his intention to designate “ANTIFA as a Terrorist Organization.” But since Antifa does not actually exist as an organization, anyone engaged in protest “could be” a terrorist. This possibility is enough to make every public opponent of Trump’s regime a legitimate target for state violence. If and when that assault happens, moreover, it is not real. The victim staged it.

This is the final overflow from unfinished war. The word that once described Osama bin Laden and the killers of innocent Americans now extends to citizens protesting the killing of innocent fellow Americans. The concept that is not defined—terrorism—is not bounded. In particular it is not bounded by constitutional or democratic values. Trump, Barr, and the Republicans have cleared the way for a great homecoming: the war on terror, with all of its weapons for the mass destruction of legality, is being fully repatriated.

All of these historical surpluses—the afterlives of slavery, of the deranged presidency, and of the threat of terrorism as permission to set aside legal and democratic rights—have raised the stakes in the present struggle. This mass of unresolved stuff is being forced toward some kind of resolution. That resolution can come in only one of two ways. What has come to the surface can be repressed again—but that repression will have to be enforced by methods that will also dismantle democracy. Trump’s boast that he can do whatever he wants will have to be institutionalized, made fully operational, and imposed by state violence. Or there will be a transformative wave of change. All of this unfinished business has made the United States semidemocratic, a half-and-half world in which ideals of equality, political accountability, and the rule of law exist alongside practices that make a daily mockery of those ideals. This half-life is ending—either the outward show of democracy is finished and authoritarianism triumphs, or the long-denied substance becomes real. The unconsumed past will either be faced and dealt with, or it will consume the American republic.

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