Statement of Purpose

# What Information Means to a Middle Schooler

The Rise of Narrative Fluency

## Korea’s Version of the Alt-Right

How do young people make political judgments?

I asked a class of boys at a Korean middle school, “What would you do if you were president?” A student I’ll call Jun-ho stuck his hand in the air like he’d been waiting for the moment: “No more Yeoseong Gajok-bu!”

The Ministry of Gender Equality and Family. It’s a government ministry responsible for, among other things, encouraging Koreans to have babies and inspecting public toilets for hidden cameras. For the most part, MOGEF plays it safe, advancing modest reforms with probably undue fanfare, but like any country’s gender-equality enforcement agency, it draws the ire of social conservatives and redpillers. And middle-school boys, apparently.

I smiled neutrally. “What’s wrong with them?”

“It’s unfair!” Jun-ho said. He continued in Korean: While MOGEF’s mission is to enforce Korea’s gender-equality statutes, in practice, they discriminate against men. Just look at the organization’s (Korean) title: it doesn’t say “gender equality” anywhere; only “women” and “family.” A couple of Jun-ho’s classmates nodded in agreement.

*Oh no,* I thought. Had my students fallen prey to fake news? Korea’s version of the alt-right maintains that progressive institutions like MOGEF are puppets of the wealthy, built to consolidate power under the guise of trendy causes like feminism. I could easily picture Jun-ho seeing a post about the organization on social media, plugging “MOGEF discrimination” into a search engine, and stumbling on some fringe political forum thanks to his mindless choice of phrasing.

According to the media-literacy pedagogy I’d studied, I should be guiding students away from internet conspiracies and toward nonpartisan sources (like, well, MOGEF) if I wanted to talk about a hot-button issue like gender equality in class. But I hadn’t made any allowance for this detour in my lesson plan. Trying to make an English lesson out of a dicey moment, I wrote the phrases *gender equality* and *discrimination* on the board, had the students puzzle out their meanings, and congratulated myself for getting us back on track.

Notice how I pulled a pedagogical bait-and-switch on my students. Jun-ho made a specific argument—MOGEF discriminates against men—and I maneuvered the class toward the neutral ground of English vocabulary. The implicit message, then, was that Jun-ho’s research wasn’t relevant to what we do at school. But that’s not what I meant. On the contrary, the very reason I teach English formulas like “What would you do?” is to equip students to read about the issues that matter to them and discuss their opinions with a global community. Given a second chance, is there a way I could’ve affirmed Jun-ho’s curiosity, talking him back from the political edge while still encouraging my students to research topics that interest them?

## Thesis Statement

What is the pedagogy of narrative fluency, and where does it fall short?

The aim of liberal-arts classes like foreign languages, history, and social studies is to teach students how to handle information. Information is more than just data and facts, grammar and vocab. Postmodernism tells us that information is never far from narrative—good- and bad-faith narratives, fictional and nonfictional narratives, and downright fake narratives. Today, the ability to assess bias and generate compelling original arguments is no longer an abstract exercise, but an essential survival skill. Cases like Jun-ho’s, however, remind us that pedagogical ideals like media literacy, critical thinking, and intellectual responsibility are difficult to package in a lesson plan.

Social-science educators, recognizing the importance of narrative skills, have abandoned traditional practices like memorization and translation in favor of discursive models suited to our postmodern environment. In K–12 education, media-literacy and critical-thinking activities aim to help students sort facts from opinions and detect bias (or malice) in media. In higher ed, meanwhile, the conversation centers around protecting the intellectual standing of academia and dissuading the public from phony news sites and bad science. While these initiatives’ immediate goals vary, all invest in what I call narrative fluency: the ability to dissemble narratives into claims of fact and assemble facts into compelling narratives.

The pedagogy of narrative fluency misses the mark in two crucial ways. First, it situates the machinery of disinformation outside the student's mind, as though objectivity can be reached if we only think hard enough. In fact, it's the pleasant delusion of objective witness that makes bad-faith narratives so infectious. Second, narrative fluency advertises itself as a moral tonic, but at best it is morally neutral, and in practice it backfires easily. Some students who absorb the lessons of narrative fluency will become woke journalists or grassroots politicians, but those who are savvy enough to measure the broken incentives of the modern economy will recognize that they can make a lot more money by turning their back on humanist ideals and manipulating their peers for pay.

It should therefore come as no surprise that elite schools promise that their students are the most narratively fluent of all. Narrative fluency, like similar pedagogical trends that went before it, is already helping the wealthy safeguard their influence from generational change.

## Narrative Fluency in K–12 Education

Can facts be protected from postmodernism?

Many schoolteachers want to restore the distinction between facts and narratives that has been lost under postmodernism. Through projects like the media-literacy movement and critical-thinking initiatives, K–12 educators hope to derive a consistent process for discerning fact from fiction. Their results, however, testify to the pervasiveness of the postmodern phenomenon by asserting that truth is not fixed, but an ideal to be pursued, an asymptote always just out of reach.

### Media Literacy

When you scroll through your news feed or burrow into a YouTube rabbit hole, you do more than consume digital entertainment; you also supply valuable information to those platforms’ recommendation algorithms, which study your swipes and prepare the most addictive medley of ads and content to hold your attention. We’ve heard a lot about the intrinsic flaws of the attention marketplace—how the algorithms it produces tend to guide consumers toward clickbaity political extremes and away from good-faith debate. But unplugging students from social media is a nonviable solution, because social media is now an essential part of kids’ existence. Without it, they have few options for learning about school events, talking about personal issues with their friends, or keeping up with political debates.

The goal of media literacy (sometimes called digital literacy or information literacy) is for students to keep their intellectual guard up as they navigate digital space. In one common media-literacy activity, students pull examples of media from their own social-networking sites. For each source, they make a table assessing the text’s tone, its intended audience, the source’s bias and conflicts of interests, and the credibility and variety of its citations. Then they deliver a trust-or-bust verdict. This process is meant to show that media comes with motives, that shouldn’t take every claim we encounter at face value.

In the exercise above, media literacy is a counteralgorithm, a series of dispassionate filters you apply to a given piece of media to determine whether the author is trying to pull the wool over your monitor. But sociotechnical researcher danah boyd points out that the media litmus tests taught in American schools are not as politically neutral as they may seem. Often, they lead students to prize a liberal epistemology of data-dumping and analytical phrasing over the gritty appeals to morality and tradition that dominate conservative media. These are issues of style and form, not content. And while it may be the case that magical thinking is more prevalent on the political right, current media-literacy pedagogy teaches students only to *make* this association—to feel distrustful when they recognize the shibboleths of conservative rhetoric. It doesn’t equip them to critique a source’s underlying argument.[[1]](#footnote-2)

Media literacy markets itself as the solution to political disinformation, but like any algorithm with poorly chosen heuristics, it is hackable. Let’s say I adapt media-literacy pedagogy for my Korean students and teach them to doubt the exaggerated claims made by MOGEF’s opponents. I tell my students that trustworthy sources usually cite quantitative data and explain their interpretations through careful reasoning, whereas fraudsters tend to fly bright chyrons across the display and appeal to base emotions.

In 2040, the robot that writes Jun-ho’s morning news will know from its trove of biometric data that Jun-ho, due to subconscious reflexes honed in my media-literacy class and others like it, tends to trust news articles that feature dark grey text on a white background and ample bar graphs. Now, if the alt-right’s fringe candidate wants to win Jun-ho back, all his backers need to do is pay the robot company to stuff Jun-ho’s articles full of *their* graphs, favoring *their* political beliefs, and all written in the calm, reasonable tone Jun-ho associates with intelligence.[[2]](#footnote-3)

But we’re getting ahead of ourselves. Taught well, media literacy will encompass more than superficial indices of political orientation. In addition to recognizing the warning signs of shoddy argument, students will know how to compare smart-sounding claims by applying universal principles of logic. They will learn, in other words, to think *critically.*

### Critical Thinking

Here’s the argument for teaching critical thinking: You can teach students to identify biased media and purge it from their bibliographies, but you can’t delete the biased sources themselves. Unfortunately, bias is everywhere, and students must learn to face it with a cool head. They need to be able to argue against smart fascists as well as dumb ones.

In critical-thinking activities, students are sent in search of *academic* texts from across the political spectrum. They put these sources “in conversation” and attempt to weigh their claims on objective grounds. For a textbook example of critical-thinking pedagogy in action, consider the rise of Howard Zinn’s *A People’s History of the United States of America* in progressively minded syllabi. Zinn argued that the accepted narrative of history tends to privilege the powerful and reinforce the dispossession of the masses. Thus, he wrote what he called history from below, amplifying the voices of those who suffer when others celebrate. However you feel about Zinn’s scholarship, there is much to admire about his moral resolution. A lifelong pacifist and advocate for civil rights, he believed civic consciousness could only come from appreciating history.

But how do you teach “appreciation”? I had a Zinn teacher when I took US history in high school. Each class, our teacher would place a chapter from the vanilla, state-sanctioned textbook alongside the corresponding narrative from Zinn. We students debated and wrote about how the “winners” and “losers” of the event in question told their respective stories. Our teacher noted that the winners tend to leverage historical narrative to justify their own choices. (The losers, for their part, can find solidarity in retelling forgotten stories.) In college, I would later recognize this as the fundamental theorem of historiography.

In the Zinn classroom, however, the lesson ends here, with the banal admission that narratives have narrators and there is no such thing as a neutral bystander. This is a restatement of the problem, not a solution. And as Sam Wineburg points out, while Zinnist historiography tracks with modern insights into the injustices of segregation and American imperialism, it suffers from the same stridence that characterizes state texts. “Such a history atrophies our tolerance for complexity,” he writes. Rather than gaining a feel for how historians work with primary sources and develop arguments, students in the Zinn classroom might come to see history as a contest of moral authorities. Think fast: will you cheer for David or Goliath?[[3]](#footnote-4)

Of course, most educators don’t set the two contrasting textbooks on the table and ask the students to make a binary choice. At this stage, someone usually brings up *nuance:* “It’s not red or blue, but purple.” By May, the consensus in my high-school US history class was that the state textbook wasn’t so much wrong as incomplete. If you spliced it together with Zinn, you could approximate the truth.

Once it graduates from cage fights between political tribes, critical-thinking epistemology arrives at a centrism: the correct model of history sits somewhere between the conventional and revisionist narratives. This is, inevitably, true. But just as media-literacy exercises mistake woke shibboleths for truth, critical-thinking pedagogy mistakes certainty for staying power. In the end, the narrative that gets fixed in students’ minds depends more on context and framing than objective truth. Imagine the history class that would result from using the state textbook as the orthodox history, and Newt and Callista Gingrich’s *A Nation Like No Other: Why American Exceptionalism Matters* as the corrective. (Cue podcast listeners, shrieking in the back about the Overton window.) This conditionality is the very essence of the postmodern phenomenon that critical thinking claims it can reverse.

Media-literacy and critical-thinking initiatives are generally targeted at K–12 education. In the next section we’ll turn to higher education, where the feedback loop between research and teaching has driven college pedagogy toward a different sense of intellectual integrity, one motivated by an anxiety about universities’ faltering institutional power.

## Narrative Fluency in Higher Education

Should academics reach out or turn inward?

Those who advocate for media literacy and critical thinking in K–12 champion intellectual diversity, but in the previous section we saw how their curriculum actually herds students toward mainstream narratives. We see a similar misalignment of goals and outcomes in higher education, where reforms aimed at upholding “complexity” discourage ambitious intellectual projects.

For better or worse, we assume college freshmen can make basic distinctions between facts and opinions. Movements in higher education invoke larger moral concerns about how we frame questions and apply facts and methodologies in answering them. Academic specialization and public scholarship are two examples of trends that seek to escape the word-against-word debates characteristic of high-school pedagogy. But the way they clamor after factual and moral certainties, we can detect the same epistemological stridency. What scholars care about most of all is *scholarship.*

### Specialization

Each fall, the various academic fields bear a new crop of … subfields. I remember premed students at my undergrad enumerating the pros and cons of a doing a degree in *human* biology as opposed to just biology. My sister studied biogeochemistry, which is what you get when you take ecology and add math. When it comes to academic research, precise scholarly units like these make confident conclusions about the phenomena they study. But the same narrowness that grants them certainty also helps them dodge the big, tough questions that exist prior to academic departments—the very questions we depend on scholars to answer.

Let’s focus on the discipline of history, which has been fragmented by specialization and is now having second thoughts. Compared to about fifty years ago, today’s research historians work with narrower date ranges, smaller geographic regions, and tighter demographic foci. This trend, called microhistory, answers to a statistical suspicion about grand narratives. Unlike historians in Marxist, feminist, and other ideological traditions, who sought patterns in the historical record, microhistorians argue that history is a Brownian process: technically determinist, but far too complex to assess meaningfully. Thus, we need to zoom in. A typical microhistory might examine the impact of a given subsidy on a local farming community or a neighborhood church’s liturgical practices before and after a regime change. For microhistorians, the unit of research ought to be small enough to discern individual collisions among people, actions, and places, lest we get distracted by random patterns in the noise.

Recently, macrohistory (with an *a*) has staged a comeback. A new generation of academics has come to question microhistory’s political agnosticism, and the average dissertation’s timespan is widening again. Moreover, thanks to new technologies and data-processing techniques, historians are learning to make their work more relevant. History departments have surrendered their loyalty to the tightly-reasoned 80,000-word thesis and are asking their PhD students to code websites, produce documentaries, and compile digital archives. The recrudescence of the long term earns a warm welcome from historians Jo Guldi and David Armitage, who argue that the problem with microhistory is that parochial histories of moments and places fail to answer meaningful historical questions.[[4]](#footnote-5)

Asked why things turn out the way they do, microhistory can only throw its hands in the air and say, “It’s a snarl of conflicting forces.” Forget Howard Zinn: Alex Jones will gladly bring a machete down on this Gordian knot. His narratives, if bullshit, at least satisfy our desire for explanations.

The work of history is to fish whys and hows from the ocean of facts. When historians shy away from this task, they hand their audience over to malevolent actors who will entertain them with facile, seductive arguments about how history “really” plays out. The same can be said of increasing specialization in other academic fields.

Talented researchers who chase narrow certainties leave it to ignorant pundits to answer the big questions. How can we ensure that smart people receive some airtime, too? One group of academics argues that the title of PhD confers a responsibility to educate the public.

### Public Scholarship

Historians’ use of technology to upgrade their field’s popular standing exemplifies a push for public scholarship across all disciplines. Against stereotypes of aloof professors who rest on the laurels of tenure, a cohort of progressive academics argues that knowledgeable people must mobilize against bad-faith narratives. And why shouldn’t they? Democracy works best when the public is well-informed. However, the intellectual compromises academics inevitably make in their efforts at outreach raise doubts about the promises of public scholarship.

Public scholarship looks different in every field. My university’s music school hosted a community-outreach program through which students performed educational concerts in local public schools (I participated). The law school let third-years substitute an internship at a law firm for an elective course. And the international-relations department put grad students through mock TV interviews, coaching them to answer expansive questions about foreign policy in soundbite-sized paragraphs.

Public scholarship feels most urgent in the sciences, where researchers seeking to dispel fake news have been (re)learning to write for general readers about climate, health, and biology. For example, in 2018, a group of geneticists at the University of Copenhagen identified a statistical relationship between certain genetic signals and racial subgroups. The lead author of their article, Fernando Racimo, knew that white nationalist groups like to cite such studies in diatribes about “race realism,” so he preempted the disinformation campaign by uploading a Google doc summarizing the research and disclaiming such interpretations. His goal was to ensure journalists wouldn’t omit the relevant hedges in their reporting on the study. To the joy of the public-scholarship caucus, Racimo’s strategy worked. After the researchers’ findings were announced, journalists referenced Racimo’s primer and included paragraphs in their stories debunking shoddy racial science.[[5]](#footnote-6)

But was Racimo’s case the norm or the exception? We must credit his campaign’s success in part to the novelty of the gesture: journalists found Racimo’s Google doc—his rejection of scholarly indifference—more newsworthy than the underlying research. Other public-scholarship initiatives have not been so successful. Take a look at *The Conversation* ([theconversation.com](https://theconversation.com/)), a website designed to help academics communicate their research to a nonspecialist audience. Its articles are worded precisely, hedged carefully, and eminently boring. Browsing the website’s comments, one senses that most of its traffic comes from academics and nerds with expired university library credentials—people like you and me, not the typical voter. *The Conversation* makes a poor example of public scholarship because it caters to people who *already* value scholarship. And conversation, for that matter.

The mark of successful public scholarship isn’t whether it impresses other public scholars, but whether it changes the minds of regular people. And as savvy envirosci grads know, to win skeptics over to the reality of anthropogenic climate change, academics must speak in a lower register and save the *p*-values for their colleagues. While some scholars possess both the endurance and charisma to instruct the general public in complexity, on average, facile narratives ring truer to human ears.[[6]](#footnote-7) Thus, before we drag academics’ lackluster writing chops, we must confront the possibility that academic conclusions—“assuming that,” “in some circumstances,” “given our current knowledge”—are *necessarily* deficient in the intuitive generalizations lay readers desire.

Because most people are not very smart, public scholarship involves drawing compromises between intellectual honesty and general accessibility: you can dumb down your results and score more converts, or you can persist in fussy academic uncertainty and pray for an angel journalist to see your hedged prose clearly. Academics believe more in the methodologies of their colleagues than the reading-comprehension skills of journalists, so they’ve favored the latter approach (*The Conversation* is an example). But if the advocates of public scholarship pursued their actual goal—winning the public over to academic consensus—they’d exploit the same cognitive cheat codes beloved by the purveyors of disinformation across the aisle. We’d have memes depicting napalm-tinged climate Armageddon and schools shuttered for good by measles outbreaks.

We’re right back to where we started. It seems that no matter how earnestly we try to redesign pedagogy in a way that protects truth and rejects deception, such concepts as media literacy, critical thinking, and public scholarship force us to choose one system of truth-telling or another. They reproduce the very power structures they seek to dismantle.

## The Limits of Narrative Fluency

Does narrative fluency solve the problems it sets out to?

The pedagogical currents described above aim for what I’ve been calling narrative fluency: the receptive ability to tease arguments apart and examine their evidential bases, plus the productive ability to weave together original arguments using facts (or “facts”) and language. Far be it from me to deny the value of skills like historical thinking and web design. If I were advising a high-school civics teacher or history department chair today, and if they assured me that my ideals wouldn’t be drowned under the practical challenges of teaching, I would likely tell them to draw from many of the pedagogical streams I’ve discussed. For all their limitations, creative pedagogies involving contemporary problems and real media handily beat traditional facts-only teaching. Nonetheless, let me voice two broad concerns about narrative fluency.

The first is that serial exercises in critical thinking can engender a kind of epistemological complacency. After the professors publish their op-eds, after the students grade them on the media-literacy rubric, after MOGEF passes the most rigorous vetting—even in the face of all this evidence, Jun-ho’s mind may remain unchanged. And if someone should then challenge his beliefs, Jun-ho can now say, “I’ve looked at all the facts and studies. Have you? No? Then clearly *I’m* not the one who needs to give things a second thought.” Narrative fluency wants to be a process for overturning our long-held assumptions, but it can just as easily become an excuse for stubbornness.

At the heart of the critical-thinking discourse lies a spiritual belief that if we only think hard enough, we will arrive at objective truth. But how do we know when we’ve thought hard enough? The only way we can be sure that narrative-fluency pedagogy is working is when it guides people to the conclusions we have already decided they ought to reach. Those who maintain fringe views despite the teacher’s best efforts force us to backtrack and ask what went wrong. Perhaps we didn’t engage with the counterargument thoroughly. Perhaps the sources lacked diversity. Perhaps Jun-ho just isn’t *getting* it. In any case, narrative fluency gets to measure its own yardstick.

My greatest concern about narrative fluency, then, has to do with trust. Mastering the language of science helped a generation of quacks trot out eugenic fantasies. Narrative is power: narrative is morally fraught.

Pretend, for a moment, that we perfect narrative-fluency pedagogy. We’ve figured out how to teach every student to distinguish fact from fake, analyze arguments critically, and write (or record, or code, or perform) persuasive narratives of their own. Of course, only a subset of these students will enter professional fields that grant them a public platform. And only an idealistic subset of these will accept a life of financial insecurity to become journalists, teachers, or university researchers whose ostensible goal is to tell the correct story. The majority—and the most talented—of the narratively fluent will work at PR firms, undertake research in private industry, or serve as in-house legal counsel for multinational corporations. For narrative skill is highly fungible.

For a glimpse of a future in which narrative fluency has been thoroughly commodified, consider the media-literacy program at the Ross School, an exclusive prep school in Long Island. For $41,200 in yearly tuition, they get to learn about the “construction and deconstruction of media,” spar with bright young minds, and gain entry into the tightest social circles of tomorrow’s big media. Ross’s curriculum, and education journalist Alexandria Neason’s glowing review of it, demonstrates a familiar pattern in pedagogical change: elite private schools set the pace, and the rest of the education system plays catchup. Ross students are taking the best media-literacy courses from the best teachers before everyone else. They will retain a competitive advantage in the workforce for years to come.[[7]](#footnote-8)

The pedagogy of narrative fluency upholds itself as an antidote to moral bankruptcy, but at best, it is morally neutral. While narrative intelligence may guide some to the right answers, for many students, it will become a marketable aptitude alongside the familiar twenty-first century skills of computer coding, tax minimization, and personal branding. (Indeed, these skills themselves rely on a command of narrative.) Educators teach their students about argument in school under the assumption that it will make them more objective, conscientious citizens. But once these students graduate, they find that the incentives are broken. There’s far more money in manipulating the masses on behalf of the powerful.

Good luck outsmarting them.

## References and Further Reading

boyd, danah. [“How an Algorithmic World Can Be Undermined.”](https://18.re-publica.com/en/session/opening-keynote-how-algorithmic-world-can-be-undermined) Keynote presentation, re:publica, Berlin, May 2, 2018.

boyd, danah. [“You Think You Want Media Literacy … Do You?”](https://points.datasociety.net/you-think-you-want-media-literacy-do-you-7cad6af18ec2) *Data & Society: Points,* March 9, 2018.

Flaherty, Colleen. [“By Any Other Name.”](https://www.insidehighered.com/news/2019/01/25/liberal-education-advocates-discuss-ways-reclaim-conversations-about-academe) *Inside Higher Ed,* Jan. 25, 2019.

Guess, Andrew, Jonathan Nagler, and Joshua Tucker. [“Less Than You Think: Prevalence and Predictors of Fake News Dissemination on Facebook.”](http://doi.org/10.1126/sciadv.aau4586) *Science Advances* 5, no. 1 (Jan. 2019).

Guldi, Jo and David Armitage. [*The History Manifesto.*](https://doi.org/10.1017/9781139923880)Cambridge: Cambridge University Press, 2017.

Harari, Yuval Noah. *21 Lessons for the 21st Century.* New York: Spiegel & Grau, 2018.

Harmon, Amy. [“Why White Supremacists Are Chugging Milk (and Why Geneticists Are Alarmed).”](https://www.nytimes.com/2018/10/17/us/white-supremacists-science-dna.html) *The New York Times,* Oct. 17, 2018.

Kahneman, Daniel. *Thinking, Fast and Slow.* New York: Farrar, Straus and Giroux, 2011.

Liming, Sheila. [“In Praise of Not Not Reading.”](https://thepointmag.com/2017/criticism/in-praise-of-not-not-reading) *The Point,* April 6, 2017.

Neason, Alexandria. [“Students of Truth.”](https://www.cjr.org/special_report/students-of-truth.php) *Columbia Journalism Review,* winter 2019.

Racimo, Fernando, Jeremy J. Berg and Joseph K. Pickrell. [“Detecting Polygenic Adaptation in Admixture Graphs.”](https://doi.org/10.1534/genetics.117.300489) *Genetics* 208, no. 4 (April 1, 2018): 1565–84.

Racimo, Fernando. [“Detecting Polygenic Adaptation in Admixture Graphs: Frequently Asked Questions.”](https://docs.google.com/document/d/17fvO6MVsNmrxoePlrWKF-2L3p9ibg6Yt8bo-pji0i1g/edit?usp=sharing) Google Docs. Uploaded May 12, 2017.

Rensin, Emmett. [“The Blathering Superego at the End of History.”](https://lareviewofbooks.org/article/the-blathering-superego-at-the-end-of-history) *Los Angeles Review of Books,* June 18, 2017.

Wineburg, Sam. [“Howard Zinn’s Anti-Textbook.”](https://slate.com/human-interest/2018/09/howard-zinn-in-history-class-teachers-and-a-peoples-history-of-the-united-states.html) *Slate,* Sept. 6, 2018.

1. danah boyd, [“You Think You Want Media Literacy … Do You?”](https://points.datasociety.net/you-think-you-want-media-literacy-do-you-7cad6af18ec2) *Data & Society: Points,* March 9, 2018. [↑](#footnote-ref-2)
2. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), chap. 9 discusses cognitive biases and simplifying heuristics. These are psychological shortcuts that our mind uses when making decisions and evaluating information, and they help explain why people who ought to know better can have their judgment swayed by extraneous factors. For example, readers tend not to trust text that is blurry or pixelated. [↑](#footnote-ref-3)
3. Sam Wineburg, [“Howard Zinn’s Anti-Textbook,”](https://slate.com/human-interest/2018/09/howard-zinn-in-history-class-teachers-and-a-peoples-history-of-the-united-states.html) *Slate,* Sept. 6, 2018. [↑](#footnote-ref-4)
4. Jo Guldi and David Armitage, [*The History Manifesto*](https://doi.org/10.1017/9781139923880)(Cambridge: Cambridge University Press, 2017). [↑](#footnote-ref-5)
5. Fernando Racimo, Jeremy J. Berg and Joseph K. Pickrell, [“Detecting Polygenic Adaptation in Admixture Graphs,”](https://doi.org/10.1534/genetics.117.300489) *Genetics* 208, no. 4 (April 1, 2018): 1565–84 is the original genetic study. [“Detecting Polygenic Adaptation in Admixture Graphs: Frequently Asked Questions,”](https://docs.google.com/document/d/17fvO6MVsNmrxoePlrWKF-2L3p9ibg6Yt8bo-pji0i1g/edit?usp=sharing) Google Docs, uploaded May 12, 2017 is Racimo’s primer for general readers.

   For an example of a journalist who heeded Racimo’s recommendation of taking a cautious tone in reporting on his research findings, see Amy Harmon, [“Why White Supremacists Are Chugging Milk (and Why Geneticists Are Alarmed),”](https://www.nytimes.com/2018/10/17/us/white-supremacists-science-dna.html) *The New York Times,* Oct. 17, 2018. [↑](#footnote-ref-6)
6. See Yuval Noah Harari, *21 Lessons for the 21st Century* (New York: Spiegel & Grau, 2018), chap. 17 and Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), chap. 19 on the allure of narrative. [↑](#footnote-ref-7)
7. Alexandria Neason, [“Students of Truth,”](https://www.cjr.org/special_report/students-of-truth.php) *Columbia Journalism Review,* winter 2019. [↑](#footnote-ref-8)