As information technology evolves, so do the features of our digital landscape. Changes in this landscape pose new obstacles and challenges for us as consumers of information or as knowing subjects. In turn, the way we negotiate these challenges has an impact on the health of our democracies. In this paper, I explore these points in greater depth. I begin by noting some salient features of our digital environment. I then discuss five epistemic phenomena that have their basis in these features and spell trouble for democracy. Drawing on resources from virtue epistemology, I go on to discuss “intellectual character education” as a potential if partial remedy for some of these problems.

Some Features of the Digital Landscape

The internet and social media have made readily accessible—indeed nearly inescapable—*vast quantities of information* on innumerable topics. With only a few clicks or taps, anyone with access to the web or a cellular network can transcend the limits of space and time in ways that were nearly unthinkable just a few decades ago. As philosopher Michael Lynch observes: “Changes in information technology are making space increasingly irrelevant. Our libraries are no longer bounded by physical walls, and our ways of processing and accessing what is in those libraries don’t require physical interaction. As a result, we no longer have to
travel anywhere to find the information we need” (2016, xvi). The sheer quantity of information available to us at any given moment is staggering.

Making matters worse, the torrent of available information also lacks a certain kind of rational or logical uniformity. With many topics, the information we have access to points in different directions and contains marked discrepancies and inconsistencies. It would be one thing for there to exist massive quantities of cohesive or consistent information about various topics; it’s quite another for this information to include multiple and competing perspectives, conflicting data sets, endless arguments and counterarguments, and more. The latter qualities make the information landscape even more vexing.

Related to this, the quality of information available online and via social media is notoriously uneven. These venues are havens for bogus conspiracy theories, misinformation, quack medicine, junk science, and other forms of epistemic rubbish (Vosoughi et al 2018; Lazer et al, 2018). Moreover, while in some cases the poor quality of information is easily detected, in many others it is difficult to scrutinize. As we’ll see in more detail below, advances in information technology make it relatively easy to create information sources that are extremely unreliable but have an appearance of credibility. Consequently, while we’re aware, in a general sense, that a good deal of the information we encounter online is misleading, we often are ill-equipped to pinpoint exactly when or where this is the case.

The information available via the internet and social media is also remarkably malleable. It can easily be edited and filtered to fit our preferred beliefs, values, and commitments. We get to choose whom to “friend” on Facebook, whose Twitter feed or Instagram account to subscribe to, which news sites to bookmark, and so on. Search engines and social media algorithms perform a similar function: they filter information in accordance with (what they identify as) our
existing beliefs and desires (Pariser 2011; Bozdag 2013). While the volume of available information is staggering, our actual exposure to or engagement with this information can be quite selective and limited.

**Five Familiar Epistemic Phenomena (and Their Implications for Democracy)**

I turn now to discuss five familiar epistemic phenomena that have at least a partial basis in the features of our digital landscape just sketched. As we’ll see, each phenomenon also has problematic implications for democracy.

**1. Loss of epistemic trust**

One consequence of a lack of informational unity and the mixed and elusive quality of available information is that it can be very difficult for ordinary persons to know whom or which sources to trust. Again, for nearly any topic, a simple Google search is likely to turn up arguments and evidence that point in different directions and support competing conclusions. Adjudicating these conflicts can be challenging, to say the least.

One solution is simply to trust the experts. The problem with this solution is that it often can be difficult for the average person to distinguish genuine experts from purported or self-styled experts. Moreover, in many domains (e.g. public health, economics, climate science, political science), even genuine experts disagree on substantive issues. If we often lack the ability to distinguish genuine from would-be experts, we are even less likely to know how to adjudicate these disputes (Collins and Evans 2008).
A further complicating factor consists of recent innovations in audio-visual technology. It is increasingly easy for non-professionals to fabricate online news stories that look, feel, and read like real news. Purveyors of fake news publish volumes of fabricated stories on websites with URLs and an overall appearance nearly identical to those of legitimate news sites. Even more unsettling are cutting edge audio-visual manipulation technologies (made possible by advances in artificial intelligence and computer graphics) that generate realistic footage of public figures appearing to say whatever the user types into the program. Sophisticated “deep fake” technology recently developed at Stanford takes this a step further, allowing users to speak words and make facial expressions that get mirrored in real time by the on-screen figure. In other words, we are now capable of supplying “video evidence” of nearly anyone saying nearly anything.

It is no surprise, then, that with respect to a wide range of topics, it is becoming increasingly difficult to know whom or which sources to trust. According to a recent Gallup poll, only 40% of Americans trust online news sources, despite the fact that 60% of the population gets its news online. There is, of course, a lamentable irony in this diminishment of epistemic trust: despite having unprecedented access to information, the quality of this information and our inability to reliably assess it are such that we may end up knowing less than we would in an environment with considerably fewer epistemic resources.

A loss of epistemic trust on matters of considerable social or political importance can have deleterious consequences for democracy. Recall the purported effect of fake news stories spread by Russian trolls on Facebook surrounding the 2016 US presidential election. While these stories may not have earned Donald Trump many additional votes, it isn’t difficult to believe that they might have sown enough doubt among a non-trivial number of would-be Hillary Clinton voters to have kept them home on election day.
Not long after the election, President Barak Obama made a similar observation:

In an age where there’s so much active misinformation, and it’s packaged very well, and it looks the same when you see it on a Facebook page or turn on your television … If everything seems to be the same and no distinctions are made, then we won’t know what to protect. We won’t know what to fight for. And we can lose so much of what we’ve gained in terms of the kind of democratic freedoms and market-based economies and prosperity that we’ve come to take for granted.\(^7\)

Put succinctly: we’re more likely to participate in core democratic practices like voting or protesting when we know what we believe about the issues at stake, and we’re more likely to know what we believe about these issues when we feel confident about the credibility of our information sources. When trust in these sources dissipates, political motivation may dissipate as well.

2. Epistemic trespassing

A further problem with the kind of intellectual diffidence just described is that it can end up ceding power to the overconfident.\(^8\) For, while some people retreat in the face of conflicting information and competing voices, others appear to be emboldened by them.

Compare two familiar responses to moral disagreement. When confronted with conflicting moral perspectives among persons or cultures, some gravitate toward moral \textit{skepticism}: while allowing that morality may be objective, they begin to doubt whether it is
really knowable. Others, holding fast to morality’s knowability, draw a different conclusion: namely, that morality is subjective or relative. This allows for the possibility of moral knowledge because it entails that what is right for one person or culture need not be right for another. Briefly, if the skeptical response to moral disagreement is correct, then moral knowledge is off limits; but if the relativist response is correct, moral knowledge is readily attainable.

A similar response can be found in the context of online disagreement about various political, social, economic, or scientific matters. Again, some respond by shrugging their shoulders and concluding: “Who’s to say? How can we really know?” Others, however, take the disagreement as an indication that there must be “alternative facts” and that they are well-positioned to ascertain these facts. Thinking, perhaps, of knowledge as a personal or social construction, they see themselves or their peers as capable of making expert-level judgments and pronouncements. The writer David Foster Wallace made a similar observation in a 2005 article on conservative talk radio, nothing that “the ever increasing number of ideological news outlets creates precisely the kind of relativism that cultural conservatives decry, a kind of epistemic free-for-all in which ‘the truth’ is wholly a matter of perspective and agenda.”

A central and conspicuous expression of this mentality is what philosopher Nathan Ballantyne (2018) refers to as “epistemic trespassing.” Epistemic trespassers, who may be experts in one domain, lack the skills or knowledge proper to another domain, but nevertheless proceed to make judgments in that domain. High-profile instances of epistemic trespassing discussed by Ballantyne include Linus Pauling’s unsubstantiated claims about the medical benefits of Vitamin C and Neil DeGrasse Tyson’s uninformed dismissal of philosophy (367-68).

When ordinary citizens in a democracy begin listening to epistemic trespassers—or begin trespassing themselves—this can lead to misguided or even dangerous actions and policies. A
case in point is the so-called “anti-vaxx” movement. While its roots go back to the 1800s, the proliferation of medical information online and the support of various celebrities and other social media “influencers” has given the movement new life. The consequences are disheartening. In 2018, the CDC reported that the percentage of American children receiving no vaccines has quadrupled since 2001. New York recently dealt with its worst measles outbreak in decades. In European Union, measles cases are at a 20-year high. In 2019, the Philippines recorded over 44,000 cases of measles, resulting in 576 deaths. In each of these cases, the uptick in infections has been attributed to an increasing mistrust of vaccines. As a consequence of these and other grim developments, the World Health Organization recently declared “vaccine hesitancy” as one of the top 10 global health threats.

3. Diminished capacity for cognitive complexity

The quantity and malleability of available information leads to a further epistemic phenomenon with negative implications for democracy: namely, a diminished capacity for cognitive complexity.

Along these lines, Michael Lynch marks a distinction between “Google-knowing” and other more complex forms of knowing. About the former, he comments:

Google-knowing has become so fast, easy and productive that it tends to swamp the value of other ways of knowing like understanding. And that leads to our subtly devaluing these other ways of knowing without our even noticing that we are doing so—which in
turn can mean we lose motivation to know in these ways, to think that the data just speaks
for itself. (2016: 179-80)

Writer Nicholas Carr (2011) makes a similar observation:

For some people, the very idea of reading a book has come to seem old-fashioned, maybe
even a little silly—like sewing your own shirts or butchering your own meat. “I don’t
read books,” says Joe O’Shea, a former president of the student body at Florida State
University and a 2008 recipient of a Rhodes Scholarship. “I go to Google, and I can
absorb relevant information quickly.” O’Shea, a philosophy major, doesn’t see any
reason to plow through chapters of text when it takes but a minute or two to cherry-pick
the pertinent passages using Google Book Search. “Sitting down and going through a
book from cover to cover doesn’t make sense,” he says. “It’s not a good use of my time,
as I can get all the information I need faster through the Web.” As soon as you learn to be
“a skilled hunter” online, he argues, books become superfluous. (8-9)

Carr also canvasses empirical research on neuro-plasticity indicating that our brains are
undergoing significant structural changes in light of our pervasive use of digital technologies.
Summarizing this research, he says:

Dozens of studies by psychologists, neurobiologists, educators, and Web designers point
to the same conclusion: when we go online we enter an environment that promotes
cursory reading, hurried and distracted thinking, and superficial learning. It’s possible to
think deeply while surfing the Net, just as it’s possible to think shallowly while reading a
book, but that’s not the type of thinking the technology encourages and rewards … With
the exception of alphabets and number systems, the Net may well be the single most
powerful mind-altering technology that has ever come into general use. At the very least,
it’s the most powerful that has come along since the book. (115-16)

To the extent that our capacity for deep, complex, and nuanced thinking is diminished,
our ability to engage responsibly in democratic process is likely to diminish as well. Many issues
that affect us as citizens are complex. Civic responsibility sometimes demands that we attempt to
understand these issues, which in turn can demand a willingness and ability to think long and
hard about them, weigh arguments and counterarguments, give fair and honest consideration to a
wide range of perspectives, avoid drawing premature conclusions, and so on. An electorate with
a low appetite or capacity for cognitive complexity will be ill-equipped to meet these demands.
The quality of political environment can be expected to suffer accordingly.

4. Epistemic insularity

The malleability of digital information has other untoward epistemic and political
consequences. According to a recent Pew study, more people than ever are getting their news
from their social media feeds, including 62% of American adults and nearly two-thirds of
Facebook users.16 The contents of these feeds are highly filtered: they consist of news items
disseminated by “friends” many of whom share the same moral, political, or religious outlook.
This makes possible a high degree of epistemic insularity or so-called “filter bubbles” (Pariser 2011; Watson 2015; Sunstein 2009).

The formation of a filter bubble needn’t be deliberate or conscious. Disagreement about important social, political, and related matters can be a source of cognitive dissonance, triggering considerable psychological discomfort and anxiety. A corresponding need for cognitive coherence or equilibrium can facilitate the operation of well-documented biases and other psychological mechanisms that operate involuntarily and subconsciously. These forces are a potent catalyst of epistemic insularity.

While the phenomenon of epistemic insularity can appear obvious, its existence has recently been called into question by research indicating, contrary to the idea of “partisan selective exposure,” that both left-leaning and right-leaning online news sites in fact draw web traffic from politically diverse audiences (Nelson and Webster 2017; Gentzkow and Shapiro 2011; Flaxman, Goel, and Rau 2016). However, this research does not examine the quality of people’s engagement with information from sources on the other side of the political aisle. It is one thing for a conservative Republican, say, to regularly click on the Washington Post website to see what the “lamestream media” is saying about an issue; it is quite another for her to do so in an effort to gain a genuinely balanced perspective. Likewise for political liberals who read rightwing columnists or look at conservative media channels with nothing but disgust and contempt.

Indeed, even skeptics about filter bubbles acknowledge this point. As the authors of a major study (Nelson and Webster 2011) aimed at discrediting the “myth” of partisan selective exposure comment:
That we found no evidence of partisan selective exposure does not mean that we believe the fears of political polarization to be unfounded. Instead, we believe that more work should be focused on how media audiences engage with political news, rather than how frequently they are exposed to it … We can say that MSNBC and Fox News share audiences, but we cannot draw conclusions about the impression these outlets leave on audiences from different ideological backgrounds. Is a liberal who clicks on a story from Rush Limbaugh’s website consuming that story with a wariness they leave behind when they read a story on MSNBC? What does it mean that liberals spend more time with The New York Times and conservatives spend more time with Drudge, yet both demographics visit both sites? (10)

This leaves open the possibility of a kind of de facto epistemic insularity: one in which, while partisans may expose themselves to alternative views and sources of information, they generally fail to do so in ways that appropriately fair, charitable, honest, careful, and the like.

Even this qualified form of epistemic insularity is likely to have negative implications for democracy. As John Stuart Mill notes in On Liberty (1859/2001):

[I]t is almost a commonplace, that a party of order or stability, and a party of progress or reform, are both necessary elements of a healthy state of political life … Unless opinions favourable to democracy and to aristocracy, to property and to equality, to cooperation and to competition, to luxury and to abstinence, to sociality and individuality, to liberty and discipline, and all the other standing antagonisms of practical life, are expressed with equal freedom, and enforced and defended with equal talent and energy, there is no
chance of both elements obtaining their due; one scale is sure to go up, and the other down. Truth, in the great practical concerns of life, is so much a question of the reconciling and combining of opposites, that very few have minds sufficiently capacious and impartial to make the adjustment with an approach to correctness, and it has to be made by the rough process of a struggle between combatants fighting under hostile banners. (45-46)

If Mill is correct, then to achieve a “healthy state of political life,” citizens must be willing to expose themselves to diverse ways of thinking. Nor, Mill says, is it enough that each person:

… should hear the arguments of adversaries from his own teachers, presented as they state them, and accompanied by what they offer as refutations. That is not the way to do justice to the arguments, or bring them into real contact with his own mind. He must be able to hear them from persons who actually believe them; who defend them in earnest, and do their very utmost for them. He must know them in their most plausible and persuasive form; he must feel the whole force of the difficulty which the true view of the subject has to encounter and dispose of; else he will never really possess himself of the portion of truth which meets and removes that difficulty. (ibid., 35; italics added)

This appears a far cry from the kind of engagement with opposing views that is commonplace in many democracies today.

5. Polarized political thinking
Though terms like “filter bubbles” and “echo chambers” sometimes are used interchangeably, philosopher Thi Nguyen (2018) draws a fairly precise distinction between the two. According to Nguyen, an epistemic bubble is “a social epistemic structure in which other relevant voices have been left out,” whereas an echo chamber is “a social epistemic structure from which other relevant voices have been actively excluded and discredited” (1). As he puts it: “In epistemic bubbles, other voices are not heard; in echo chambers, other voices are actively undermined” (ibid.).

Setting aside the question of how well this distinction tracks ordinary linguistic usage, the active excluding and discrediting it draws attention to is worth dwelling on. In its contemporary iterations, this practice is parasitic on several of the features of our digital landscape noted above, for example, on the availability of large quantities of information that is highly malleable and can be given a (mere) appearance of credibility. It is also traceable to and compounds a well-documented mistrust of mainstream epistemic institutions. One key player in this milieu is conservative talk show radio host Rush Limbaugh. Limbaugh regularly rails against “a universe of lies” comprised of the “four corners of deceit,” which are the mainstream media, science, government, and academia. He bemoans “the corruption that exists between government and academia and science and the media. Science has been corrupted. We know the media has been corrupted for a long time. Academia has been corrupted. None of what they do is real. It’s all lies!”

This politically-driven disparagement of mainstream epistemic institutions plausibly compounds the polarized thinking that is one of the most salient features of public life in the US and several other Western democracies. According to the Pew Research Center, Republicans and
Democrats are more divided and have greater partisan antipathy toward each other than at any point over the past two decades. According to a recent survey of 10,000 adults nationwide, the number of Americans who express “consistently conservative or consistently liberal opinions” has doubled during the same period, increasing from 10% to 21%. Consequently, the survey shows, the “ideological overlap” between Republicans and Democrats has diminished, such that today, “92% of Republicans are to the right of the median Democrat, and 94% of Democrats are to the left of the median Republican.” Finally, the number of people with a “highly negative view of the opposing party” has more than doubled, with most of these people maintaining that the opposing party’s policies are “so misguided that they threaten the nation’s well-being.”

“Tribal epistemology,” as one writer calls it, appears to be well-entrenched. Its ill effects on democracy don’t require much unpacking. As political scientist Jennifer McCoy explains:

What we are seeing is when voters divide into opposing camps they come to view the other side not any longer as a political adversary, as in a healthy democracy, just one to compete against and occasionally to negotiate and compromise with, but instead as a threatening enemy to be vanquished. And that means that compromise is no longer possible. Negotiations and communications break down. And people begin to … be afraid of the other side.
Virtue Epistemology and Educating for Intellectual Virtues

We’ve considered five familiar epistemic phenomena that are tied to features of our digital landscape and have negative implications for democracy. What can be done to address these issues?

At least part of the solution must be *systemic* and *structural* (Rini 2017). Social media corporations can do more to monitor and mark the quality of information disseminated on their platforms. Policy makers and media regulators can enhance cybersecurity. Journalists can better articulate and practice principles of accuracy, fairness, impartiality, and transparency suitable for 21st century reporting. And media watchdog organizations can do more to help the average citizen know when these principles have been violated.

However, structural efforts to regulate the quality and flow of information are only a partial solution. Given a robust commitment to free speech, together with the complex and dynamic character of information technology, any comprehensive solution must also have a *personal* dimension. It must address the way individual citizens gather, assess, and share online information.

What sorts of personal intellectual conduct or dispositions might be necessary for engaging in these activities well? Some initial suggestions are as follows:

- We need to be appropriately *skeptical and wary* of sources the quality of which is questionable.
- We need to *ask tough questions*—to scrutinize the claims and arguments we come across online.
• We need to *probe for understanding* and to resist being content with a cursory or superficial grasp of important issues.

• We need to listen *attentively* to other people, including people who see the world very different from us.

• We must also be willing to *consider issues from the other side*—to consider on what grounds someone might sensibly disagree with us.

• We need to be able to *form our own opinions and judgments*—to resist agreeing with an author simply because we know that she or he shares our general moral, religious, or political outlook.

• At same time, we need to be able to *admit what we don’t know*. We must be attentive to and willing to acknowledge the limitations of our own perspectives and evidence.²²

This list is far from complete; and, again, it addresses only one (viz. the personal) dimension of the problems we’re grappling with. Nonetheless, it isn’t implausible to think that if most people were disposed to act, think, and feel in the manner just described, this would go a considerable way toward mitigating many of the negative epistemic and political factors discussed earlier in the paper.

What, then, might be done to nurture the skills and dispositions in question? Here as well there exists no silver-bullet solution. However, in the remainder of the paper, I want to focus on one particular sort of effort, an effort informed by recent work in virtue epistemology.

Virtue epistemology is an approach to the philosophical study of knowledge and related epistemic goods that foregrounds considerations of intellectual virtue.²³ On one influential way
of thinking about intellectual virtues, they are strengths of intellectual character, such as curiosity, open-mindedness, intellectual courage, and intellectual humility.²⁴

Intellectual virtues, as I conceive of them, have three primary aspects or dimensions.²⁵ First, each virtue has a characteristic skill or ability. For instance, to be open-minded, one must possess the skill of perspective-switching. To be intellectually humble one must be skilled at attending to and owning one’s intellectual limitations and mistakes. And to possess the virtue of curiosity, one must be skilled or competent at asking thoughtful and insightful questions.²⁶

However, possessing the skill proper to a virtue is not sufficient for possessing the virtue itself, since one could possess the skill yet be unmotivated to use it. If a person has the ability to perspective-switch, but reliably fails to do so when his situation calls for it, then he does not possess the virtue of open-mindedness. This underscores a motivational dimension of intellectual virtues.²⁷

Finally, to possess a virtue, one must also have good judgment about when (and toward whom, for how long, etc.) to deploy its characteristic skill. Again, suppose a person has the ability to perspective-switch, is motivated to use this ability, but regularly misjudges when (or toward whom or for how long) he should do so—e.g. by being open-minded toward obviously unreliable sources or overly skeptical about epistemically credible ones. While this person might be open-minded in some sense, his open-mindedness won’t be a genuine virtue.²⁸

Understood in this way, intellectual virtues substantially overlap with the sorts of attitudes, actions, and mental processes listed above. For example, intellectual carefulness involves a demand for accuracy, curiosity involves asking thoughtful and probing questions, intellectual thoroughness involves probing for deep understanding, intellectual autonomy
involves forming one’s own opinions and beliefs, intellectual humility involves admitting one’s ignorance, and so on.

The initial suggestion, then, is that if more people were to practice intellectual virtues like the ones just noted, this could be helpful for negotiating some of the epistemic hazards and challenges discussed in the previous two sections. And the question is: What can be done to encourage the cultivation and practice of intellectual virtues on a wide scale?

The domain of formal education is a natural place to look for an answer. First, its scope is broad, as most persons in civilized societies are recipients of a formal education. Second, intellectual virtues offer a concrete and compelling way of fleshing out or “thickening” some attractive and time-honored (albeit elusive) aims of education.

To illustrate the latter point, many educational institutions from elementary schools to universities uphold the goal of teaching students to become “lifelong learners” or nurturing in their students a “love of learning.” As I’ve argued elsewhere (2013a), intellectual virtues supply several of the skills and motives essential to lifelong learning. They are, to be precise, the character attributes of lifelong learners. Furthermore, intellectual virtues are rooted in a fundamental desire for knowledge or deep love of learning. As James Montmarquet puts it, they are “qualities that a truth-desiring person … would want to have” (1993: 30). As such, their motivational source is something akin to a “love of learning.” There is, then, some prima facie plausibility to the idea that schools and teachers might play an important role in facilitating a wider practice of intellectual virtues.

This impression is buttressed by a further consideration. In most contexts, formal education also has the aim of equipping students to become responsible citizens. As we’ve seen, being a responsible citizen in a 21st century democracy requires developing a sense of which
sources of information can be trusted, gathering and evaluating information reliably and responsibly, and engaging in public discourse in ways that are honest, open, and fair (vs. dogmatic, closedminded, etc.). We’ve also seen that intellectual virtues are precisely the qualities we need in order to satisfy these demands. Finally, because the demands concern the pursuit, handling, and transmitting of knowledge and information, it is reasonable to think that educational institutions might be well-suited to help foster intellectual virtues on a wide scale.

In keeping with this picture, I propose “intellectual character education” as a partial but promising remedy for some of the problems we have been considering. As I conceive of it (2013b and 2016a), intellectual character education consists of a deliberate and systematic attempt to help students cultivate intellectual virtues in the context of academic teaching and learning. It is not an add-on or extra-curricular program—something that happens in addition to academic teaching and learning. Instead it is a way of prosecuting these activities, a way that involves thoughtfully and authentically modeling intellectual virtues for students, helping them develop an understanding of their own intellectual character strengths and limitations, providing them with frequent and well-supported opportunities to practice intellectual virtues, and more.

Something like this approach has been worked out in considerable detail by education scholars and researchers at Project Zero, an education research collaborative at the Harvard Graduate School of Education. Ron Ritchhart, Shari Tishman, David Perkins, and others have written extensively about what they call “thinking dispositions” (an equivalent of intellectual virtues) and how these qualities can be fostered in a classroom setting. Ritchhart’s work in particular explores in considerable depth the nature of intellectual character and how teachers can use “thinking routines” and “cultures of thinking” in their classrooms to help their students make progress in dispositions like curiosity, open-mindedness, and intellectual carefulness.
Despite this valuable literature, our understanding of the “best practices” and underlying dynamics of intellectual character education is far from complete. For instance, there remains much to learn about how best to measure intellectual virtues, especially in school-age children. Nor, as of yet, do we have decisive knowledge of the basic mechanisms that govern intellectual character development in an academic setting. Finally, more research is needed to determine exactly which pedagogical interventions are most likely to have a positive characterological impact and how best to equip teachers and administrators to effectively implement these interventions. I suggest, then, that given the connection between poor intellectual character and the epistemic phenomena discussed in the previous section, psychologists, education theorists, and philosophers would do well to devote their attention to these issues.

Ritchhart makes a forceful please in support of this vision:

When all is said and done, when the last test is taken, what will stay with a student from his or her education? Memories, certainly. Treasured experiences, positive relationships, meaningful interactions, yes. But what about the knowledge and skills teachers have worked so hard to impart? Surprisingly, we don’t have much evidence that these have a very long shelf life. So what sticks? … I contend that what stays with us from our education are patterns: patterns of behavior, patterns of thinking, patterns of interaction. These patterns make up our character, specifically our intellectual character. Through our patterns of behavior, thinking, and interaction, we show what we are made of as thinkers and learners. Schools can do much to shape and influence these patterns. This is the kind of long-term vision we need for education: to be shapers of students’ intellectual character. (2002: 9)
Conclusion

We began by reviewing several features of our digital landscape: vast quantities of information, conflicting opinions, arguments, and data, information the quality of which is mixed and elusive, and the structure of which is extremely malleable. We then examined five epistemic phenomena each of which is at least partly a function of these features and has deleterious implications for democracy: a loss of epistemic trust, rampant epistemic trespassing, a diminishing capacity for cognitive complexity, epistemic insularity, and political polarization. Finally, we’ve seen that a comprehensive remedy for these problems must have both structural and personal dimensions. On the latter point, I have argued that intellectual character education—or the fostering of intellectual virtues in the context of academic teaching and learning—is an undertaking worthy of serious consideration.35

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I’m not claiming that these features wholly explain the phenomena to be discussed—only that they’re a non-trivial part of the causal mix. Nor am I denying that the features also make possible certain goods: e.g. the malleability of information can make it readily accessible and comprehensible, the existence of informational disunity can spur critical thinking, etc. My focus here will be on the downsides of these features. With respect to informational malleability and related, more “neutral” features, no part of my proposed (partial) remedy suggests the need to eliminate them. With respect to more transparently epistemically negative features like informational disunity, I take it that their costs clearly outweigh their benefits. Thanks to Howard Curzer for feedback on these issues.


https://news.gallup.com/poll/260492/trust-internet-news-accuracy-points.aspx. While this represents a five-percent increase from 1998, the obvious explanation is that 22 years ago online news was a new and relatively unfamiliar phenomenon.

Our knowledge might diminish in either of a couple of ways: real-seeming fake news might function as a defeater; or it might cause sufficient doubt such that we no longer satisfy the belief condition on knowledge.


I don’t mean to suggest that such diffidence is entirely misguided. Indeed, it can be a rational response to an overwhelming and confusing informational environment. Alas, this doesn’t prevent it from having negative implications for democracy or otherwise.

I say “perhaps” because it’s not clear to me that the belief that knowledge is a social construction is required for explaining the response in question.


https://www.cdc.gov/mmwr/volumes/67/wr/mm6740a4.htm?s_cid=mm6740a4_w.

Fifteen years ago, the Philippines had all but eradicated the measles. See:


Of course, the suggestion isn’t that we should engage in these activities relative to every claim or source we come across online. Surely there are claims with respect to which we needn’t seek a thorough understanding, listen open-mindedly, think for ourselves (vs. taking the word of an expert), etc. Some discretion or judgment is required. More on this below.

For overviews of virtue epistemology, see Battaly 2008 and Ch. 1 of my 2011.

For a seminal contribution, see Zagzebski 1996.

On my view, they also have an affective dimension; however, this dimension needn’t occupy us here. For more on this structural model, see my 2015.

It may be that each virtue has a characteristic set or cluster of skills vs. a single skill. This depends in part on how skills are to be individuated—an issue I won’t get into here.

For more on this dimension of intellectual virtues, see Zagzebski 1996 and my 2011: Ch. 6.

For more on this dimension, see my 2013a.

I expand on this point in my 2013b.

For more on teaching for intellectual virtues, see Battaly 2006, MacAllister 2012, and Pritchard 2020. For a response to the concern that this approach is not “realistic,” see my 2016b.
For an overview, see my 2016a and forthcoming.

For a representative sample, see Tishman, Perkins, and Jay 1994.


Some promising work has been done along these lines. See e.g. Krumrei-Mancuso and Rouse 2015, Krumrei-Mancuso, Haggard, LaBouff, and Rowatt 2019, Porter and Schumann 2017, Porter, Schumann, Selmeczy, and Trzesniewski 2020, and Jirout, Vitiello, and Zumbrunn 2018.

I’m grateful to audiences at the Vrije Universiteit Amsterdam, the University of Genoa, and the 2019 Philosophy, Politics, and Economics Society Meeting in New Orleans for helpful feedback on previous versions of this paper. Special thanks to Randall Curren, Rena Goldstein, and Howard Curzer for helpful conversations or comments on the same.