Motivated Reasoning, Political Information, and Information Literacy Education

Mark Lenker

abstract: Research in psychology and political science has identified motivated reasoning as a set of biases that inhibit a person's ability to process political information objectively. This research has important implications for the information literacy movement's aims of fostering lifelong learning and informed citizenship. This essay argues that information literacy education should broaden its scope to include more than just knowledge of information and its sources; it should also include knowledge of how people interact with information, particularly the ways that motivated reasoning can influence citizens' interactions with political information.

Introduction:

The Pew Research Center's 2014 report "Political Polarization and Media Habits" depicted an American public that is gradually edging toward ideological extremes, a shift that is driven at least in part by the public's habits of consuming political information. The study found that "those with the most consistent ideological views on the left and right have information streams that are distinct from those with more mixed political views—and very distinct from each other."[1] By selecting sources of political news that tend to confirm their existing positions, consumers of media reinforce both their initial convictions on political matters and their distrust of those who view the issues differently. According to a companion Pew study, the result is an increase in partisan antipathy and a diminished capacity to seek compromise.[2]

The problem is rooted in poorly grounded judgments with respect to information sources. As such, it is the sort of challenge that information literacy (IL) education has the potential to address, but only if information literacy scholars and practitioners turn

their attention to the factors that motivate such choices. An area of research that promises to shed light on such questions is the work being done in psychology, political science, and related fields on *motivated reasoning*, which may be defined as a frequently unnoticed tendency (1) to avoid or dismiss new information that challenges existing beliefs and (2) to readily accept new information that appears to conform with prior beliefs.[3] Motivated reasoning has disconcerting consequences for how people use information to learn, particularly for how they inform themselves as citizens.

To provide a clearer sense of how research into motivated reasoning should inform information literacy theory and practice, I will consider the implications of the following theses:

1. An essential outcome of information literacy education should be enhancing students' ability to learn from political information in their lives as citizens.
2. Motivated reasoning is a prevalent obstacle to the objective processing of political information.
3. IL education should broaden its scope to include more than just knowledge of information and its sources; it should also include knowledge of how people *interact* with information, particularly how motivated reasoning can influence citizens' interactions with political information.

My goal for this essay is to provide the conceptual groundwork for making the motivated processing of political information a priority for information literacy theorists and practitioners.

Thesis 1

Information literacy education should prepare students to use political information effectively in their lives as citizens.

Heidi Jacobs and Selinda Berg referred to several official documents that connect librarianship, information literacy education, or both with important citizenship outcomes.[4] These documents include:

- The American Library Association's "Core Values of Librarianship."[5]
- The International Federation of Library Associations and Institutions "Beacons of the Information Society: The Alexandria Proclamation on Information Literacy and Lifelong Learning."[6]
- The Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education.[7]
- United States President Barack Obama's proclamation that October 2009 should be declared "National Information Literacy Month."[8]

The common theme running through each of these documents is that the ability to locate and evaluate information is critical to an individual's ability to make informed decisions. Information literacy is therefore essential to success in achieving personal goals, excelling in a career, and participating as an informed citizen in the political processes of one's community and nation. To help individuals realize these important achievements, libraries and other educational institutions should make information literacy a priority.

Jacobs and Berg pointed out that, even though the connection between information literacy and democracy is made clear in these and other important documents pertaining to the mission of libraries, the day-to-day activities of IL educators in libraries tend to focus narrowly on tool-related skills or on preparing students to succeed in upcoming research assignments. There may be some transfer of skills acquired in an academic context to the effective use of information in a citizenship context, but, all too frequently, the connections are not made explicit, either for the students in the classroom or for the librarians teaching in an IL program.[9] Hoping that students will transfer academic information skills to a citizenship context on their own is not enough; research suggests that students have difficulty applying critical thinking skills acquired in one context to problems that arise in another.[10] Insofar as significant learning from political information requires the ability to select and evaluate sources in a deliberate, even-handed manner, the transferability issue is serious indeed.

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Addressing citizenship outcomes in library instruction offers significant opportunities for academic libraries. We operate in an institutional context marked by a persistent demand to show how higher education makes a demonstrable difference in students' lives. To adapt to these challenges, academic libraries must integrate themselves more completely into the teaching mission of the university, to shift from the traditional "library as service" model to a "library as classroom" model.[11] A consequence of this shift is that, like classroom faculty, the academic library and its personnel are expected to help students transform themselves into something better. Librarians' expert perspective on the creation, dissemination, and consumption of information provides a basis for making a distinctive contribution to students' development as lifelong learners, particularly in their lives as citizens, because information is the raw material for much of a citizen's independent learning.

What would it mean in practical terms for information literacy education to develop students' abilities to use information as citizens? Several authors in the library and information science (LIS) literature have called for the transformation of skills-based information literacy as articulated in the ACRL Standards into a more thoroughgoing interrogation of one's information landscape, an approach known as *critical information literacy*.[12] By exploring the power relations inherent in information processes—asking, for example, whose perspective is represented in the library's information resources

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and whose voice is absent?—critical information literacy promises to awaken students to inequalities in the creation and distribution of information. It also alerts students to the role they play as active participants in communities that can either perpetuate or amend these inequalities. By examining information as a product of people's contingent choices, rather than as an impartial recording of unchanging truths, the critically information-literate student develops an outlook toward information characterized by a robust sense of agency and a heightened concern for justice. In other words, critical information literacy develops students' sophistication with respect to information while simultaneously cultivating personal qualities conducive to vigorous participation in democratic processes.

While I think that critical information literacy holds great promise for awakening students to their potential as citizens, I wish to explore a complementary direction that addresses a different sort of challenge to the ideal of informed citizenship. As I understand it, critical information literacy is a form of information education that addresses students' feelings of apathy and helplessness with respect to their political situation. An additional obstacle for IL educators to consider is motivated reasoning, the tendency for prior beliefs to adversely influence one's judgment when seeking or evaluating information.

In her essay "Information$\leftrightarrow$Democracy: An Examination of Underlying Assumptions," Brenda Dervin articulated this challenge in another way. To set the context of the problem, she identified a cultural narrative on the relationship between information and democracy that has achieved, in her terms, a "near-mythic status."[13] She distilled five premises from this narrative, two of which bear repeating here:

- That access to "good information" is critical for the working of a "good democracy."
- That the value of "good information" is such that any rational person will seek it out and that, therefore, availability [of information] equals accessibility.[14]

Dervin laid out several challenges to these premises based on theoretical perspectives that exerted considerable influence on twentieth-century thought. The most notable challenge for the purposes of this discussion is the notion of the "incomplete person." Dervin issued a call to develop information systems that acknowledge "that we are not always centered, always conscious, always ordered; that we are sometimes unconscious, sometimes decentered, sometimes disordered."[15] In other words, even when "good information" is readily available, potential users of information will not always employy it in the rational manner assumed by the predominant "information $\leftrightarrow$ democracy" narrative.

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This essay explores motivated reasoning as one of the ways that users can deviate from the ideal of the rational user, an ideal presumed by influential but oversimplified conceptions of how information systems support democratic decision-making. If

information literacy education is to contribute to the workings of a "good democracy," it must take into account the noncognitive factors that influence how citizens tend to process political information. Is it safe to assume that we give each bit of information a "fair hearing," always adjusting our beliefs to conform to compelling evidence? Or do our backgrounds and preferences inhibit our ability to be objective when evaluating information that challenges our beliefs? Recent studies of how people process political information suggest that there is significant potential for prior beliefs to interfere with how users search for and evaluate information. I turn to these studies now.

Thesis 2

Motivated reasoning is a prevalent obstacle to the objective processing of political information. An extensive review by Daniel Molden and E. Tory Higgins showed that motivated reasoning could take a variety of forms and skew information processing in a breadth of contexts. These authors established broad categories to classify the work of other researchers: those studies of information processing that emphasize motivation to arrive at a certain type of *outcome* and those that focus on motivation to employ particular types of *strategies*.[16] Molden and Higgins further broke down outcome-oriented motivation to distinguish between *directional* and *nondirectional* processing.

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Directional, outcome-oriented motivation, the class of motivation explored in this essay, tends to result in processing that supports (1) previously existing beliefs, (2) a positive image of oneself, or (3) a positive image of one's close associates. Such processing also tends to reject new information that calls prior beliefs into question or reflects unfavorably on oneself or one's associates.[17]

Note that motivated reasoning can influence information processing on a variety of topics, not just politics. For example, Akiva Liberman and Shelly Chaiken's study of coffee drinkers found a strong tendency to question the validity of scientific studies that connected heavy caffeine use with serious risks to long-term health.[18] But this essay will concentrate on studies of the motivated processing of political information because this form of motivated reasoning has a direct impact on the use of information for effective citizenship. In particular, this essay will consider motivated reasoning's impact on skills perennially addressed in library instruction: evaluation of information sources and information search.

Motivated Reasoning and Evaluation of Information

In general, the literature on motivated processing of political information indicates that our prior beliefs exert a considerable influence over how we evaluate new information

about issues and candidates. Instead of impartially modifying our previously held beliefs in the face of contradictory evidence, we tend to screen out information that challenges our existing opinions.

A study by Charles Taber, Damon Cann, and Simona Kucsova addressed the key aspects of how prior attitudes influence the processing of new information on policy issues. Their experiments explicitly called on participants to evaluate the *strength of arguments* on various issues—not the *strength of their agreement* with the viewpoint the argument defended.[19] Even though the researchers' protocol clearly asked participants to share impartial evaluations of argument strength, comparison of the participants' ratings with their previous attitudes showed two important trends in their processing of policy-related arguments:

- An *attitude congruence bias*, or a tendency to give a strong rating to arguments that support participants' prior attitudes. The stronger the previous belief, the greater the tendency to give supporting arguments a good rating.[20]
- A *disconfirmation bias*, or a tendency to devote more time and thought to discounting and generating criticisms of arguments that do not support one's earlier beliefs.

Participants with strong prior attitudes took an average of 30 percent more time to rate arguments that were inconsistent with their previous beliefs than they did with consistent arguments, a discrepancy that the researchers interpreted as a sign of "deeper processing" of inconsistent arguments. The researchers also asked participants to provide brief comments after each rating. When commenting on arguments inconsistent with their earlier attitudes, those with strong prior beliefs tended to include more remarks expressing their disagreement or providing disconfirming evidence in the form of counterarguments.[21]

It is important to note that such biases do not apply only to policy issues. A study by David Redlawsk exposed test subjects to a simulated electoral campaign to examine how opinions of candidates formed early in the simulation affected subjects' processing of campaign information in later stages of the experiment. Subjects exhibited similar trends in the processing of information regarding political candidates. That is, information inconsistent with test subjects' existing preferences (1) elicited greater processing time and (2) tended not to be taken into account when test subjects cast their vote for the candidate of their choice.[22] To express the findings in the terms introduced earlier, the attitude congruence bias and the disconfirmation bias influenced how test subjects evaluated and ultimately accepted or rejected information about political candidates. Interestingly, Redlawsk found these trends to be mitigated significantly among test subjects who were told that they would be asked to remember details about the simulated campaign and to justify their choice of candidate to the researcher at the end of the simulation. That is, additional motivation for test subjects to process information *accurately* made the impact of early preferences less prominent, though the influence did not disappear entirely.[23]

Perhaps the most striking illustration of the influence of the disconfirmation bias can be found in Brendan Nyhan and Jason Reifler's 2010 study of the processing of corrective information in media reports on political issues. This series of experiments revealed a strong tendency among participants to disregard corrective information that

challenged common beliefs associated with their ideological preferences. In this study, participants answered a series of baseline factual and opinion questions to determine their level of ideological commitment and political sophistication. Then they read mock newspaper accounts in which a public figure made a statement that affirmed a widely held misperception. Articles for the test group included a correction based on authoritative evidence provided by the authors or editors of the report; articles for the control group did not include this information.[24]

For example, one of Nyhan and Reifler's experiments called for participants to read an article in which President George W. Bush asserted the necessity of the 2003 military intervention in Iraq owing to the possibility that terrorist networks could acquire weapons of mass destruction (WMDs) from Iraqi President Saddam Hussein. The test group's article also contained a corrective passage that referred to the Central Intelligence Agency's Duelfer Report, the report from an international fact-finding mission led by the American businessman Charles Duelfer sent to find the WMDs Iraq was accused of stockpiling. The report concluded that there were no such weapons in Iraq at the time of the intervention. The control group's article did not include a reference to the Duelfer Report.[25] In follow-up questions, participants in the ideological subgroup likely to hold the misperception about weapons of mass destruction in Iraq showed a marked tendency to disregard the corrective information and maintain support for the false perception. Politically liberal test subjects tended to adjust their beliefs about the presence of WMDs in Iraq to conform with the evidence in the correction, while conservative subjects tended to disregard the corrective information and maintain their belief that such weapons in Iraq posed a genuine threat.[26]

Moreover, the data revealed that conservative respondents frequently became *more convinced* of the presence of WMDs after having encountered corrective information that would appear to disprove the presence of such weapons. Rather than tempering their convictions in the face of countervailing evidence, several test subjects became so defensive about the misperception that they actually came away *more convinced* of its truth than they had been prior to encountering the disconfirming corrective information. The researchers referred to this trend as the "backfire effect,"

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and they recommended further testing to determine whether such reactions are more prevalent among conservatives than among liberals.[27]

These examples serve as empirically documented illustrations of the "decentered" nature of the "incomplete person" Dervin referred to in her critique of the prevailing narrative on information and democracy. The attitude congruence bias and the disconfirmation bias indicated in these studies suggest that the ready availability of authoritative political information is no guarantee of the clear-headed appraisal and use of information implied in the notion of "informed democracy."[28]

Information Seeking and Confirmation Bias

In addition to influencing the manner in which we process and evaluate information, our prior beliefs may also affect the choices we make in seeking information. In a 2006 study of how undergraduates processed the arguments of interest groups on the issues of gun control and affirmative action, Charles Taber and Milton Lodge found that the majority of participants tended to seek out information from groups whose public positions were most congruent with their own attitudes, a tendency that the researchers referred to as a "confirmation bias." For example, on the issue of gun control, political conservatives tended to seek out information from the National Rifle Association and the Republican Party and to avoid information from the Brady Campaign to Prevent Gun Violence.[29] Participants tended to follow this pattern of sticking to ideologically sympathetic sources despite the experimenters' attempts to encourage them to take an evenhanded approach to their search so that they could better explain the issue to other students. Interestingly, the tendency to refer to sympathetic sources when seeking information was more pronounced among participants with relatively high levels of political sophistication.[30]

Valdis Krebs's 2004 study of book-buying patterns on the websites of Amazon.com and Barnes & Noble showed that Americans who purchased political books with a significant ideological bent showed a strong tendency to buy other books on the same side of the ideological spectrum, only rarely crossing partisan lines.[31] Scott Lilienfield, Rachel Ammirati, and Kristin Landfield take this study as an illustration of the confirmation bias at work outside the laboratory.[32]

R. Kelly Garrett, Dustin Carnahan, and Emily Lynch stressed that confirmation bias should not be confused with a systematic, defensive avoidance of information sources that conflict with one's prior opinions. Their study of Americans' usage of online news sites from 2004 to 2008 suggested that, although news seekers tend to gravitate toward more ideologically consistent sources, increased use of ideologically consistent sources correlated with greater usage of ideologically discrepant news sources as well. In other words, heavy users of MoveOn.org, a progressive public policy group, or CNN.com, a cable news network sometimes considered liberal, will likely spend some time on the more conservative Fox News website as well. Although use of counter-attitudinal sites was less frequent among the most committed ideologues and those with a relatively low interest in politics, this study suggested that deliberately shielding oneself from sources that challenge one's existing beliefs was not the norm.[33]

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Again, the findings in these studies reinforce Dervin's critique of the notion that to provide information encompassing a breadth of perspectives is sufficient for an open-minded exchange of ideas in which citizens consider a variety of points of view when updating their beliefs.[34] Confirmation bias makes it likely that users will seek out information sources that tend to affirm their existing beliefs and attitudes.

Limits to Motivated Reasoning

For all its remarkable influence, motivated reasoning is not so pervasive that we are completely unable to use political information to update our beliefs in a reasonable way. A longitudinal study of presidential approval ratings by Alan Gerber and Donald Green showed that Democrats, Republicans, and independents all tended to adjust their ratings of the president's performance in similar ways in response to national events. If motivated reasoning completely dominated public opinion, one would expect that, during an economic downturn, Republican ratings of a Democratic president would dip, while Democratic ratings for the same president would remain relatively constant. Instead, Republicans, Democrats, and independents all lowered their ratings by comparable amounts. This consistency led the researchers to conclude that the effects of motivated reasoning "may be more apparent in people's immediate reactions to new information. The polarizing effects of information that have occasionally been observed in the laboratory may simply be too short-lived to manifest themselves in aggregate time series spanning months or years."[35]

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Furthermore, it appears that even motivated reasoners can only withstand so much disconfirming information before revising their existing beliefs. A campaign simulation study by David Redlawsk, Andrew Civettini, and Karen Emmerson established the existence of an "affective tipping point," a threshold that subjects reached after encountering a significant amount of "bad press" about their initially preferred candidate. Once test subjects reached this tipping point, they stopped exhibiting signs of a disconfirmation bias in favor of their initial choice and selected a new candidate.[36] Redlawsk and his colleagues estimated that, outside the laboratory, the threshold for defensive processing might be relatively high, such that "candidates who need to win new voters without alienating their bases should be able to lean to the middle, as long as they don't lean too far."[37]

Mitigating Motivated Reasoning

This research uncovered no "silver bullets" that negate the influence of motivated reasoning completely. Indeed, a review by Lilienfeld, Ammirati, and Landfield suggested that the obstacles against effective intervention are varied and substantial, not least of which is a significant level of difficulty in recognizing biases in one's thinking, identified by Emily Pronin, Thomas Gilovich, and Lee Ross as the "bias blind spot."[38] Likewise, merely telling students that motivated reasoning has an impact on their information processing is apt to yield mixed results because students who view themselves as intelligent, fair-minded people will likely meet this revelation with a level of disconfirmation bias.

However, research points to at least a few encouraging leads for diminishing the impact of motivated reasoning. Education in metacognitive strategies (for example, "consider all sides of an issue before drawing a conclusion") seems a logical place to start, but research on the effectiveness of this approach is mixed. Daniel Willingham

suggested that biased thinking might be mitigated by instruction in critical thinking strategies, so long as critical thinking skills were not presented in the abstract but taught in the context of domain knowledge.[39] Teaching students to evaluate arguments in an evenhanded manner may work best in lessons that take advantage of students' background knowledge of political issues, health issues, and research skills.

A study by Nyhan and Reifler showed that having test subjects engage in a self-affirmation exercise significantly reduced their level of defensive processing when faced with counter-attitudinal information on policy issues.[40] Peter Harris and Lucy Napper's research on the motivated processing of health-related information yielded similar results. Their study of college students showed that self-affirmation exercises reduced the tendency to disconfirm or disregard health messages connecting heavy alcohol consumption with a higher incidence of breast cancer.[41] In both studies, the self-affirmation exercise consisted in having the test subjects identify an important value and write about how that value influences their conduct. This rather modest intervention enabled test subjects to deal more evenhandedly with information that challenged their perceptions about their own knowledge and health.

Nyhan and Reifler also found that presenting challenging information in a chart or graph tends to reduce disconfirmation bias. The researchers concluded that the decreased ambiguity of graphical information (as opposed to text) makes it harder for test subjects to question or argue against the content of the chart.[42]

In sum, although significant empirical evidence shows that our prior beliefs tend to exert an impact on how we process new information, the effects of motivated reasoning are not absolute—it is still possible for a concern for accuracy to outweigh our tendency to preserve our existing beliefs. Nor is motivated reasoning so hardwired into our perceptions and thinking that its effects cannot be reduced (though it may never be eliminated entirely). But motivated processing of political information does pose a significant challenge for librarians and other IL educators who aspire to make a positive impact on their students' lives as citizens. Ideally, citizens use political information to learn how to cast their vote, where to lend their support, when to advocate, when to resist, and when to keep quiet until they learn more. Therefore, the higher education of citizens should include awareness of the factors that can influence or obstruct their capacity to learn about political matters. Motivated reasoning is among those factors.

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Thesis 3

Information literacy education should include awareness of motivated reasoning, particularly its influence on our interactions with political information.

We have established that motivated reasoning is a salient issue for IL education, especially insofar as information literacy concerns itself with lifelong learning and informed

citizenship. We have also reviewed research that identified motivated reasoning as a powerful but not insurmountable influence on how individuals search for and evaluate information about political candidates and policies. The remaining question is the most difficult of all: what should IL educators *do* about motivated reasoning's impact on the processing of political information?

Motivated reasoning poses a multilayered pedagogical problem. It calls for students to learn about the nature of motivated reasoning as a psychosocial phenomenon that exerts a negative influence on how our society uses media. Motivated reasoning also calls for students to account for its influence in their own interactions with political information. Merely introducing motivated reasoning as a prevalent psychological feature may not be sufficient to elicit a difference in individuals' behaviors and judgments because using psychological concepts to analyze one's own thinking is notoriously tricky. As Pronin, Gilovich, and Ross point out, "The processes that give rise to most biases are unlikely to leave a phenomenological trace accessible to simple introspection."[43] It will take additional instructional work to encourage students to face motivated reasoning as something that can happen to them.

What would this sort of instruction look like? While this question calls for further exploration by scholars and practitioners in the IL community, a few questions appear particularly salient even at this early stage of inquiry.

Question 1

What resources are available in the existing literature of information literacy and library instruction?

Although the studies reviewed in this essay point out graphic representations of information and self-affirmation exercises as techniques for mitigating motivated reasoning, we can almost certainly develop methods that are more explicitly educational. If we succeed, students will cultivate an awareness of the topics that tend to arouse bias in information processing. They will also develop strategies for vetting their own judgments and decisions involving provocative information. The end result may not be perfect objectivity in the processing of political information—motivated reason-

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ing is both too pervasive and too elusive to hope for such an outcome. Instead, we can help students explore and appreciate the nonrational aspects of how people process information. To circle back to Dervin's notion of the incomplete person, students need to recognize that in our dealings with information, we are "sometimes unconscious, sometimes decentered, sometimes disordered."[44] Ideally, this sensitivity to our limitations will prompt us to be more tentative and more deliberate in our interactions with information.

Fortunately, some in the IL community are already developing techniques to support and challenge students as they question their own assumptions about information and knowledge. Troy Swanson's work on the intersections between information literacy and "personal epistemology" is particularly promising in this regard.[45] Drawing on the work of educational and developmental psychologists such as Barbara Hofer,[46] Swanson established that our assumptions and beliefs about the nature of learning and knowledge have an impact on how we use information to learn. For example, an individual who believes that knowledge in a certain domain consists of a set of discrete, relatively static facts will likely achieve a sense of certainty on a research question much more quickly than someone who views knowledge as provisional, relative, and evolving.

Swanson drew upon research into personal epistemology to argue that "ill-structured problems" prompt students to reflect on their own epistemic assumptions. In the absence of straightforward answers to such problems, students are forced to consider the processes they use to evaluate the information available to them. Questions to guide these reflections include: "What information do you trust? What causes you to disagree with a piece of information? Whose voice is included/excluded?"[47] Each of these questions invites one to consider personal as well as external factors that shape one's judgment—that is, not just the subject matter of the information and the medium through which the information is expressed but also the assumptions and attitudes one brings into an encounter with information.

As an example of using "ill-structured problems" to stimulate student learning, Swanson shared his experience leading a class in which students considered a variety of media reports on the 1994 Rwandan genocide. Students were asked to pay particular attention to whose perspectives the media tended to emphasize and whose points of view were most frequently excluded. Swanson reported that student attitudes evolved over the course of their work, moving from assumptions such as "[I thought] the media just told us what happened" to an appreciation of the power of journalists to shape public opinion by choosing "which voices to include and which voices to exclude."[48]

Framing instruction around the notion of personal epistemology is advantageous insofar as learning and knowledge include both external and internal aspects. Instead of focusing exclusively on factors that contribute to the certainty or uncertainty of the information one encounters, an emphasis on knowledge and learning also calls into question the reliability of the learner interacting with the information. This sort of teaching provides opportunities to introduce motivated reasoning as a frequent obstacle to working with information in an evenhanded way.

Question 2

How do we address the processing of political information without offending sensitive students?

A further question is how best to address controversial matters with students. Recent discussions of "trigger warnings" in higher education, notifications that teachers are supposed to provide if class material might provoke a strong emotional response, suggest that it is easy to cross the line between challenging students and offending or upsetting them.[49] Students can take offense even when instructors steer class discussions away from controversial issues to avoid offending them.[50] Even if instructors filter out

partisan motivations as they broach political questions with their students, it seems easy for students to interpret instruction on political matters as an attempt by the instructor to coerce them into adopting the instructor's point of view.[51]

Yet addressing controversial issues in class has important pedagogical advantages. It engages students in learning by connecting their experiences in class with issues that people care about outside the classroom. Making controversial questions the focus of learning also provides invaluable opportunities for students to learn what it means to discuss and make inquiries into potentially contentious issues in a civil manner. *Discussion as a Way of Teaching* by Stephen Brookfield and Stephen Preskill is a promising starting point for learning

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about ways to structure classroom discussion in a manner that promotes mutual respect, though many of their methods may need to be adapted for the compressed time frames in which librarians typically work with students.[52] It is critical that we develop techniques to address political subject matter in a way that challenges students without making them feel threatened or treated unfairly.

Question 3

How can librarians find time to work with students in the intensive way that meaningful education on motivated reasoning would seem to require?

Given the complexity of motivated reasoning, successful instruction will likely require considerable time. As such, motivated reasoning is not the sort of issue that can be successfully addressed by the typical librarian strategies such as one-shot classes and brief videos that students watch on their own. Instead, to make headway with this problem, librarians will need to work extensively with departmental faculty. This requires cultivating opportunities to work with faculty to design instruction, assignments, and curriculum.[53] Although the literature on librarian-faculty collaboration is extensive, collaborations that address the fair-minded use of information as citizens may pose a special challenge because they require the librarian to go beyond the traditional library instruction activities of helping students to locate and evaluate information sources. Fitting models for initiating collaborations for teaching more conceptual subject matter should be forthcoming, particularly as librarians develop partnerships with faculty to teach the concepts outlined in the ACRL's new Framework for Information Literacy for Higher Education. Such partnerships may involve the library instructor and the classroom teacher working together to facilitate learning activities, or these collaborations may involve librarians working with faculty to develop lesson plans that instructors implement on their own.[54] In either case, the success of the strategy advocated in this article—that is, using "ill-structured problems" to prompt student reflection on the obstacles to knowledge—will hinge on a commitment to experimentation, careful planning, and the flexibility to stay in conversation with students wherever their reflections might take them.

Conclusion

A growing body of research in political science and psychology indicates that motivated reasoning exerts a harmful influence on our processing of political information. Foundational and aspirational documents for the information literacy movement advocate for IL's importance by describing it as a set of concepts and skills integral to lifelong learning and informed citizenship. Given the IL community's commitment to these ideals, it follows that we should expand our priorities to include educating students about how motivated reasoning can influence their interactions with political information. Pedagogical and practical considerations make this change difficult to implement. The pedagogical approach most likely to stimulate deep reflection on motivated reasoning—that is, supporting students as they work through ill-structured problems—has just begun to take shape in the literature of IL education. Furthermore, such methods take considerable time and will likely require extensive collaboration with departmental faculty. If scholars and practitioners in the IL community will undertake the research and development required to address these issues, IL educators can live up to our commitment to promote informed citizenship in a more intentional, fruitful way.

But librarians should not pursue educating students about motivated reasoning merely as a way to draw their practice in line with their ideals. Most importantly, this sort of education is a matter of preparing students for the challenge of educating themselves in a deceptively confounding information landscape. A crucial aspect of the current information environment is the ease with which people can confuse informing themselves with merely taking in information that is familiar. Shortly after the November 2015 terrorist attacks in Paris and Beirut, an "On the Media" radio interview with Marc Lynch, professor of political science and international affairs at George Washington University in Washington, D.C., touched on this slippery aspect of our media institutions. Host Brooke Gladstone asked whether today's news media somehow "enable" the 2016 presidential candidates to propose extreme immigration policies against Syrian nationals. Lynch's response is worth quoting at length:

> I think you really see the cultivation of these more extremist types of views, nurtured and shaped within these very insular online communities of the like-minded . . . those [views] now bleed very effortlessly up into the broadcast media, and now, the news, the opinion, the flow of images and information, so much of it goes through social media first and then is reflected back out from the broadcast media.[55]

As the broadcast media increasingly reflect what Lynch calls the "echo chamber" of our social online life, motivated reasoning makes it easy to cleave to the familiar and to disregard or disparage the plurality of perspectives that inevitably accompany complex political issues. At the national level, this dynamic contributes to the rise in ideological polarization alluded to at the outset of this essay. At the level of the individual, the implications are equally distressing. Our students have an unprecedented breadth of information resources at their fingertips, yet there is a significant danger that they will miss the opportunity to engage with those voices that hold the greatest prospects for growth. Collecting confirmations of one's existing views is a poor substitute for meaningful learning.

Support for self-directed learning is central to the mission of the academic library. Modern academic (and public) libraries have a long-standing tradition of combating intellectual narrowness by providing their communities with broad, balanced collections of information resources. More recently, libraries have offered educational programming to develop students' abilities to search for, evaluate, and use information resources—that is, information literacy. When successful, these programs empower students to ask sophisticated questions about a source's reliability. As mentioned earlier, the library's contribution to the ideal of informed citizenship involves pro-

> **Our students have an unprecedented breadth of information resources at their fingertips, yet there is a significant danger that they will miss the opportunity to engage with those voices that hold the greatest prospects for growth.**

viding this combination of information resources and discernment regarding their use. Libraries travel further along this educational trajectory by helping students reflect critically on their own reliability as processors of political information. Given our fractured media environment, our bias toward information that confirms our existing opinions, and the cyclical way in which these two factors exacerbate each other, supporting this sort of reflection must be the library's next step in supporting self-directed learning.

Mark Lenker is a teaching and learning librarian in the Department of Educational Initiatives at the University of Nevada Las Vegas; he may be reached by e-mail at: mark.lenker@unlv.edu.

Notes

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3. One frequently hears the term *confirmation bias* used to describe this phenomenon. This essay uses *motivated reasoning* as the broad term to describe the negative influence that previous beliefs have on the processing of new information, and *confirmation bias* as a more specific term to describe how existing beliefs influence our searching for new information. This usage helps to differentiate motivated reasoning's influence on different phases of information processing. Reserving the term *confirmation bias* to describe a specific type of motivated reasoning follows the taxonomy employed by Charles S. Taber and Milton Lodge in "Motivated Skepticism in the Evaluation of Political Beliefs," *American Journal of Political Science* 50, 3 (2006): 763–64.

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discussions civil can end in disastrous consequences for instructors. In an effort to keep her class free of homophobic remarks, a teaching assistant in philosophy attempted to avoid discussing the legitimacy of gay marriage. This offended a student who felt the issue should be up for discussion, and the student confronted the teaching assistant while surreptitiously recording their conversation on his phone. The offended student then shared the recorded conversation with a tenured professor with a prominent online presence. This professor published a disparaging blog post about the teaching assistant, thereby embroiling them both and their university in a highly publicized fiasco.

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