

Necessary Conditions for Improving Civic Competence: A Scientific Perspective

Arthur Lupia
University of Michigan

“Faced with the choice between changing one's mind and proving that there is no need to do so, almost everyone gets busy on the proof.” *Galbraith's Law of Human Nature*

This manuscript presents an argument developed in Chapter 3 of the book manuscript, *Questioning Our Competence: Elitism versus Science in the Quest to Create Better Citizens*. I thank Rosario Aguilar-Pariente, Justin Magouirk, Jesse Menning, Gisela Sin, and audiences at the Duke University School of Law, the University of Texas, Yale University, the University of North Carolina, and in the University of Michigan Psychology Department's Decision Consortium for helpful comments.

I. Introduction

Webster's defines a person as *competent* if she has "requisite or adequate ability or qualities."¹ As synonyms, it lists *able* and *sufficient*. Webster's definitions for *able* include "having sufficient power, skill, or resources to accomplish an object" and "marked by intelligence, knowledge, skill, or competence."²

Such definitions are worth noting because concerns about a special kind of competence motivate many public and private activities as well as a widely read strain of contemporary philosophy. The competence in question is *civic competence*, by which I mean a citizen's ability to accomplish well-defined tasks in their role as voter, juror, or legislator.

Civic competence is a central preoccupation of people who believe that important segments of the population lack critical skills. Many observers contend that citizens know so little about politics that they make important social decisions in an inferior manner. Reinforcing such perceptions is the frequently reported finding that many Americans are unable to answer survey-based political knowledge questions correctly.³

If citizens are incompetent, what is the optimal response? Actual responses vary. Many simply decry the situation, doing nothing more than bashing the masses for not being more interested in politics. A special few attempt a more constructive response. Some advocate and others implement mechanisms designed to change the amount and content of information available to citizens.

Prominent scholars, legislatures, and foundations participate in this endeavor. Scholars contribute by attempting to document extant levels of political knowledge and by extolling the virtues of civic education. Public and private entities direct resources towards activities such as voter education campaigns and political information web sites. When such efforts enhance civic competence, they constitute valuable public goods.

¹ WEBSTER'S NEW COLLEGIATE DICTIONARY 227 (1981).

² *Id.* at 3.

³ MICHAEL X. DELLI CARPINI AND SCOTT KEETER, WHAT AMERICANS KNOW ABOUT POLITICS AND WHY IT MATTERS (1996) contains a recent inventory of such findings.

My goal, in this paper, is to increase the effectiveness of scholarship and practice conducted for the purpose of increasing civic competence. I want to make success more likely for such ventures and failures or inefficiencies easier to anticipate. To this end, I have integrated empirical findings on human cognitive capacities with theoretical insights about the dynamics of communication in political contexts to produce a set of necessary conditions for increasing civic competence. These conditions, and their implications for a wide range of competence-related proposals, will be fully described in *Questioning Our Competence: Elitism, Deliberation, and the Science of What Citizens Know About Politics*. In this paper, I focus on three of these conditions.

I refer to the first necessary condition as *The Battle for Attention and Working Memory*. If one person wants to increase the competence of others by providing information to them, the target audience must pay attention to that information rather than all of the other stimuli that regularly compete for their attention. Physical attributes of working memory – the cognitive apparatus through which all incoming stimuli are initially processed – impose severe constraints for those who desire a target audience’s attention. In short, we cannot help but ignore almost all of the information that is presented to us.⁴ This fact is frequently overlooked in claims about how to improve civic competence. Advocates of many competence-inducing proposals falsely presume that these constraints will not apply to them. As a result, this battle is far harder to win than many civic competence advocates anticipate.

I refer to the second condition as *The Battle for Elaboration and Long-Term Memory*. In short, even if a piece of information is attended to, it can increase competence only if it is processed in a particular way. Increasing competence requires that new information produce a *unique cognitive legacy* in the target audience’s long-term memory. But not any legacy will do. The change in long-term memory must be one that corresponds in a particular way to the tasks for which greater competence is desired.

⁴ DANIEL L. SCHACTER, *THE SEVEN SINS OF MEMORY: HOW THE MIND FORGETS AND REMEMBERS* (2001) argues that this trait is an evolutionary result that is generally beneficial to humans.

Several scientific research agendas, including clinical research on memory and experimental research on persuasion, clarify the mechanics of long-term memory changes. Among other things, this research shows that what people remember about a particular event or speech is often very different than what those who provide information might hope for. An implication of this work is that many people who write about or attempt to increase civic competence are far too overconfident in their ability to change another person's long-term memory in ways that increase that person's competence.

I refer to the third condition as *The Battle at the Precipice of Choice*. Even if a piece of information yields a unique cognitive legacy in long-term memory, it can increase competence only if the new information is acted upon later. Specifically, a person must decide to act on the new information rather than old information that may have worked well for them in the past. The persistence of status quo biases in decision-making is but one force that renders this battle more difficult to win than is commonly appreciated.

These necessary conditions, along with others described in my book but not here, reveal serious challenges for those who make broad and general claims about the benefits of endeavors such as civic education programs and deliberative mechanisms. They reveal that inattention to current and evolving social scientific knowledge about attention, memory, persuasion, and strategic communication is a recipe for failure and inefficiency.

Indeed, a direct implication of my work is that something is wrong with many scholarly and practical attempts to address problems of civic incompetence. Many are built from flawed assumptions about how citizens seek and process information. Consider, for example, attempts to increase civic competence that are based on the assumption that providing more information about politics is sufficient to improve civic competence. My work shows that the transmission of

socially relevant information, however, is no “field of dreams.” It is not true that “If you build it, they will come” nor is it true that if they come, the effect will be as advocates anticipate.⁵

What is true is that many efforts to improve civic competence provide information that target audiences ignore. Other attempts confuse those for whom greater clarity was intended. Either outcome entails serious consequences. In addition to the social costs that come from propagating extant civic incompetence, society pays a cost when entities capable of providing valuable public goods induce well-meaning individuals and foundations to invest in schemes *whose failure and inefficiency are anticipatable*. When scholars and advocates, however admirable their goals, induce others to invest their time and energy into flawed competence-generating mechanisms, they cause precious resources to be squandered or, at best, used inefficiently. It is important, therefore, to understand when and how proposals to enhance civic competence can have the kinds of effects that advocates claim or desire.

Fortunately, the necessary conditions described in this paper yield engineering principles that can help others adapt to the challenges that can be overcome. In sum, my work shows how greater attention to basic scientific principles can help people who want to increase civic competence use the generosity of donors and the hard work of well-intentioned citizens more effectively.

The paper continues as follows. First, I discuss the topic of competence more precisely. Then, I introduce the necessary conditions for increasing civic competence described above. Next, I describe implications and applications of these conditions – focusing in this paper on the

⁵ This phrasing is in reference to the 1989 film *Field of Dreams*, which was released by Universal Studios and starred Kevin Costner. In it, a bankrupt Iowa farmer, played by Costner, is haunted by an otherworldly voice that urges him to convert his cornfield into a baseball diamond. Soon after he does so, the ghosts of early 20th century baseball players, including the farmer’s deceased father, come to life and play baseball games on the field. The movie’s final scene shows people coming from far and wide to watch the games, an image that justifies the farmer’s faith in the ethereal voice.

It is possible that attempts to increase civic competence can experience such Hollywood endings – with people from far and wide realizing the dream of increased competence. But don’t bet the farm on it. Such outcomes require the satisfaction of necessary conditions that are far more numerous and far more difficult to satisfy than many who work to increase civic competence appreciate. They require more than blind faith.

contention that deliberation is an effective way to increase civic competence. Applying the necessary conditions to this topic reveals a need to revise and clarify common expectations about what deliberation can accomplish. A brief concluding section follows.

II. Defining Competence

I focus on competence as a technical skill. By this I mean the following: We can define a task in such a way that it is either accomplished or it is not. Suppose, for example, that a person who knows facts X, Y, and Z can successfully accomplish task T. It is consistent with the definition given above to call this person competent at T.

Increasing competence through the provision of information, therefore, requires changing another person's beliefs and actions in particular ways. *Not any belief change will do.* Suppose, for example, that we can define a competent vote as the one that a person would cast if she knew where a specific set of candidates stood with respect to a well-defined list of major policy debates. For our effort to increase her competence she must *not* be voting competently initially and the information we provide must *cause* her to do so. Note that merely observing that our efforts induced her to report belief changes provides no direct evidence of increased competence. Instead, we must observe belief and behavior changes consistent with the stated criterion for task completion. In the example given, we must observe a person voting as she would have if she knew where the set of candidates described above stood with respect to the list of major policy debates described above.

Others measure citizen competence in different ways. Several common metrics are deeply problematic. For example, many scholars and pundits use responses to "knowledge questions" on political surveys to draw conclusions about citizens' competence as voters. Their arguments take the form "Person A does not know fact X or Y or Z, therefore Person A will vote incompetently in election T." Proving that such arguments are logically consistent requires a demonstration that knowledge of X, Y, and Z *is necessary for competence* (i.e., that no subset of these facts or alternate set of facts also allow task T to be accomplished successfully.)

Many critics who make broad claims about civic incompetence fail to attempt or complete such proofs. For example, evidence that citizens cannot provide correct answers to common political survey questions is equivalent to observing that a person does not know fact Z in the example above. The conclusion that such observations constitute *prima facie* evidence of citizens' incompetence as voters is premature, at best. If facts other than Z are sufficient for citizens to accomplish the stated task, then knowing Z cannot be a necessary condition for competence.

Other people use the term competence in an ideological manner – asserting that a set of statements *with which they agree* should be privileged in social decision making. In this paper, my usage of the term is orthogonal to such uses. Here, I neither support nor refute specific claims about the kinds of normative truth claims that should be privileged in political discussions. Instead, I clarify conditions under which the introduction of an information-generating device – such as a new opportunity for deliberation -- leads a given piece of information to a target audience's ability to accomplish a particular task. While I regard debates about the role and attributes of moral competences important, I contend that the process of converting a person who lacks such competence at Time 1 to someone who has them at Time 2 depends very much on the necessary conditions I describe below and very little on claims about which shared values are required to legitimize social arrangements.

III. Necessary Conditions

In this section, I offer a framework for assessing the likely benefits and failures of proposed competence-generating mechanisms. My framework directs attention to a set of conditions that these mechanisms must satisfy if they are to generate the kinds of outcomes that many civic competence advocates desire. Here, I focus specifically on necessary conditions for a particular mechanism to provide information sufficient for the accomplishment of a specific task.⁶

⁶ For example, if increasing civic competence entails advantaging “the force of the better argument,” then what follows is equivalent to examining when information sufficient for the accomplishment of that task

To derive these conditions, I apply and integrate insights from research agendas whose origins span the social sciences. Where possible, I draw from insights that have been widely replicated and whose applicability to the problem at hand is transparent.

A. Existence Conditions

If an attempt to improve civic competence is to provide information sufficient for the accomplishment of a specific task, it is first necessary that the task is, in fact, possible to accomplish. If such a statement seems trite, it is worth noting how casually the idea contained within it is overlooked. Consider, for example, calls for citizens to “know all the facts” about the consequences of voting a particular way in an electoral contest. What does it mean to know all the facts when voting for a member of Congress? A legislator’s partisan identity may provide a clue as to how she will act in a wide range of activities, as might knowledge of a legislator’s voting or work history. But it is also likely that neither piece of information provides “all the facts.”

Indeed, knowing all the actions that a member of the House of Representatives will take in the course of an upcoming term requires a level of clairvoyance beyond that of any voter. Unless the voter has enough information to anticipate all issues that Congress will address – including unexpected shifts in the economy or foreign crises -- and to predict correctly which legislators preferred policy responses will prevail in Congressional committee deliberations and in attempts to amend specific bills on chamber floors, she cannot know all the facts that will determine the personal or social consequence of her electoral decision. Unexpected issues arise during Congressional terms. These issues provide legislators with unforeseen challenges, induce them to forge new legislative alliances, and force them to make unexpected compromises. All such contingencies cannot be known in advance.

When a person poses omniscience as the standard for civic competence, then incompetence is inevitable. So perhaps we can agree that when our goal is to increase civic

can be conveyed to those whose competence depends on it. However, the assumption of such equivalence does not in any way affect the logic of my following argument.

competence, impossible standards have no direct practical usefulness. If so, then we can also agree on the merit of working to determine what information is necessary or sufficient to accomplish specific tasks.

What information is a competent voter to use? With respect to the ability to accomplish a specific political task, let us presume that certain facts are needed. Let us also recognize that the required facts may vary from task to task – different knowledge may be required when voting in a local school board election than when voting for a Senator or President. While many people who comment on civic competence treat data derived from political knowledge measures as generalized metrics of citizens’ political abilities, even minimal retrospection reveals that knowing the name of the Chief Justice of the Supreme Court turns out to be a necessary condition for very few, if any, of the specific tasks that society asks most citizens to accomplish.

Elsewhere, I address the correspondence between knowing certain kinds of facts and having the ability to accomplish certain tasks directly.⁷ To simplify this paper, I simply assert that such facts exist and that they are quite different than many people claim.⁸ Put another way, we can agree that some factual knowledge is necessary for civic competence, but can disagree about the extent to which existing measures of “political knowledge” or “political sophistication” are relevant the quality of citizen decisions. I do this so that we can focus on the important task of clarifying necessary conditions for a proposal to increase civic competence to reach its goal. In

⁷ This topic is covered in *Who Can Increase Civic Competence*. An earlier version of the argument appears in Arthur Lupia (N.d.) "What We Should Know: The Case for Voter Competence." Forthcoming in Pierre Martin and Richard Nadeau (eds.) *Making Big Choices: Individual Opinion Formation and Societal Choice*.

⁸ Some people who advocate greater competence are vague about the kinds of tasks they want others to accomplish. In many cases, their claims are the result of elite actors asserting that facts that are helpful to them in their lines of work (e.g., political scientists, policy advocates, political pundits) are necessary for citizens to be competent. Perhaps this is true. But I think that we can agree that auto mechanics and political pundits need to accomplish different tasks to succeed in their jobs and that the different tasks entail knowing different facts. Just as it would be silly for an auto mechanic to insist that a political pundit know facts that are of great use in fixing automobiles, it may be silly for elite actors to insist that people who vote only occasionally and have otherwise limited opportunities to affect political outcomes know the same facts about politics as those who are paid to know such things. In sum, some elite actors presume the importance of facts with which they are familiar without ever questioning whether these facts are necessary or even sufficient for a target audience’s to accomplish a particular task.

other words, I now focus on cases where there exists a potential transfer of information that is sufficient to increase a target audience's competence at a specific political task – such as whom to vote for in an upcoming election.

For a mechanism to increase competence, it must involve two kinds of participation. First, it must include input from people who possess the information. Second, it must include an opportunity for people who lack this information to receive it. To see why both groups are necessary, note that if everyone comes to the session possessing the information, then there are no “students,” and if no one comes to the session possessing the information, then there is no one capable of “teaching” in a way that provides the skill to the target audience.

It is also necessary that the participants be allowed to communicate in ways that do not prevent the information sufficient for increasing the target audience's competence from being conveyed or received. Deliberative theorists' call for recognizing all participants as free and equal is often sufficient to satisfy the condition. Such attributes are not, however, sufficient to satisfy the necessary conditions for enhancing civic competence that follow below.

B. Persuasive Conditions

To provide information sufficient for the accomplishment of a specific task, it is necessary that the mechanism cause the people with the information to persuade *at least some* people who do not initially have it to accept it.⁹ At the same time, the mechanism should not cause all people who initially possess the information to be persuaded to disregard it. If, for example, accomplishing a task competently requires the belief “choosing A is best for everyone,” then the mechanism should not persuade everyone to replace that belief with a contrary one.¹⁰

⁹ I adopt the definition of persuasion as “human communication designed to influence others by modifying their beliefs, values, or attitudes.” Herbert W. Simons, *PERSUASION: UNDERSTANDING, PRACTICE, AND ANALYSIS* 21 (1976).

¹⁰ I use the term belief to reference a concept that psychologists often call attitudes and economists often call preferences. My motivation is that we are focally concerned with an individual's orientation towards an object and in the conditions under which the orientation can change. The orientation will be based in part on beliefs about what will happen as a result of interactions with the object and beliefs about how the person will feel given potential outcomes of that interaction. Across the social sciences, there are big

What conditions are necessary to produce such persuasion? To answer this question, it is helpful to think about the currency of exchange in communicative environments. I refer to this currency as an utterance. An *utterance* is a cluster of sounds or images that people use to convey ideas.

A casual view of human communication treats utterances as if they allow ideas to travel from one mind to another unadulterated – as if the ideas motivating the utterance are absorbed *en masse*. Yet this view is contradicted by a basic fact about human communication – all but the simplest utterances are *parsed*. People assign meaning to a word, a sentence, a paragraph, a speech, by breaking it down and paying attention to some parts while ignoring many others.¹¹ For example, when reading a newspaper or watching a television program, people vary in the attention that they pay to certain aspects of it, they do not simply consume all of the content as a whole – they pick the presentation apart.

For a competence generating mechanism to provide information sufficient for the accomplishment of a specific task, it is necessary that a speaker's target audience parse utterances in a way that allows the sufficient information to change the belief they initially held. Many advocates of competence-generating mechanisms overlook this requirement. They proceed as if that persuasion is a seamless process for which universal aspects of how people parse utterances present no important complications. An expansive scientific literature proves such generalizations erroneous.

differences in the labels used to express these concepts. My choice is motivated by a desire to clarify important aspects of belief/attitude/preference change in an intuitive and brief manner for a multi-disciplinary audience.

¹¹ Steven Pinker, *THE LANGUAGE INSTINCT: HOW THE MIND CREATES LANGUAGE* 196-222 (1994). Indeed, the same point can be made about a much wider range of environmental stimuli such as images Patricia S. Churchland, Terrence J. Sejnowski, *THE COMPUTATIONAL BRAIN* 141-238 (1991). Also see Eric R. Kandel, James H. Schwartz, Thomas M. Jessell, *ESSENTIALS OF NEURAL SCIENCE AND BEHAVIOR* 387-406 (on the parsing of visual images) and 667-694 (on the processing of language).

C. Success Requires at Least Three Cognitive Victories

Many researchers examine why, when, and how one person can induce another to change her ideas. Psychologists conduct laboratory experiments on persuasion that document correspondences between the attributes of a speaker or his utterances and the reactions of his target audience.¹² Economists construct models of strategic communication that clarify how factors such as self-interest and competition affect the credibility of utterances.¹³ Cognitive scientists develop neural networks that document the kinds of experience patterns or motivations that an organism would need to change its orientation towards performance-relevant objects.¹⁴ These and other scientific literatures provide important insights about when and how ideas can be transferred.¹⁵ As such, they provide evidence useful for understanding when a proposed competence-generating mechanism can provide information sufficient for the accomplishment of a specific task.

Collectively, this work implies that if a competence-generating mechanism is to increase a target audience's competence, it must satisfy three necessary conditions:

1. The sufficient information must win the battle for attention and working memory.

¹² Carl I. Hovland, Irving L. Janis, Harold H. Kelley. COMMUNICATION AND PERSUASION: PSYCHOLOGICAL STUDIES OF OPINION CHANGE (1953). William J. McGuire *Attitudes and Attitude Change*, in HANDBOOK OF SOCIAL PSYCHOLOGY (Gardner Lindzey, Elliot Aronson, eds. 1985).

¹³ At least two economic literatures are relevant. One is the literature on strategic communication, which includes A. Michael Spence. MARKET SIGNALING: INFORMATIONAL TRANSFER IN HIRING AND RELATED SCREENING PROCESSES (1974); Vincent Crawford, Joel Sobel, *Strategic Information Transmission*, 50 ECONOMETRICA 1431-51; and a review by Jeffrey S. Banks, SIGNALING GAMES IN POLITICAL SCIENCE. (1991). The other is the literature on mechanism design which includes Roger Myerson, *Mechanism Design by an Informed Principal*, 51 ECONOMETRICA 1767-98 (1983) and a review by Thomas R. Palfrey, *Implementation in Bayesian Equilibrium: The Multiple Equilibrium Problem in Mechanism Design*, in ADVANCES IN ECONOMIC THEORY, SIXTH WORLD CONGRESS, VOL. 1 (Jean-Jacques Laffont, ed. 1992)

¹⁴ Patricia S. Churchland, Terrence J. Sejnowski. THE COMPUTATIONAL BRAIN (1992). Andy Clark, ASSOCIATIVE ENGINES: CONNECTIONISM, CONCEPTS, AND REPRESENTATIONAL CHANGE (1993).

¹⁵ Samuel L. Popkin, THE REASONING VOTER: COMMUNICATION AND PERSUASION IN PRESIDENTIAL CAMPAIGNS (1991). Diana C. Mutz, Paul M. Sniderman, Richard A Brody (eds.), POLITICAL PERSUASION AND ATTITUDE CHANGE (1996). James L. Gibson, *A Sober Second Thought: An Experiment in Persuading Russians to Tolerate*, 42 *Am. J. Polit. Sci.* 819-50 (1998). Shanto Iyengar, Nicholas Valentino, *Who Says What? Source Credibility as a Mediator of Campaign Advertising*, in ELEMENTS OF REASON: COGNITION, CHOICE AND THE BOUNDS OF RATIONALITY (Arthur Lupia, Mathew D. McCubbins and Samuel L. Popkin, eds, 2000).

2. The sufficient information must win the battle for elaboration and long-term memory.
3. The sufficient information must win the battle at the precipice of choice.

These cognitive battles represent research themes most relevant to questions about when competence-generating mechanisms have desired effects. In this paper, I shall focus most of my attention on the first battle, providing brief explanations of the latter two. This practice keeps the discussion to a reasonable length. The kinds of theory and evidence used in my description of the battle for attention are representative of the theory and evidence used to explain the other battles in my book.

1. The Battle for Attention and Working Memory

“[T]he brain is not a *tabula rasa* – it cannot be influenced arbitrarily by stimuli – but is limited to detecting and associating only certain stimuli and not others.” Kandel, Schwartz, and Jessell (1995: 662).

a. The Target Audience Must Attend to Certain Aspects of the Utterance

When one person attempts to convey an idea to others, the utterance is but one of many stimuli to which members of a target audience can attend. In the battle for attention, an utterance must fend off competitors such as aspects of prior or future events with which a person may be preoccupied, the simultaneous actions or utterances of others, background noise, the color of the wallpaper, and so on. For the utterance to deliver a specific idea, the target audience must also pay specific attention to the parts of the utterance necessary to convey the idea. For example, if someone says “Colin Powell contends that the Iraqis have not disarmed” and knowing this fact is essential to accomplishing a specific task, then the target audience must parse the utterance in a way that leads to them adopt this particular view of the relationship between Powell and the Iraqis. If the target audience focuses *exclusively* on one aspect of the statement, say it hears Colin Powell attributes of his that have nothing to do with his relationship to the Iraqis, then exposure to the utterance need not result in the target audience acquiring the information that accomplishing the task requires.

b. The Utterance Must Be Perceived to Correspond to an Important Outcome.

The fact that paying attention to an utterance precludes attention to other stimuli in one's environment implies that attention is associated with what economists call opportunity costs – a metric for sacrificed opportunities. Such costs give people an incentive to direct their attention in ways that rationalize the sacrifices. An actor who wants to survive and prosper in an environment where her choices correspond to her well-being and where her attention-related resources are scarce will have incentives to attend to stimuli that are very likely to cause a large increase in the pleasure one experiences or a large decrease in the pain. For example, people in the path of a fast-moving train have an incentive to direct much of their attention to any stimulus that will help them to avoid the train.¹⁶

If the sufficient information is conveyable in utterances that provide greater decreases in pain or increases in pleasure than other available stimuli, then it has an advantage in the battle for attention. If, by contrast, the audience views the utterance less urgently, the sufficient information will not get attention. In such a case, persuasion is impossible and the utterance will not yield increased competence.

In some cases, moreover, increasing competence will require that an audience attend to and process a complex string of utterances in a particular way – such as occurs when competence requires the target to understand multiple parts of a difficult argument. When can we expect an audience to sustain their attention long enough to process the complex utterance string? The answer is not simple. Consider, for example, research on the phenomena that psychologists refer to by names such as priming, framing, and agenda setting. In each case, an early part of an utterance string changes how people process its later elements.¹⁷ So, if priming causes a person to ignore the latter part of an utterance, and if understanding the sufficient information requires

¹⁶ Lupia and McCubbins at 21-30.

¹⁷ See, for example, David O. Sears, *Symbolic Politics: A Socio-Psychological Theory*, in *EXPLORATIONS IN POLITICAL PSYCHOLOGY* (Shanto Iyengar and William J. McGuire, eds. 1993) and James N. Druckman, *The Implications of Framing Effects for Citizen Competence*, 24 *POLITICAL BEHAVIOR* (2002, forthcoming).

attention to the latter part, then priming prevents the target from receiving the sufficient information. The phenomenon labeled cognitive dissonance can have related effects as people who anticipate that an utterance will produce an aversive emotional state may ignore the utterance in an attempt to avoid the state.¹⁸

c. Who Wins the Battle Depends on Communicative Choices.

Other research provides important clues about how people choose the utterances to which they attend. Studies of the brain and language, for example, reveal that there is not generally a 1:1 correspondence between ideas stored in the brain and the words that one can use to express these ideas. Ideas are stored as activation potentials in neural networks. They represent associations between a person's body and their environment, but need not correspond directly to particular words. As a result, most ideas can be expressed in multiple ways.¹⁹ We describe death differently to adults than to children. We explain scientific phenomena differently to experts than to novices. When we are rushed for time, we use different words to explain a concept or relation than we would if we had more time. In short, a general attribute of language is that we choose how to express our ideas.

So, if a speaker wants to persuade others to attend to and believe the sufficient information, he may have an incentive to present the idea in a particular way. That is, he will have an incentive to condition his utterance on the audience's likely reaction. At the same time, the audience – knowing that most words have multiple meanings – may need to seek additional information about the circumstance that produced the utterance in order to infer its meaning.

In politics, where *who* a particular argument benefits can provide valuable information about whether something is personally beneficial, the audience may have an incentive to condition its reaction to the utterance on the speaker's motivation for offering it. If, for example, I know that you have the same preferences as I do on trade policy with Mexico, then I may use this

¹⁸ LEON FESTINGER, *A THEORY OF COGNITIVE DISSONANCE* (1957).

¹⁹ For different views on the correspondence between ideas and their expression, see GEORGE LAKOFF, *WOMEN, FIRE, AND DANGEROUS THINGS: WHAT CATEGORIES REVEAL ABOUT THE MIND* (1987) or STEVEN PINKER, *WORDS AND RULES: THE INGREDIENTS OF LANGUAGE* (1999).

information to derive a meaning from your utterance that I might have interpreted differently had I known us to have conflicting interests. Alternatively, my interpretation of your claim about the effectiveness of a particular policy may depend on whether I know you to be a conservative or a liberal.

When people choose how to express their ideas, it is properly described as strategic. When people think about how to interpret information provided by others, this too has a strategic component. When speakers who can choose how to express themselves interact with people who can choose how to respond, their interaction is properly characterized as *strategic communication*.

Anyone who observes legal argument, legislative debate, negotiations, or a political campaign does not need to be told that participants are strategic in how they choose what to say and what to believe. Game-theoretic analyses of such situations clarify the consequences of such interactions. These studies show that if a target audience *perceives* a speaker to have sufficiently conflicting interests, or no expertise on the issue at hand, then they will ignore any utterance from that speaker.²⁰ The findings parallel efforts in psychology that identify speaker attributes that affect persuasiveness.²¹ Since an audience is often uncertain about these attributes, perceptions of them affect how they parse utterances.²² In sum, even if a speaker possesses information that can increase a target audience's competence, his or her low credibility with that audience prevent the target audience from paying attention to it.²³ When attempting to increase civic competence, source credibility matters.

²⁰ Crawford and Sobel at 1448, Lupia and McCubbins at 54-55.

²¹ Daniel J. O'Keefe, *PERSUASION: THEORY AND RESEARCH* (1990) at 130-157.

²² Lupia and McCubbins at 50-51.

²³ This phenomenon appears to affect jury decision-making. There, the proportion of high-status white males selected, as jury foreman is extraordinarily unrepresentative of their numbers in the juror population. Phoebe Ellsworth, *Are twelve heads better than one?* 52 *LAW AND CONTEMPORARY PROBLEMS* 213 (1989). Whether this difference is consequential for the jury's competence depends on the extent to which the foremen are more likely to possess better arguments and to be more persuasive than others.

d. Physical Limits of Working Memory Are Severe

Above and beyond the attributes of attention just mentioned there are the barriers to increasing competence posed by the physical limitations of short-term, or working, memory. Working memory (a.k.a., primary memory and short-term memory, henceforth WM) is the activity in the brain where information from the world is kept available for access into long-term memory.

For the purposes of this paper, two WM attributes are particularly important: very limited capacity and extremely high rates of decay. Many scientists have examined WM's capacity. While there is no exact agreement on the number of items (a.k.a., chunks) that can be stored simultaneously in WM, there is agreement that the number is less than a dozen (Kandel, Schwartz, and Jessell 1995: 664) and a high concentration of results suggesting that the typical operative limit is five to nine items.²⁴ This means that at any moment, of all of the stimuli to which you could attend, you must ignore all but perhaps six or seven.

In the decision contexts we are examining – those of politics – the number six or seven represents a severe constraint on attention. To see why, I ask you to contemplate the set of items that are competing for one of WM's few “parking spots” at any particular moment. At that moment, you could think about the word “dog,” a letter in the word “dog”, the shape of a letter in the word “dog”, various possible meanings of the word, dogs you knew in the past, other words, other sentences on the page, other pages, other items in the room in which you are reading this paper, items in other offices, other people, past events, particular attributes of past events, future events, particular attributes of future events, and so on. Many moments provide us with large numbers of stimuli to which to attend. At those moments we have no choice but to ignore almost everything that could occupy one of the six to seven parking spaces.

Many people who want to improve civic competence presume that the information they offer is of such high quality that their target audience will just naturally pay close attention. Such

²⁴ Alan Baddeley. HUMAN MEMORY: THEORY AND PRACTICE (1990). Needham Heights, MA: Allyn and Bacon, Inc.

outcomes require possession of a parking spot in WM and the odds of victory in this competition are far less than many advocates appreciate.

Put another way, there is a substantial difference between wanting someone's sustained attention and getting it. And even if a person does attend to us at a given moment, they are constantly confronted with streams of new stimuli. Therefore, even when we achieve a momentary victory of attention, the battle for a parking spot in WM rages on.

One consequence of this continuing competition is very high decay rates. In the absence of what some neuroscientists call rehearsal and many social psychologists call elaboration, an item can persist in WM for no more than a few minutes. As Daniel L. Schacter (2001: 28) notes

“Working memory...must constantly discard what is no longer needed at the moment, and devote its resources to the temporary storage of incoming information. Unless a special effort is made – such as repeating a sentence over and over again – information is lost from the system almost immediately after it appears.”

Indeed, the unit of time that best describes the persistence of most items that are lucky enough to even enter WM is milliseconds. As a result, if a person does not work to elaborate on the stimulus, it disappears – and if never elaborated or never again able to win the battle for one of the roughly 7-9 spaces in WM, the item is – from a cognitive perspective -- gone forever. It is treated in long-term memory as if it never existed.

These physical attributes of WM have many implications for how to (and how not to) increase civic competence. For present purposes, I will emphasize that the mere presentation of an utterance by someone who wishes to increase another's competence cannot be presumed sufficient for such an increase. Only very special kinds of utterances in very special kinds of circumstances stand a chance in battles for attention and WM.

Many mistakes about the likely success of a competence-generating mechanism can be avoided by paying greater attention to the factors that make *The Battle for Attention and Working Memory* difficult for any given piece of information to win. For example, many people proceed as if their proposal for increasing civic competence is akin to a “field of dreams” believing that “if

you build it, they [an audience] will come.” Such conclusions tend to overlook the very severe capacity limits of attention and WM. But one need not study brains to witness the error in such claims. As Schroeder (2001) points out there are already many opportunities for civic engagement and most operate at far less than full capacity.²⁵ In a world where any particular issue is one of many potential concerns, winning the battle for attention will be difficult. For a mechanism to increase competence in practice rather than just in theory, the battle cannot be ignored -- it must be waged.

2. The Battle for Elaboration and Long-Term Memory

Once a stimulus earns attention, it must be processed. If it is processed in certain ways, aspects of it can be stored in long-term memory (henceforth, LTM) and retrieved for future use. If it is not processed in these ways, it is – from a cognitive perspective – gone forever. If it is gone forever, it provides no basis for new beliefs, which is another way of saying that persuasion is impossible and that the stimulus cannot be the basis of an increase in competence.²⁶ Therefore, a necessary condition for a competence-generating mechanism to provide information sufficient for the accomplishment of a specific task is that the utterance carrying the argument be parsed in a way that produces *a unique cognitive legacy* in LTM.

The physical foundation of LTM is found in the distribution of specialized cells throughout the brain. Chemical reactions within and across these structures generate activation potentials for particular kinds of mental responses.²⁷ You can think of activation potentials as corresponding to probabilities of recalling stimuli to which you were once exposed. Learning involves changing these activation potentials. The physical embodiment of learning that smoking

²⁵ Schroeder at 17.

²⁶ I depict memory as a process in which a stimulus can create a new memory that is not necessarily the stimulus itself. My motivation for this phrasing is work on on-line processing, which demonstrates that a stimulus can affect beliefs (and attitudes) without the stimulus itself being memorized. Reed Hastie and Nancy Pennington, “*Notes on the Distinction Between Memory-Based versus On-Line Judgments*” in *ON-LINE COGNITION IN PERSON PERCEPTION* (John N. Bassili ed., 1989).

²⁷ Kandel, et. al. 680-685, Churchland and Sejnowski 48-59.

is highly correlated with lung cancer, for example, is a change in activation potentials that makes you more likely to associate pain and death with smoking.

If one person's attempt to increase another's competence does not lead to a change in activation potentials, competence will not be increased. An attempt to increase another's competence can succeed only if it results in changed activation potentials, or what I call a *unique cognitive legacy*. Of course, not any change will do. The change must give the target the ability to accomplish a task that they were not able to accomplish before. Put another way, if an utterance does not generate a unique cognitive legacy, then the audience's beliefs must be derived from only old memories.²⁸

Several lines of social scientific research reveal how we can make better predictions about when an utterance will leave a unique cognitive legacy in LTM. Examples include the Elaboration Likelihood Model and the Heuristic Systematic Model from Social Psychology.²⁹ Each model draws inferences from combinations of theory and experiment and reveals that if a stimulus is sufficiently engaged (i.e., the central/systematic route of information processing), it will leave a stronger and more robust residue in memory.

In other words, when people take the time to contemplate what a speaker says (i.e., when they generate internal counter-arguments for the purpose of comparison; when they elaborate) these aspects of the utterance are more likely to be coded as distinct from prior aspects of memory.³⁰ These aspects of the utterance are, as a result, more likely to survive as distinct new memories. The alternative (peripheral/heuristic) route, by contrast, entails processing of details from which inferences are easily drawn (e.g., noticing that an endorsement comes from the Sierra

²⁸ For a penetrating examination of the ways in which utterances are reconstructed in the mind, consult Mark Turner, COGNITIVE DIMENSIONS OF SOCIAL SCIENCE (2001). Id. at 63-70 provides a particularly good example.

²⁹ Richard E. Petty, John T. Cacioppo, COMMUNICATION AND PERSUASION: CENTRAL AND PERIPHERAL ROUTES TO ATTITUDE CHANGE (1986). Alice H. Eagly, Shelly Chaiken, THE PSYCHOLOGY OF ATTITUDES (1993).

³⁰ “[S]ubsequent memory improves when people generate sentences or stories that tie together to-be-learned information with familiar facts and associations.” Schacter at 26.

Club rather than reading its argument.) When an audience does not take the time to elaborate on an utterance, the utterance is less likely to generate distinct memories. By implication, the many advocates of competence-generating mechanisms who implicitly assume that an audience will use the central route to process utterances are likely to have erroneous and unduly optimistic expectations about their endeavors.

To this point in my description of *The Battle for Elaboration and Long-Term Memory*, I have focused on the kind of processes that are required to produce any change in LTM. But, as mentioned above, not any change is sufficient to increase competence. Many plans to increase competence require the target audience to remember particular things about the information they are given. I conclude this section by pointing out that the correspondence between what we want people to remember, what we think they should remember and what they actually remember is more complicated than many people appreciate.

Think about the most important events in your life: your marriage, the birth of a child, the purchase of a home, times spent with your best friends, personal accomplishments, and depressing disappointments. Chances are that most of these events took place over a series of hours or days. How much do you remember about them? Again chances are that even if you focus as hard as you can you can generate only a few seconds of distinct memories about them and about these few seconds you can remember only a few attributes. Recall of elements in LTM is not like bringing up an old document on your computer. It is not the case that upon recall, you can access the entire event instantly with no loss in the quality of the memory. Recall works in a different way.

“The information stored as explicit memory is the product of processing by our perceptual apparatus.... Once sensory information is stored, later recall is not a faithful reproduction of the original stored information. Recall involves a process in which representations of past events are used as close that help the brain reconstruct a past event.” Kandel, Schwartz, and Jessell (1995:656).

Many lines of memory research reveal substantial differences between what people remember about an event and its actual attributes. This research also reveals such tendencies in

recall to be the cost of having a multi-purpose cognitive system that allows us to navigate a wide array of environments quickly and effectively.³¹

Many critics of existing levels of civic competence complain about the attributes of politics to which citizens tend to pay attention and remember (e.g., scandals and personal details). Such complaints can yield interesting normative debates about what people should do. However, they are a terrible foundation for attempts to increase civic competence. Instead of basing strategies on idealized notions of what people should remember, the plan will be more effective if it is based on knowledge of the kinds of things that people are more likely to remember.³²

3. The Battle at the Precipice of Choice

Suppose that all of the necessary conditions listed above have been satisfied. Suppose, that is, that the task in question can be accomplished, that there exists information that is sufficient for a target audience to accomplish the task, that we have given some who possess the information an opportunity to communicate with the target audience, that the sufficient information is communicable, and that utterances containing the sufficient information have won the battles for attention and WM and has left a unique cognitive legacy in LTM that corresponds to task completion. In such a case, at least one more condition must be satisfied for competence to increase.

This is the “battle at the precipice of choice,” where the choice in question ranges from which vote to cast to which opinion to defend in conversations with others. For the sufficient information to be advantaged – to lead to a change in a future choice -- it must replace a prior belief. So, if the sufficient information is “Blue is the best color of all” and if the mechanism is to

³¹ Schacter 2001: 190.

³² For example, “The clear expectation is that most, if not all, citizens will be biased reasoners, finding it nearly impossible to evaluate any new information in an evenhanded way. The tendency is to evaluate incoming information to support preconception and to devalue contrary evidence.” Milton Lodge and Charles Taber, *Three Steps Towards a Theory of Motivated Reasoning*, in *ELEMENTS OF REASON: COGNITION, CHOICE, AND THE BOUNDS OF RATIONALITY* 184 (Arthur Lupia, Mathew D. McCubbins, and Samuel L. Popkin eds. 2001). “The moment we want to believe something, we suddenly see all the arguments for it, and become blind to the arguments against it.” George Bernard Shaw

advantage this argument, then the mechanism must cause it to replace beliefs such as “Red is the best color of all,” “There is some chance that blue is the best color of all, but I am uncertain,” or to create a new belief for targets who have never before contemplated the correspondence.

Thus, the final battle is between old beliefs and new ones. When people are motivated to hold correct beliefs, victory depends on the extent to which the new beliefs correlate with prior observations.³³ If an argument contradicts prior experience, its likelihood of acceptance is less. Without this final victory, any advantage the mechanism offers to the sufficient information is inconsequential to the target audience’s future actions. As a result, it cannot affect their competence.³⁴

While many factors affect the extent to which new beliefs replace old ones as the basis of choice, status quo biases are particularly important in many choice domains. When given a choice between ways of acting with which one is familiar and a new way, unless the new way is perceived as clearly superior, many researchers find that it is common to stick with the tried and true.³⁵

This brief insight about the dynamics of *The Battle at the Precipice of Choice* is the last of the necessary conditions that I will introduce in this paper. Figure 1 offers a depiction of the ground covered. In what follows, I will outline some implications of this work for common claims about how to increase civic competence.

³³ Wolfgang Stroebe and Klaus Jonas, Attitude Formation and Strategies of Change, in INTRODUCTION TO SOCIAL PSYCHOLOGY, SECOND EDITION 257-8 (Miles Hewstone, Wolfgang Stroebe and Geoffrey M. Stevenson, 1996).

³⁴ Moreover, if an argument other than the better one is able to prevail at this juncture, then persuasion can occur, but competence can fail. Suppose, for example, we want to improve a target’s ability to get from point A to point B in a specific amount of time. If the most persuasive people in the room (i.e., the people perceived to be the most knowledgeable and trustworthy) do not, in fact, possess the better argument (i.e., they think they know the way, but they are mistaken), then mechanisms that facilitate deliberation can reduce the target’s competence.

³⁵ See, e.g., Daniel Kahneman, Jack L. Knetsch, and Richard H. Thaler. 1991. “The Endowment Effect, Loss Aversion, and Status Quo Bias: Anomalies.” *Journal of Economic Perspectives* 5: 93-206. Richard D. McKelvey and Talbot Page. 2000. “Status Quo Bias in Bargaining: An Extension of the Myerson Satterthwaite Theorem with an Application to the Coase Theorem.” California Institute of Technology Social Science Working Paper No. 1035.

[Figure 1 about here.]

D. A Memory and A Folk Theory That Induce Undue Optimism

I advocate greater attention to these necessary conditions as a way to improve the competence of those who seek to improve civic competence. By the standards set out above, if my allegedly sufficient information is to persuade my target audience, then it must defeat their old beliefs about what makes mechanisms effective. I close this section by presenting one such set of beliefs and by explaining why it should be abandoned.

Many people are overly optimistic about the likely benefits of competence-generating proposals because they base their projections on flawed assumptions about when and how people can change each other's beliefs. Some people refer to this process as persuasion. Others call it learning. A common explanation of how learning occurs is the set of beliefs that I ask you to reconsider.

Almost everyone can remember times *when they did not know something that they now know*. For some readers, one of those times will occur within seconds. In the United States and Europe, it is common to believe that warm places lie south of cold places. As a result, many people do not know that Venice, Italy (a place known for lovely gondolas traversing its flowing canals) is north of Buffalo, New York (a place known for long, harsh winters) and often-cold Denver, Colorado is south of often-warm Rome, Italy.

When people attempt to recall how they learned such facts, a temporal sequence often emerges. The first moment in the sequence is a "time of not knowing what they now know." Next is a *moment of discovery* – the time at which they are presented with new information that contradicts and then changes their prior beliefs.

Such recalled sequences reinforce a *widely-shared folk theory* of how people learn: take ignorance, add information, and then gain competence at tasks such as knowing which of two remote cities is farther north. The human ability to recall such sequences is nearly universal. So is the ability to describe them. As a result, the folk theory is easy to communicate. Relative to more

complex explanations of how we learn, we should expect this one to suffice in casual conversations where the cost of being incorrect is insubstantial.

But the folk theory can be deceptive. The deception takes the form of inducing people to derive a causal story about how people learn from datum insufficient for that task. The deception is a consequence of what statisticians call “selecting on the dependent variable.”

In other words, people recall the cases where the theory is accurate (e.g., we start incompetent at a specific task, we pay attention to a new piece of information, it changes our views, and we gain the ability to accomplish the task) and not cases in which it fails (e.g., we start incompetent at a specific task, we either ignore new information or use it in a way that does not increase our intelligence, and we gain no task-relevant abilities). We select on the dependent variable in this way not on purpose, but because a “state of not knowing something that we now know, moment of discovery” sequence is advantaged in LTM. Its advantage comes from the fact that the memory can be built from *only* events that have occurred.³⁶ By contrast, the theory-countering sequence “state of not knowing something that we now might have known, moment of learning what we would have known had attended or reacted to the information in a different way” contains counterfactuals – objects not directly retrievable from LTM. Counterfactual construction requires substantial cognitive effort; effort that comes only if a person is sufficiently motivated.³⁷

I contend that many people can more easily recall instances where more information led to greater competence than they can to numerous instances where such attempts failed. Indeed, the severe capacity limit and high decay rate of WM imply that we have no choice but to ignore

³⁶ In other words, the cognitive act of attempting to construct a causal story of the form “A causes B” requires access to states “not A and not B, A and B.” If either of the two states “not A and not B” and “A and B” is impossible to access, then the sequence cannot be constructed and the causal story cannot emerge. On basic properties of memory, consult Kandel, et. al. at 651-663. For a recent review of what flaws in memory imply for legal decision-making see Schacter (2001). Schacter at 91-98 focuses on properties of misattribution.

³⁷ Petty and Cacioppo at 81-90. The articles in PETER M. GOLLWITZER, JOHN A. BARGH (EDS.) THE PSYCHOLOGY OF ACTION (1995) also focus on the correspondence between motivation and cognition.

or quickly forget almost all of the information that is made available to us. In fact, it must be the case that the modal consequence of one person's attempt to educate another is failure. This fact makes the successes no less important, but it should place success – and what is required to realize it – in a more realistic context.

Tendencies to overestimate the extent to which analogies to “take ignorance, add information, and then gain competence at tasks such as knowing which of two remote cities is farther north” explain many advocates' resistance to contemplating what features are necessary or sufficient for their proposal to produce desired outcomes. Indeed, a more general problem with many claims made by advocates of deliberation and other competence-generating proposals is that they are disconnected from empirical work on belief change in the social and cognitive sciences. They do not attend to discoveries regarding aspects of perception, attention, and retention that affect how people process new information. By ignoring this literature, advocates cannot articulate what conditions are necessary and/or sufficient for their proposal to cause any particular belief or behavior change. It is, therefore, not surprising that the returns to investment in competence-generating proposals are so poorly understood.

Fortunately, an alternative strategy is available. The social and cognitive sciences are providing a set of cognitive and psychological findings from which those who theorize about or attempt to build competence-generating mechanisms can derive principles of effective design. By paying closer attention to the circumstances under which an utterance wins and loses the battles of attention, WM, elaboration, LTM, and choice, people who want to enhance civic competence can allocate their scarce resources more effectively and efficiently.³⁸

³⁸ Instances of such work on the topic of deliberation include Joseph Heath, *COMMUNICATIVE ACTION AND RATIONAL CHOICE* (2001); James Johnson, *Arguing for Deliberation: Some Skeptical Considerations*, in Jon Elster (ed.) *DELIBERATIVE DEMOCRACY* (1988); Michael A. Neblo, *THINKING THROUGH DEMOCRACY: DELIBERATIVE POLITICS IN THEORY AND PRACTICE*, Ph.D. Dissertation, University of Chicago Department of Political Science (2000) and Lynn Sanders, *Against Deliberation*, 25 *POLITICAL THEORY* 347-376 (1997).

IV. Implications for Deliberation

Under what conditions can increased deliberation enhance civic competence? Claims on this topic are often based on arguments made by prominent philosophers and political theorists. The arguments conclude that an expanded use of deliberation in politics produces a number of tangible benefits including increased civic competence.

A brief version of such arguments is as follows: assembling groups of people who have diverse abilities into settings that are designed to generate new information flows results in the less knowledgeable participants gaining a broader and more accurate understanding of the consequences of their actions. Participants not only learn more by increased exposure to the ideas of others, but the specter of public justification – having to justify one’s own claims before an audience of equals – induces speakers to constrain the extent to which their arguments reflect their self-interests. So not only do deliberation participants receive new information, but also the content is different than that which the media or purely self-centered introspection provide.

Contemporary thinking on the benefits of expanded deliberation in politics focuses on the ideas of Jürgen Habermas, particularly his claims about the properties of what he calls an “ideal speech environment.”³⁹ Fishkin characterizes this environment as follows:

“In this situation, all arguments are answered in a context of free and equal discussion. All arguments deemed relevant by anyone in the discussion are given as extensive a hearing as anyone wants and people are willing to consider all the arguments on their merits. We can imagine questions receiving a virtually unlimited amount of time so that, in the end, the only force leading to a resolution of any question is the “force of the better argument.”⁴⁰

Habermas’ goal is worthy and his attempt to reason through a systematic way of achieving the goal is extraordinary. But are deliberative proposals, whether “ideal” in Habermas’ sense or striving to achieve other ideals, capable of elevating the “force of the better argument” in citizens’ political decision making? Or are deliberative mechanisms among the many competence-generating ideas that cannot live up to their advocates’ advance billing?

³⁹ JURGEN HABERMAS, THE THEORY OF COMMUNICATIVE ACTION (1984) and BETWEEN FACTS AND NORMS (1986).

⁴⁰ JAMES S. FISHKIN, THE VOICE OF THE PEOPLE 40 (1995).

There are reasons to doubt deliberation's advocates. The necessary conditions described above are chief among them. Other conditions described in my book pose additional challenges. Consider, for example, that deliberative groups must adopt explicit or implicit agendas that determine the order in which participants speak. Since statements must be made in some order, the phenomenon that psychologists refer to as priming can occur.⁴¹ If priming occurs in deliberative settings, what people learn from deliberation can depend as much on the order in which statements are made as they can on the content of the statements themselves.⁴²

Similarly, studies of complex systems, artificial intelligence, and organizational decision-making provide mixed messages about when we should expect deliberation to breed competence. Indeed, there are many situations in which the aggregation of opinions can *decrease* what individuals understand about the consequences of their actions (e.g., the organizational malady known as *groupthink*).⁴³ Studies of the incentive effects of institutions in political science and economics further reveal how explicit and implicit rules of a deliberative environment can dramatically affect how speakers represent their ideas, thus limiting what target audiences can learn.⁴⁴ Detailed studies of actual deliberative environments reveal other limits, such as the fact

⁴¹ Klaus Fiedler, *Processing Social Information for Judgments and Decisions*, in INTRODUCTION TO SOCIAL PSYCHOLOGY, SECOND EDITION 140-143 (Miles Hewstone, Wolfgang Stroebe and Geoffrey M. Stevenson, 1996).

⁴² The mechanics of priming are determined, in part, by the limited capacity and high decay rates of working memory described above. Others, choosing a different level of analysis than I described above, study priming in its own right. Examples include E. Tory Higgins, William S. Rholes, and Carl R. Jones, *Category Accessibility and Impression Formation*, 13 J. OF EXPERIMENTAL SOCIAL PSYCHOLOGY 141-154 (1977). Thomas K. Srull and Robert S. Wyer, *Category Accessibility and Social Perception: Some Implications for the Study of Person Memory and Interpersonal Judgments*, 38 J. OF PERSONALITY AND SOCIAL PSYCHOLOGY 841-856 (1980). Barbara Tversky and Michael Tuchin, *A Reconciliation of the Evidence on Eyewitness Testimony: Comments on McCloskey and Zaragoza*, 118 J OF EXPERIMENTAL SOCIAL PSYCHOLOGY: GENERAL 86-91 (1989).

⁴³ "Groupthink obtains when the decision process of a highly-cohesive group of like-minded people becomes so overwhelmed by consensus seeking that their apprehension of reality is undermined." Eddy Van Avermaet, *Social Influence in Small Groups*, in INTRODUCTION TO SOCIAL PSYCHOLOGY, SECOND EDITION 518-520 (Miles Hewstone, Wolfgang Stroebe and Geoffrey M. Stevenson, 1996). For a more general and multi-disciplinary overview, consult NATIONAL RESEARCH COUNCIL, LEARNING, REMEMBERING, BELIEVING: ENHANCING HUMAN PERFORMANCE (1994).

⁴⁴ These matters are regulated by properties of long-term memory cited above. Other scholars study these problems at a different level of analysis focusing on strategic communication dynamics directly. Joel Sobel and Vincent Crawford, *Strategic Information Transmission*, 50 ECONOMETRICA 1431 (1982) is a famous example of a class of models that set out a simple communicative environment in which preference

that face-to-face deliberation “accentuates rather than redress[es] the disadvantage of those with the least power in society” (Mansbridge 1983: 277).⁴⁵ Indeed, other researchers have noted important selection effects in who opts for deliberation when the choice is voluntary.⁴⁶

Such findings reveal as false the presumption that the more knowledgeable people in a deliberative environment are necessarily more influential – even on average. As the alleged benefits of many deliberative devices depend on those with greater knowledge being more persuasive than people who lack knowledge, such findings can undermine important claims about deliberation’s benefits. Particularly imperiled is the claim that proposed deliberative mechanisms necessarily or even frequently elevate the “force of the better argument.”⁴⁷

For a deliberative mechanism to work as its advocates claim often requires substantial investments of effort and capital. When they work as advertised, the benefits can be tremendous. If such investments are based on flawed assumptions – such as folk theories of how we learn that are contradicted by existing social scientific knowledge -- and if there are variations of the mechanism’s design or other valuable endeavors to which the resources could have been directed, then the consequences of failed or inefficient endeavors are tragic. Those who study and attempt to implement deliberative mechanisms as remedies to civic competence problems can use social scientific insights to reduce the number and magnitude of these tragedies.

Paying greater attention to the necessary conditions listed above provides one means for theorists and practitioners to achieve this aim. At a minimum, merely recognizing that such conditions exist can dissuade people from assuming that providing new opportunities for

divergence between a speaker and his target audience decreases what the latter learn from the speaker’s statements. ARTHUR LUPIA AND MATHEW D. MCCUBBINS, *THE DEMOCRATIC DILEMMA: CAN CITIZENS LEARN WHAT THEY NEED TO KNOW* (1998) use models and experiments to clarify how the structure of political institutions affects who can learn what from whom.

⁴⁵ JANE MANSBRIDGE, *BEYOND ADVERSARY DEMOCRACY* (1983).

⁴⁶ JOHN R. HIBBING AND ELIZABETH THEISS-MORSE, *STEALTH DEMOCRACY: AMERICANS BELIEFS ABOUT HOW GOVERNMENT SHOULD WORK*, 2002.

⁴⁷ The challenges described above are by no means unique to advocates of deliberation. Promoters of many politically oriented web-sites began with the notion that merely providing information would be sufficient to give target audiences new politically-relevant knowledge and skills and ended with the realization that few people paid attention to their efforts and even fewer were affected by them.

information transmission are equivalent to improved civic competence. Greater attention to these conditions will have the added benefit of generating questions that advocates of competence-generating mechanisms should ask if they want to reconcile broad claims about performance with the actual capacity of the devices they support.

V. Conclusion

My research is devoted to clarifying how competence-generating mechanisms work. My preliminary goal is to steer those who want to build civic competence away from unreliable folk theories of learning. My primary goal is to steer these same people towards a more productive and constructive way of thinking about building civic competence.

This manuscript reveals just a few of the many attributes that I have identified in the course of my work that constitute necessary conditions for success in attempts to increase civic competence. If considered carefully, these conditions can help well-intentioned people avoid common mistakes of the past. It can be beneficial to practitioners who are seduced by “field of dreams” fallacies -- such as the assumption that the mere act of providing information is sufficient to improve the skill level of the unskilled. It can also help those whose otherwise compelling ideas are undermined by the belief that ideas travel seamlessly from one mind to another.

Extant social scientific research has clarified important dynamics of persuasion and memory that can be applied to questions of how to give a target audience new skills. Work in political science and economics provide the added benefit of clarifying communicative dynamics when at least some participants have an incentive to choose their words or interpret utterances strategically. Scholars and practitioners alike can benefit from greater attention to this class of scientifically validated observations.

Philosophers, civic leaders, and scientists alike recognize the importance of a competent citizenry in a properly functioning democracy. Most also recognize that civic competence can be improved. I agree. And to that end, I ask that people working in this field to stop for a moment

and quietly contemplate their own competence for the task at hand. The common practice of otherwise well-intentioned people substituting empirically empty platitudes for firm evidence about the mechanics of belief change as the basis for claims about how to best increase civic competence is ironic and counterproductive. When such claims lead people to invest scarce resources such as their time and energy into practices whose practical foundations are largely ethereal, the outcomes are tragic as well.

To those who ask that we change our democratic practices, or that citizens change behavioral norms in order to reach an enlightened state of political interaction, we should demand that they demonstrate their competence in achieving the outcomes they describe. This requires asking direct questions about the conditions under which their designs can succeed. At a minimum, those who fund, support, and agree to participate in or be affected by such mechanisms should put faith only in those people who can satisfy the necessary conditions detailed above.

In sum, I believe that there are conditions in which current attempts to increase civic competence can have many of the effects that their advocates claim. I also find conditions under which they can have no effect as well as effects that are counterproductive to their advocates' aims. For exercises in deliberation, and for the construction of civic competence generally, the road to progress lies in learning how to tell the difference. In other words, progress will come from arguments that bind themselves to practical relevance through a commitment to building from scientific discoveries.

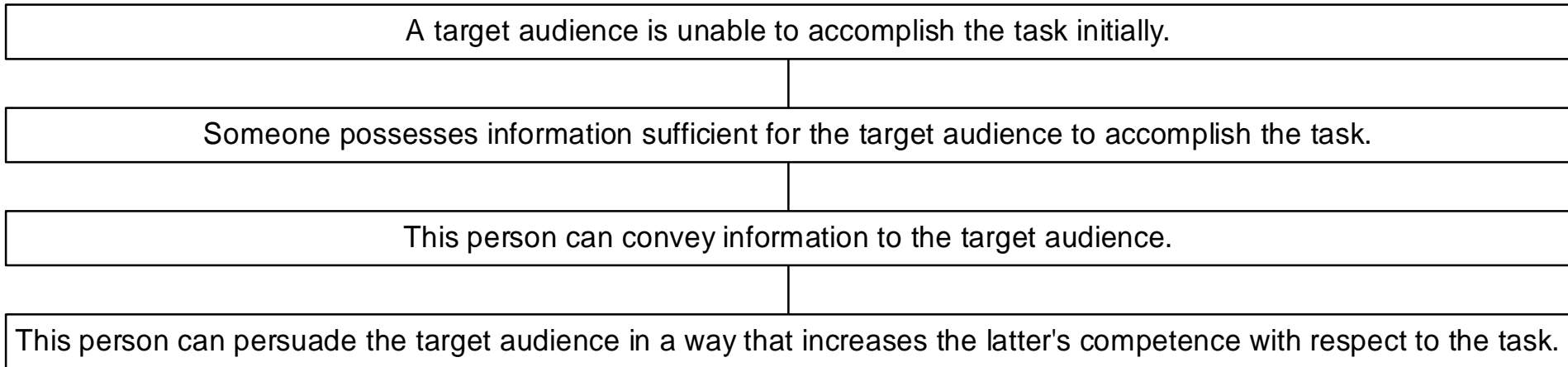


Figure 1. Initial Necessary Conditions for Improving Civic Competence

Necessary Conditions for Increasing Civic Competence

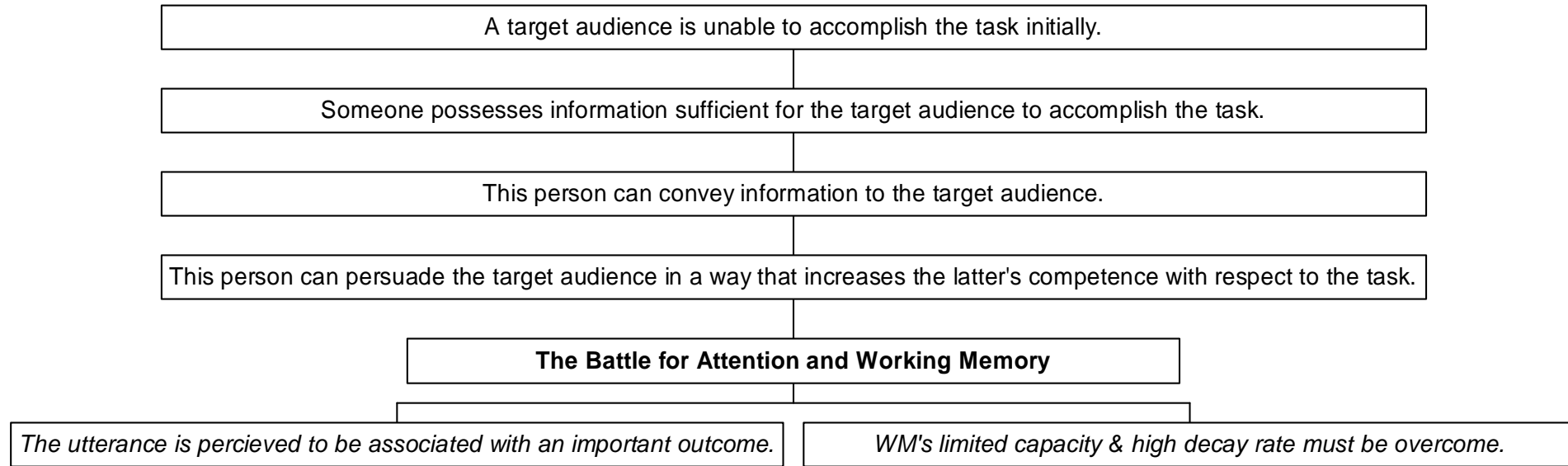


Figure 2. Adding The Battle for Attention & WM to the Necessary Conditions

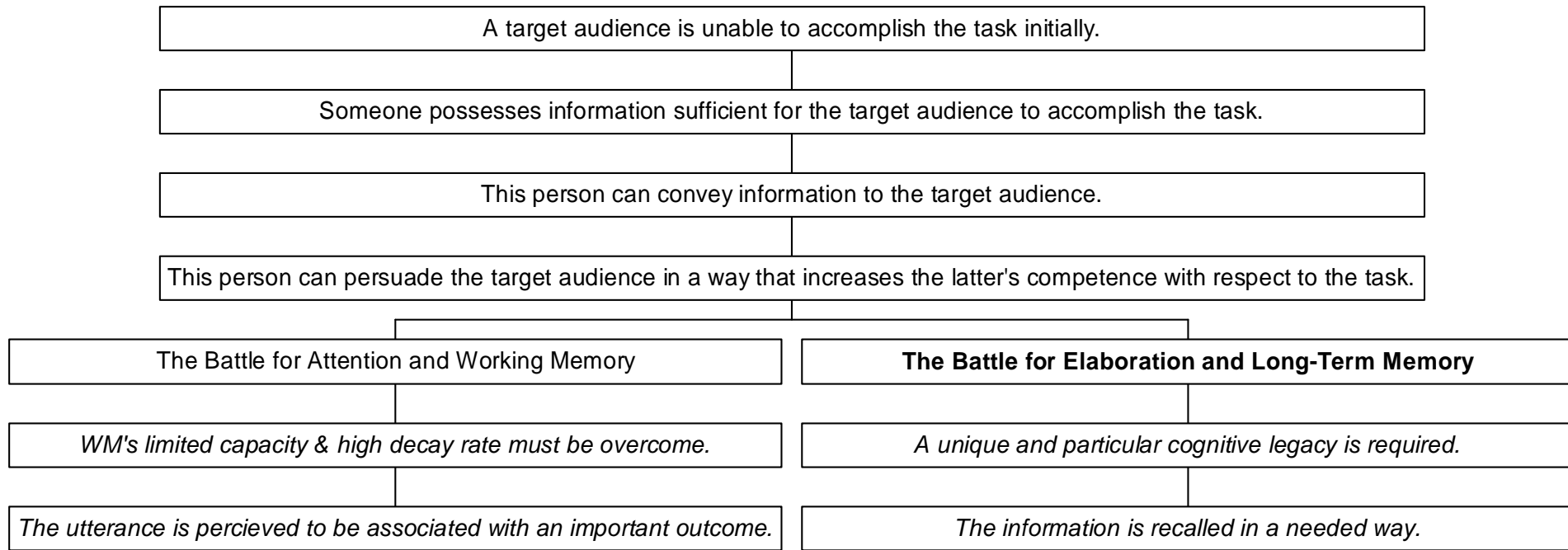


Figure 3. Adding the Battle for LTM.

Necessary Conditions for Increasing Civic Competence

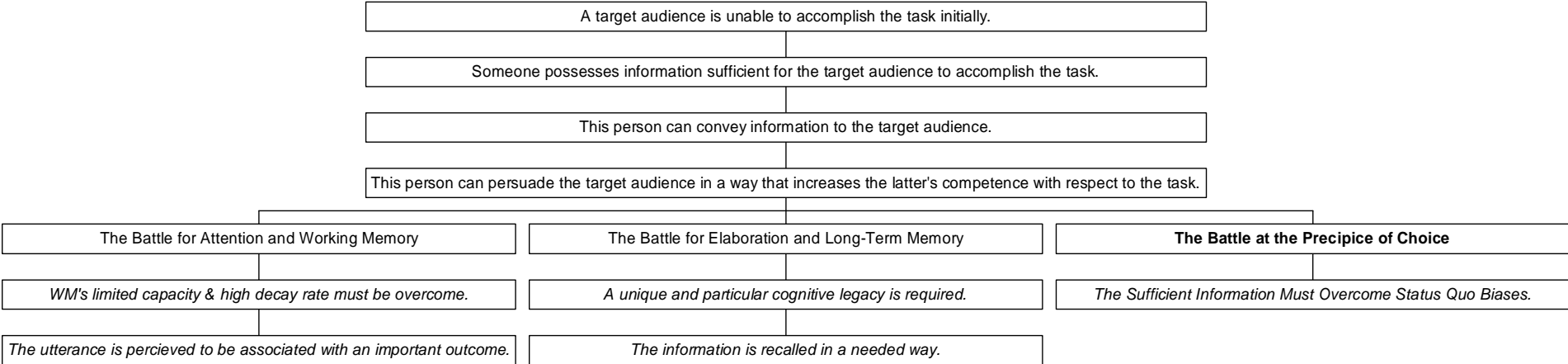


Figure 4. A Full Diagram of the Necessary Conditions Described in this Paper.