Bayesian Learning Model of Personal Experience, Issue Opinion and Candidate Evaluation

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Abstract

In this chapter I develop a Bayesian learning model that describes how individuals incorporate experiences and information into their political judgments. The theory uses Zaller’s RAS model as a starting point, detailing how personal experiences are both analogous to other sources of political information, yet differ in crucial ways such as volume of information and credibility. Four predictions are presented, the most important two hypotheses being that personal experience with an issue (1) moderates cue-taking on that issue and (2) increases the predictive power of that issue for candidate evaluations. This causal effect does not rely on increased salience of the issue either consciously or subconsciously in the voter’s utility function, which distinguishes the model from research on priming and issue publics.

1 Introduction

Prominent research in political science (Campbell 1960; Bartels 2002) emphasizes the long-lasting attachments voters have to political parties. Yet large portions of the electorate switch parties from election to election or split their ticket within one election. These defections are often explained by the preferences of voters relative to the candidates (Downs 157; Enelow and Hinich 1984; Carmines and Stimson 1990). The debate over relative effects of partisan identification versus issue opinion continue in recent research (Ansolabehere et al. 2008). This dissertation synthesizes the arguments from both camps, demonstrating how party identification and issue opinions interact and jointly form individuals’ political judgments. To provide observable predictions of the theory, this dissertation emphasizes the role of personal experience in political evaluations. Two recent anecdotes illustrate this connection.
From the 2004 to the 2006 elections, the percentage of Hispanics identifying as Democrats, as measured by exit polls, jumped by 15 percentage points (from 43% to 58%), while non-Hispanics showed no increase in their inclination to be identified as Democrats. This trend toward favoring the Democrats continued in the 2008 election, with Obama garnering 67% of the Hispanic vote, as compared to the 53% who supported Kerry. Hispanics’ response to questions in the 2006 survey shed light on the underlying reason for the massive movement: 37% of Latinos indicated that the issue of “illegal immigration” was “extremely important” in their voting decision (compared to only 29% of the non-Latino population). While immigration policies might not personally affect these voters (as they were already citizens), their involvement in the Hispanic community most likely gave them firsthand experience with the immigration issue.

As Hispanics were flocking to the Democratic party, active duty military personnel were leaving the Republican party in droves. A 2004 mail survey of subscribers to *Military Times* found that 60% of active duty personnel identified as Republicans. The same survey in 2006 found that this percentage had dropped to 46%. Republican affiliation among the electorate at large (as measured by exit polls) dropped only 1.5 percentage points over these two years. In 2008, Obama outperformed Kerry among the active military and veterans despite both Kerry and Obama’s opponent being veterans. Almost assuredly, the wars in Iraq and Afghanistan had a profound effect on the political views of the military.

This dissertation argues that changes in an individual’s political allegiance are likely to occur when the political parties take identifiable positions on issues with which the individual has significant personal experience. When a large group of people have experience with a prominent issue (e.g., Hispanics and immigration, the military and the Iraq War), substantial changes can occur in the political landscape. Under more common circumstances, an individual’s partisan bias weighs heavily on their political decision-making process as they adopt the positions of ideologically-similar elites. I develop a Bayesian model to capture these dynamics; the model’s implications extend to situations without a partisan cue (e.g., political primaries) and inform the actions of campaigns that use the nascent political tactic of microtargeting.

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1I need to wait about a month to get party ID exit poll data from 2008.
2 Theory and Hypotheses

As demonstrated by Hispanics and the military after the 2004 election, large segments of the population can be persuaded to change parties from one election to the next. However, the thrust of the research on political persuasion does not account for these changes, especially when the changes are pronounced in specific groups. The Bayesian model presented seeks to address this discrepancy.

The “Michigan model” (Campbell 1960) highlights the role of early-life events and relationships in the formation of long-standing partisan identification. Interactions with the political system at an early age form individuals’ partisan loyalties, which are dubbed the “unmoved mover” by Campbell et al. “[O]nly an event of extraordinary intensity can arouse any significant part of the electorate to the point that its established political loyalties are shaken” (Campbell 1960, p. 151).

The mechanism for stable partisanship has been elucidated over the years and a general consensus has been reached by scholars. Consistent with the psychological concept of cognitive dissonance (Festinger 1957), individuals are more likely to accept and process political information and assertions that are consistent with their current views. Prominent research (Zaller 1992; Bartels 2002) applies this concept to politics, formalized the phenomenon, and demonstrated how the predictions are consistent with observations of public political opinions. Dozens of micro studies, including some from neurology, have verified that partisan identification skews individuals’ perceptions of the world in a self-confirming manner, leading to hardened political opinions.

Cite lodge above.

One excellent explanation for the micro-foundations of this “partisan bias” is Lupia and McCubbins (1998). In this model, voters are persuaded by elites with both “perceived common interest” to the voter and “perceived knowledge” of the subject at hand. Listening to trusted politicians leads to further agreement between the voter and the elite, and thus more “perceived common interest.” This positive feedback loop raises two questions. First, if politicians cannot persuade voters to cast a ballot for previously untrusted candidates or parties (i.e., those without
“perceived common interest”) then why do some voters switch parties between elections? Second, what is the origin of this “perceived common interest”?

The answer to the first question lies with the arguments proposed by scholars who dislike the Michigan model of party identification. Fiorina (1981) argues that voters are affected by how parties and candidates performed their governing duties while in power. Retrospective voting, especially on the economy, certainly plays a role in candidate and party evaluations (Mueller, 1970). However, these types of judgments should be relatively uniform across the populace, and do not account for heterogeneous movements, such as with Hispanics and the military after 2004.

A second answer to the vote-switching question is presented by scholars who analyze voters’ issue opinions. The Hotelling-Downs (Hotelling, 1929; Downs, 1957) model presents voters as rational actors who vote for the party (or candidate) that most closely matches their issue positions. Downs’ uni-dimensional, one-valued utility is expanded into several issues of varying importance (or “salience”) by Enelow and Hinich (1984). Certain segments of the population altering their issue opinions or issue saliences could account for the observed shifts in the electorate’s political views. But this hypothesis only begs the second question of Lupia’s positive feedback cycle: what are the origins of political opinions.

2.1 Psychological Model of Personal Experience and Issue Stability

The answer explored in this dissertation, which emphatically does not rule out other causes, is personal experience. Individuals create and strengthen political opinions through personal experience on a subset of the many issues that political elites must deal with. This subset of issues form a benchmark with which to judge parties, candidates, and political elites and allow an individual to develop a political worldview.

First I present the psychological flow of political information, and then I develop a Bayesian learning model that formalizes these flows. The flow of information is a superset of Zaller’s (1992) Receive-Accept-Sample (RAS) model, and I label my model the “Personal Experience Model” for

\[ \text{That voters are rational actors in formalized models such as Hotelling-Downs and Fiorina does not rule out the possibility that voters are rational when succumbing to partisan bias. It may be rational to minimize the displeasure of believing two seemingly contradictory ideas.} \]
ease of reference. See Figure 1 for a box-and-line depiction of the Personal Experience Model.

A review of Zaller’s model is crucial for understanding the how the Personal Experience Model fits with the current state of the political science literature. Under RAS, an individual incorporates information into a political opinion by first receiving the information. As first discussed by Downs (157), individuals can either seek out this information or happen upon it accidentally. More politically attentive individuals are more likely to receive political information.

Next, individuals (either consciously or sub-consciously) accept or reject a piece of political information based on their worldview. In Zaller’s words “People tend to resist arguments that are inconsistent with their political predispositions” (page 44). This accept/reject process, based on what I label an individual’s “worldview”, is the key for producing the stable partisan affiliation and partisan biases found by Campbell (1960), Bartels (2002), and several others. If the argument (i.e., “consideration”) is accepted then it is stored among all other considerations. Recently accepted (or “thought about”) considerations are most accessible to the individual. Figure 1 depicts this relative availability of political arguments with a First-In-First-Out (FIFO) queue, a computer science concept. In other words, the first political consideration heard (if never thought of again) works its way down to the end of the queue (i.e., human memory) until it is completely forgotten (or at least, inaccessible). Considerations already in memory that are primed or re-accepted move to the front of the queue and become more accessible. While some political psychologists (Weston, 2007) would take issue with this simplistic view of the brain, it serves the purpose for this dissertation.

When an individual is asked, either by a survey interviewer or friend, to report her issue opinion, Zaller asserts that the accessible considerations relevant to this issue are sampled, and the average of these considerations is reported. I define opinion stability as the inverse of the variance of repeated sample averages of considerations. Individuals often appear to have unstable opinions about issues (Converse, 1964) because at any point in time very few considerations about an issue may be accessible and the accessible considerations might depend on seemingly random life occurrences (e.g., a radio report, or water cooler conversation). The model predicts this instability to be especially acute when an individual rarely receives and accepts arguments about
that issue and when an individual does not perceive a link between her political worldview and considerations about the issue. Stability increases when issues are averaged together, a prediction consistent with the evidence (Ansolabehere et al. 2008).

Zaller contrasts his theory with an on-line model (Lodge et al. 1989). However, in cases where individuals are in frequent contact with a political issue, these two theories are similar. The major criticism of memory-based models, such as Zaller’s, by Lodge et al. (1989) is that individuals are not capable of searching their memory in an unbiased manner. But for issues that are dealt with regularly, no extensive search is necessary, as the considerations are accessible. Zaller’s main objection to the on-line model is that the online model asserts that people have a “true attitude”, a result that lacks empirical support. Yet, if a steady flow of similar considerations produces a stable opinion, this unchanging perspective on the issue may be considered a “true attitude.” The partisan biases (i.e., accept/reject stage) of Zaller’s model also produce a narrower range of available considerations. Overall, if self-consistent issue considerations remain, as Zaller puts it, “at the top of the head” (page 1) then Zaller’s RAS model and the on-line model have similar predictions.

2.2 Extending Zaller by Introducing Personal Experience

To answer the questions of where partisan biases originate and why certain segments of the population shift partisan loyalties, I extend Zaller’s model by adding personal experience as a source of political considerations. Under the Personal Experience Model, a steady flow of experiences related to a political issue, leads to a relatively constant set of accessible considerations, and hence a stable political opinion. That claim is formally stated as a postulate below; it is one of the four predictions of the Personal Experience Model, along with two main hypotheses and one corollary.

“Personal experience” is defined as frequent interactions with a political issue, whether this interaction is sought after (e.g., being an environmental activist) or more incidental (e.g., being retired and receiving Social Security checks). Frequent conversations about political issues or major life events also counts as personal experiences. The key factors for whether an interaction
Figure 1: The flow of political information through the mind of an individual, based on Zaller’s (1992) Receive-Accept-Sample (RAS) model. Rectangles represent ephemeral processes that information flows through; ovals represent stable stores of information (or sources of information). Solid arrows indicate information flow; the one dashed arrow indicates a cause and effect (i.e., partisan identification and worldview affect which pieces of information are accepted or rejected). The FIFO symbol under “Set of Considerations” represents the computer science term “First In-First Out” queue and is a simplistic representation of the human brain’s memory capability.
is considered “personal experience” in this context is (1) the individual plays an active role (e.g., listening to political news does not qualify), and (2) the interaction produces an increased flow of received political considerations on the issue. Examples include: owning a gun, immigrating, having an abortion, being in an occupation that deals with a political issue (e.g., doctor, teacher), or discussing politics with friends who have a large stake in a political outcome (e.g., gays and equal rights).

The second criterion above, the increased flow of political considerations (represented by the thick arrow in Figure 1), leads to stable considerations in three ways, detailed in the succeeding paragraphs. First, the experience is often based on repeat interactions or one important event, so the distribution of considerations is narrow. Second, experience leads individuals to process these considerations in a consistent manner (Wood, 1982). Third, the increased frequency of acceptance of considerations leads to a larger number of political arguments being accessible. Thus, when the set of considerations of an individual with issue experience is sampled (e.g., by a survey interviewer), a consistent set of considerations is accessible and the resulting opinion distribution has a small variance.

The repetitive nature of some political experiences (e.g., receiving a social security check each month) causes the resulting considerations to be narrow in scope. Since most individual’s experience with political issues is narrow in scope repeated interactions will generally lead to similar considerations. For instance, consider a teacher who works at a single, crumbling school. That teacher will receive many considerations that school construction is needed. Similar conceptions of repeated interactions is present in the advertising literature that emphasizes that repeating pictures or phrases is crucial to make a lasting impression (cite).

Not only do some individuals receive similar experiences over time, but the similar situation in which they have these interactions is most likely to be stable. Consider a new nurse in the health care field. As the nurse learns the ins and outs of the hospital at which he or she works, the nurse develops a better understanding of the successes and failures of the health care. Repeating experiences allow individuals to process complex political issues in specific fields, and the resulting considerations are likely to be colored by these experiences.
The result of repeated narrow experiences being processed under similar circumstances leads to a locus of considerations on one side of the issue. Frequent experiences lead to these considerations being on the top of an individual's mind, and thus more likely to be sampled when the issue is explicitly raised by a politician or a survey interviewer. Thus, the output of the Zaller's model under repeated experiences is a stable (though not necessarily extreme) political opinion.

**Stability Postulate:** Individuals who have experience with an otherwise political issue in their non-political lives will have more stable opinions on this issue.

This mechanism is still active whether received political considerations are one-sided or two-sided. In the former case, where the considerations are all on one side of the ideological spectrum (e.g., owning a gun and desiring to keep it for hunting) the process of developing a stable opinion is straightforward. However, in the case of the nurse dealing with the health care system, that personal experience might lead the nurse to better see both sides of the ideological struggle. In this case, the desire to hold a consistent worldview (e.g., the mechanism behind cognitive dissonance) might lead the nurse to develop a nuanced view of health care policy. As detailed in Section 3.2, studies demonstrate that personal experience often leads to a more sophisticated approach to the issue at hand. In an alternative, but less likely scenario, an individual receiving conflicting considerations through experience may pick one side of the issue and reject arguments from the other side. In either case, the crucial feature of personal experience is the increased flow of received and accepted political considerations on an issue.

Returning to Zaller (1992), this stability framework is referenced when he discusses attitude change (Chapter 7). When an individual receives political communication on an issue, the individual combines this new information with existing considerations. If the existing considerations carry a large weight relative to the new information, then the new information will have little impact on the reported opinion. In the next section, I further develop this idea using a Bayesian learning model, and demonstrate why issue stability is crucial in the arena of voter persuasion.
2.3 A Bayesian Learning Model

Following the lead of Achen and Bartels (2006), the Personal Experience Model represented in Figure 1 can be formalized using a Bayesian learning model. In its simplest form, the Bayesian model includes one voter, one issue, and one candidate. The model has two periods: before and after the candidate sends a signal (i.e., political communication) on the issue. Prior to receiving a candidate’s signal, the voter has an opinion about the issue, centered at $\delta_1$. This opinion has a precision, $\sigma^2$, which if the Stability Postulate is correct, increases with personal experience.\(^3\) For simplicity, I assume that this prior is normally distributed; hence, in period one, the voter’s issue position, $x_1$, is drawn from

$$ x_1 \sim \mathcal{N}(\delta_1, \frac{1}{\sigma^2}). \tag{1} $$

At the end of period 1, a candidate announces a position, $\gamma$, on the issue. Not all signal are created equal. The persuadability ($\psi^2$) of the candidate’s message (i.e., signal) depends on political factors such as how forcefully the candidate argues for the position and whether voters consider the position “cheap talk.”

Voters update their beliefs about the best policy via Bayes rule. A voter’s beliefs at period 1 are treated as her prior for time period 2. The candidate’s signal is treated as a data point pulled from a normal distribution. The voters period 2 issue opinion is drawn from

$$ x_2 \sim \mathcal{N}\left(\frac{\delta_1\sigma^2 + \gamma\psi^2}{\sigma^2 + \psi^2}, \frac{1}{\sigma^2 + \psi^2}\right). \tag{2} $$

A concrete example of this model, albeit outside of the campaign framework, is Al Gore’s movie *An Inconvenient Truth*. Before the movie was released, the environment was not often a topic in America’s political discourse. Even liberals, while generally believing in environmentalism, may have held unstable beliefs about how many resources the United States should commit to stop

\(^3\)Instead of modeling stability in terms of variance, I use precision (the inverse of variance) because precision more closely aligns with the concepts of the model.
global warming. This uncertainty is depicted by the wide distribution of the leftmost panel of Figure 2. Gore’s documentary sends a strong signal to the left of the voter’s mean prior distribution (center panel). The voter accepts this signal and becomes a fervent environmentalist (right panel).

Figure 2: A hypothetical liberal’s reaction to viewing An Inconvenient Truth

[Brody and Page (1972)] would label this interaction between the liberal citizen and Al Gore’s documentary “persuasion.” However, since the liberal knew little about environmentalism before viewing the documentary, she could not have thought critically about the subject. Instead, the liberal simply accepted the cue from Al Gore. Following other scholars (e.g., [Gilens and Murakawa (2002)]), I label the shift of opinion by the liberal as “cue-taking.” I reserve the term persuasion for circumstances akin to “central route processing” ([Petty and Cacioppo (1981)] in which voters’ issue opinion shifts because of a critical analysis of the current set of issue considerations.

Because most people go about their lives generally oblivious to many political issues, cue-taking is prevalent in politics. [Campbell (1960)] emphasize a similar point when they note, “For many voters the details of the political landscape may be quite blurred until they brought more into focus during the campaign period” (pp. 135-136). If the campaign environment induces cue-taking, then a straightforward application of the model predicts that campaigns should polarize public opinion.

To illustrate this point, consider a campaign environment in which both the Democratic and Republican candidates provide opposing signals to two voters (also one Democrat and one Repub-
ican) about an issue. The voters accept the signal from the candidate they trust. If the voters have unstable opinions about the issue (i.e., little personal experience), then their opinions will polarize (Figure 3). This conclusion, supported by existing research [Ansolabehere et al., 1994; Parker-Stephen, 2007] is crucial and worth emphasizing: When voters do not have experience on an issue and this issue is emphasized during the campaign, the electorate polarizes and no individual’s existing political worldview is altered.

Figure 3: Voter polarization. When two opposing candidates send signals to two moderate voters of different parties, the voters’ opinions diverge in opposing directions. If the Democratic voter (blue line) and the Republican voter (red line) already preferred their respective party’s candidate, then neither vote is affected by the candidate cues.

Alternatively, if an individual has experience on an issue, then certain circumstances may occur such that the individual’s current world view is not confirmed by signals from elites. Consider the following example of a campaign between two candidates of the major parties. The Republican candidate has a moderate position, in contrast to the Democratic nominee who has a more orthodox view. Of the two voters analyzed in this example (Figure 4 left panel), the Democrat has experience with the issue (i.e., precise prior opinion) while the Republican does not (wide public opinion). In between periods 1 and 2, the Democratic candidate sends a leftist signal and the Republican candidate sends a moderate, right-of-center signal (Figure 4 center panel). While the Republican voter cue-takes and moves slightly to the right to follow the Republican candidate, the Democratic voter does not move left to any significant degree (Figure 4 right panel). In general,
this phenomenon forms the first of the two main hypotheses:

**Cue-Taking Hypothesis:** When a favored political elite provides a signal about their position on an issue, segments of the population that are have the least personal experience with the issue are most likely to cue-take (i.e., alter their issue position in the direction of the signal).

![Voters' Prior Beliefs](image1)

![Candidates' Signals of Issue Stances](image2)

![Voters' Posterior Belief](image3)

Figure 4: No cue-taking. The Democratic voter does not cue-take from the preferred politician on this issue because of their highly-informed prior on the issue.

Returning to the example in Figure 4, the Democratic voter’s opinion is closer to the Republican candidate’s on this issue, causing a contradiction in the worldview of the previously-loyal Democrat. To calculate how much more negatively the Democratic voter would rate the Democratic nominee, one must consider where the voter thought the candidates stood on the issues in period 1 and how the voter judges politicians.

### 2.4 Voter’s Beliefs About Candidate Positions

The voter has beliefs about where the candidate stands on the issue and these beliefs become more certain after receiving a signal about the issue. Before the signal is sent, a voter’s beliefs about candidate positions often suffer from “projection” ([Brody and Page 1972](#)), whereby voter’s assume that their preferred candidate holds the same position that they do.\(^4\) I do not explicitly model the

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\(^4\)In addition to projection, a voter’s prior belief on a candidate’s position may be based on general factors such as the candidate’s party.
determinants of projection, instead allowing the center of the distribution of prior beliefs about
the candidate’s position, \( \mu_1 \), to be an unparameterized variable. Voter have certainty about these
beliefs, \( \tau^2 \), which most likely increase with political attentiveness and sophistication. Similarly to
above, the prior belief, \( y_1 \) is assumed to be a draw from the normal distribution,

\[
y_1 \sim \mathcal{N}(\mu_1, \frac{1}{\tau^2}).
\]  

The candidate’s signal helps the voter identify where the candidate stands on the issue. The
signal has the same center point \( \gamma \) as above. In this case, however, the strength of the cue is not
its persuasiveness, \( \psi^2 \), but its credibility, \( \omega^2 \). Most candidates are able to credibly communicate
their stances on issues, but occasionally a candidate is accused of pandering to a constituency. In
cases of pandering, \( \omega^2 \) is lower.

As with her own issue position, the voter updates her belief about the candidate’s positions
using Bayes rule. Beliefs at period one are treated as priors in period 2. The updated, period 2,
belief about the candidate are drawn from the distribution

\[
y_2 \sim \mathcal{N}\left(\frac{\mu_1 \tau^2 + \gamma \omega^2}{\tau^2 + \omega^2}, \frac{1}{\tau^2 + \omega^2}\right).
\]  

Returning to the case of the Democratic hunter and gun control, imagine that the Republican
microtargets the Democratic hunter and reveals both candidates’ positions. Before the signals
are sent, the voter might have weak priors on the candidates’ positions according to their party
(left panel, figure 3). The Republican sends a mailing to the gun owner’s household indicating a
moderate-right stance for the Republican and an extreme left issue position for the Democrat (cen-
ter panel). The Republican has more credibility in revealing his own position than his opponent’s
because the Republican might be held to account for their stated issue opinion if the Republican
wins (citation). These signals are combined with the voter’s prior and result in a posterior belief
about the candidates’ positions (right panel).
Figure 5: Projection combining with one candidates’ signals about both candidates. The voter starts out with prior beliefs about both candidates’ based on their party. The Republican candidate signals that he has a moderate-right position and signals, with less credibility, that the Democrat has an extreme left position. The voter updates her beliefs about the candidates’ positions accordingly.

2.5 Voter’s Issue Salience and Candidate Utility

Traditionally, candidate evaluation is modeled as utility maximization (Downs 157) over a range of issues (Enelow and Hinich 1984). These types of models, where voters have weights on a range of issues, are consistent with the issue public literature (Krosnick 1990). Members of an issue public place above-average weight on a specific issues.

This model, which I refer to as “weight-based”, requires a lot from voters. First, voters must know their own position on all of the issues. Second, voters must know the politician’s view on each issue. Third, voters must assign a weight to each issue. The weight-based model is on-line, with voters keeping track of all of the above information.

Instead, I propose a more Zaller-esque model of candidate evaluation. Voters compare a candidate’s issue signal against their “top-of-the-head” considerations of the issue. Often, and especially often with complex political issues, the voter has no independent information on the issue and a candidate’s signal does not affect a voter’s worldview. In these cases, cut-taking occurs: the voter accepts considerations from preferred candidates and rejects considerations from disliked candidates.
In the alternative scenario, when a voter has previously accepted considerations on this issue (either from personal experience or from a trusted source), these considerations are compared with the candidate’s position. One analogy is that the voter “ground truths” the candidate’s considerations. Formally, this comparison can be measured via the Kullback-Leibler distance,

$$KL(x_1||y_2) = \int_{-\infty}^{\infty} x_1(z) \log \frac{x_1(z)}{y_2} dz,$$  \hspace{1cm} (5)

where, as before, $x_1$ is the voter’s position at time 1, $y_2$ is the posterior belief about the candidate’s position. (Above, $z$ is the issue dimension.) For gaussian distributions, the Kullback-Leibler distance has an analytical solution:

$$KL(x_1||y_1) = \frac{1}{2} \left( \log \left( \frac{\tau_2^2}{\sigma_2^2} \right) + \left( \frac{\tau_2^2}{\sigma_2^2} \right) + (\delta_1 - \mu_2)\tau_2^2 - 1 \right),$$  \hspace{1cm} (6)

where $\mu_2$ and $\tau_2^2$ are the mean and variance of $y_2$ as defined by equation 4.

This model is generalizable beyond candidates to parties and all sources of political information.

There are four situations in which the chance of defection is particularly acute. First, if the voter is nearly undecided in the first period; e.g., $KL(x_1||y_1^D) \approx KL(x_1||y_1^R)$. In this case, a small change in the utility functions results in a change in vote choice. Second, if the voters’ pre-signal projections of candidate stances were wildly inaccurate, then the utility of the candidates could be significantly altered.

Third, if the voter only has a precise prior about the one issue at hand (i.e., the voter has no experience on other issues), then the voter is likely to alter her worldview to trust the Republican candidate. Maintaining an unfavorable of the Republican would cause cognitive dissonance problems with the experiential issue. Transforming the voter’s world view and cue-taking on all the other (non-experiential) issues from the Republican causes no such problems.

Fourth, priming may occur; this explanation is the traditional political science answer for why voters alter their opinions of candidates once a signal is received [Iyengar and Kinder, 1989].
The signal about a particular issue \((j)\) causes considerations about that issue to become more accessible in period 2. When asked to evaluate the candidates, the voter relies more heavily on these “primed” considerations; formally. That said, the previous three mechanisms relegate priming to a sufficient cause for altering vote preferences in the absence of issue persuasion, rather than a necessary cause.

To do: simulations.

This dissertation focuses on the third mechanism: voters’ political worldviews depend upon candidates’ stances on the issues for which the voter has experience. This phenomenon results in the following observable prediction, which is the main hypothesis of the dissertation.

**Personal Experience Hypothesis:** *After receiving candidate signals on an issue, changes in candidate evaluation occur among segments of the population that are have the most personal experience with the issue.*

This prediction is my answer to the second Lupia question raised in the previous section. Political worldviews originate with issues for which voters have experience. In other words, for these issues, voters know the “ground truth” and need not rely on political elites for an indication of what to believe. This implication of the model dovetails well with the Lupia feedback loop, which predicts that little persuasion should occur when “perceived speaker knowledge” is low. The Personal Experience Model formalizes such a relationship in the campaign setting by expanding Zaller’s RAS model to include personal experience.

### 2.6 Model Extensions and Details

The model as presented is in its most limited form and can be applied in alternative situations. First, the news media, political elites, and politically aware citizens constantly send political signals. For instance, the model works just as well when considering political parties rather than candidates. The model is also flexible enough to be used in non-partisan situations, such as primaries or non-partisan elections.

As modeled, signals from non-preferred candidates do not contain negative information. As
Zaller (1992) demonstrates that if only the conservative elite is communicating to the public, then even liberal voters will shift their opinions toward the conservative end of the spectrum. The shift of liberal opinion is less than the shift in conservative opinion shift: that dynamic is captured by the persuasiveness variable $\psi^2$.

In addition, the model can be applied beyond political issues. Character traits can be a powerful force in politics because voters judge individuals in their daily lives. Consider the trait of honesty. Voters’ ideal points, $x_{p,j}$, are all essentially grouped at positive infinity—voters desire their politicians to be extremely honest. Also, most voters know with a high degree of certainty that they prefer honest people to dishonest people (since they have experience dealing with both in their daily lives), so $\sigma_j^2$ is large. Candidate cues on this topic often lack credibility (i.e., $\omega^2$ is low) because politicians often cannot credibly state “I am honest.” Thus, a credible cue from a media source that a candidate is dishonest can have a devastating effect on voters’ evaluations of that candidate.

Character traits are an example of an “issue” with which most of the electorate has extensive experience. Individuals must judge the honesty, trustworthiness, and empathy of others on a daily basis. The models’ implications extend to these widely-familiar issues as well. Aggregating the conclusion from the Personal Experience Hypothesis across the electorate implies that mass communication about issues with which more voters are familiar (i.e., the “easy issues” of Carmines and Stimson 1980) will influence candidate evaluation more than communicating about complex, niche issues.

**Broadcast Corollary:** Signals on familiar issues or candidate character traits influence voters’ perceptions more than information about more complex issues.

The Personal Experience Hypothesis and Broadcast Corollary have direct implications for political campaigns. If a campaign is aware that a particular voter has personal experience with an issue, then the campaign would benefit from communicating to the voter on that issue (as long as the voter and candidate have congruent opinions). However, campaigns are often unable to procure this type of information; instead, they rely on mass communication such as television advertising. In the case of mass communication, campaigns would do well to follow the Broadcast
Corollary and advertise about issues that intersect with the lives of the greatest number of people.

3 Concurrence With Other Theories in the Literature

3.1 Definitions of Concepts Present in the Literature

The literature substantiates much of the personal experience model, especially the claims about issue opinion stability (Stability Postulate), cue-taking (Cue-Taking Hypothesis) and easy issues (Broadcast Corollary). Circumstantial evidence supports the experience-issue interaction (Personal Experience Hypothesis), yet no study tests the effect of personal experience on cue-taking and candidate evaluation.

Before exploring the existing research, it is useful to review some of the terms that appear in the literature and explicitly state their relationship to the model presented here.

- **Issue Opinion Stability** is the precision of the distribution of repeated samples of a person’s accessible considerations of an issue. A helpful way to think about opinion stability is to imagine asking an individual to report an opinion on a repeated basis. The variance of their reported opinions is the inverse of their issue stability.

- **Self-Reported Issue Opinion Confidence** is an individual’s belief about their stability. Confidence should not be conflated with issue stability as individuals are often poor judges of their own characteristics.

- **Candidate-projection** is the phenomenon whereby a voter assumes her preferred candidate agrees with her on an issue that she has relatively little information on. This mechanism often occurs before candidates send strong signals on the issue. See “projection” in Markus and Converse (1979).

- **Learning** is the process by which the voter ascertains the true issue position of the candidates. It occurs after strong signals on the issue. See Lenz (2006) for an excellent discussion.
• **Cue-taking** is the process in which the voter agrees with her preferred candidate’s issue position without any critical thinking. See “projection” in Iyengar and Kinder (1989), “persuasion” in Markus and Converse (1979), and “peripheral route processing” (Petty and Cacioppo, 1981).

• **Persuasion on an issue opinion** occurs when the voter thinks critically about existing issue considerations and rejects them in favor of other considerations. Replacement of accessible considerations over time is not considered persuasion. See “central route processing” (Petty and Cacioppo 1981). (Persuasion does not play a large role in the Personal Experience Model.)

• **Priming** is the mechanism by which voters increase the salience of a particular issue in the vote decision. This salience may be raised directly by stressing the importance of an issue or indirectly by mentioning the issue and thus increasing the accessibility of considerations related to the issue. See Iyengar and Kinder (1989).

### 3.2 Personal Experience Yields Nuanced and Stable Opinions

The finding that personal (or “direct”) experience with an issue induces attitude stability originates in the psychology literature. Regan and Fazio (1977) employ both a field experiment and a laboratory experiment to test the effect of direct experience on attitude stability. The experiments randomly assigned the direct experience treatment. In the field experiment, college students were assigned to permanent or temporary housing. In the laboratory experiment, some participants were assigned puzzles to work on, while others received only descriptions of the puzzles. In both experiments, the reported attitudes of the participants assigned to the “direct experience” treatment were more consistent with the participants’ actions than for the students who were assigned to the peripheral experience.

Wood (1982) examines how existing experiences affect the amount of variation in issue opinions. Subjects in this experiment are asked to “to list specific instances of times when they had engaged in actions relating” to the environment and to report their opinions about environmentalism. A
month later, Wood requests that the subjects prepare a persuasive, pro-environmentalism talk in exchange for five dollars. On average, this offer of money induces subjects to report views that were more anti-environmentalism than their original position (presumably because the offer of money makes the arguments appear fraudulent). However, individuals with prior experience with the environmental movement were less likely to change their opinion.

Observational studies demonstrate that individuals with experience on an issue have more nuanced and stable opinions, supporting the Stability Postulate. Sotirovic (2001) conducts a telephone survey of 395 Wisconsin adults to examine their attitudes toward crime policy and the death penalty. The respondents’ answers to open-ended questions are coded for number of distinct ideas and integration between ideas; the answers are then aggregated into a “complexity” measure. Respondents who have experience with non-trivial crimes (either personal or through friends) demonstrate higher thought complexity.

McFadyen (1998) conducts in-depth interviews with 67 employed Britons to probe their views on unemployment. The author asks participants about stereotypes of the unemployed, the efficacy of government actions, and their thoughts about possible solutions. To gauge the level of experience that participants had with unemployment, McFadyen queries the subjects about their relationships with unemployed family or “close” friends, as well as any direct experience they had with being unemployed. A multivariate analysis finds that amount of experience with the unemployed is the best predictor of how few stereotypes the respondents express, with experience being more predictive than either ideology or class and with experience leading to fewer stereotype.

In both the crime and unemployment studies, experience does not lead to polarization of issue opinion. In fact, just the opposite occurs. In the crime study, Sotirivic finds that the respondents with the most extreme views had the least complex thought processes. And personal experience with the unemployed does not push the Britons in McFadyen’s study to the left on unemployment policy; political ideology is a much better predictor of issue opinion than level of issue involvement. Consistent with these findings, the direct effect of experience on issue position is not specified by the personal experience model.

The impact of personal experience on issue opinion stability is directly measured by van Knip-
Van Knippenberg and Daamen (1996). The authors poll the attitudes of the Dutch on energy generation twice, through surveys two months apart. In each survey, respondents were given a range of six methods of generating energy and asked to pick two. In the first survey, brief descriptions of each option was provided. Van Knippenberg and Daamen measured issue involvement on a “slightly modified version” of the scale developed by Verplanken (1991), which queries respondents about their activities with respect to the issue (e.g., talking with friends about the issue). While they do not provide exact statistics, the authors report that higher involvement led to increased stability across the two-month period.

Taken in sum, these studies demonstrate that direct experience, personal involvement, or even the experience of close friends or family members induces a more complex thought process about an issue. The resulting opinions of individuals with personal experience are more stable than the public at large. Thus, the evidence for the Stability Postulate is strong.

3.3 Evidence that Personal Experience Matters

The psychological literature provides the basis for cue-taking. Similar to Bartels’ (2002) findings that the same information generate polarized responses between members of opposing parties, Lord et al. (1979) show that conflicting studies on capital punishment have a polarizing rather than moderating effect. Undergraduates who hold prior beliefs in favor of capital punishment consider the pro-capital punishment study more convincing; consequently their issue opinions become more extreme. The opposite holds for the participants who enter the experiment with anti-death penalty views. Similar to the Al Gore and global warming hypothetical above, individuals generally accept arguments that congruent with their existing beliefs and adjust their views accordingly.

Political science research provides several examples of cue-taking. Zaller (1992) demonstrates how elite consensus leads to mass consensus. In contrast to Zaller’s one-stream, example, campaigns provide an example of a two-stream environment. As the election was heating up in the summer of 2004, Democrats and Republicans diverged even over the relatively factual issue of whether Saddam Hussein was involved in the September 11th attacks (Parker-Stephen 2007). In
a striking example of issue opinion following elites from one end of the spectrum to the other, Lauderdale (n.d.) finds that a change in the party that controls the White House alters whether conservatives or liberals favor an activist foreign policy.

In one of the clearest examples, Lupia (1994) provides evidence of cue-taking in the 1988 California car insurance elections. Voters who have little knowledge of the substance of the ballot initiatives, yet knew where various interests groups stood on the measures, mirrored the behavior of high-knowledge voters. Individuals who lacked both substantive and endorsement awareness, on the other hand, deviated from the voting-patterns of the more knowledgeable groups. Small cues from advocacy organizations help citizens cut through the clutter of political issues.

The Cue-Taking Hypothesis, however, does not merely assert that cue-taking occurs; it predicts that personal experience moderates the effects of cue-taking. Experiments from psychology provide evidence for this implication. In Wood’s (1982) experiment on the environment, the participants are asked to list their personal connections with an environmental issue, e.g., membership in the Sierra Club or Audubon Society. All subjects are then exposed to a fabricated recording of an interview with a graduate student in which the graduate student presents several arguments against preservation. Wood finds that subjects who report more personal experience with the environment are less susceptible to the graduate student’s persuasion even when controlling for subjects’ initial views.

One of the experiments used to differentiate between “central route” and “peripheral” processing speaks directly to the Cue-Taking Hypothesis (cite).

Had Petty’s experiment here. Need an alternative.

Mutz (1992) finds an interesting interplay between personal experience and political evaluations that is consistent with the Personal Experience Hypothesis. She traces the effects of experience with unemployment and knowledge gained from the mass media through the perception of economy and incumbent politicians (governor and president). Consistent with the personal experience model, being unemployed has an impact on state-level judgements. At the national level, the mass

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5In this case, a cue from an untrusted source (e.g., the insurance industry) appears to provide information to individuals about what not to believe. However, since two streams of information exist (e.g., Ralph Nader countering the insurance industry), it is unclear whether the voters are using positive or negative cues.
media has much more influence on shaping people’s opinion about the national economy.\footnote{Specifically, Mutz writes “These overall patterns suggest that personal experience may indeed have an indirect influence on political evaluations at the state level by means of their influence on personal and ultimately social concerns. At the national level, however, the path that translates these concerns to political significance is incomplete.”} This latter finding might appear to be a knock against the Personal Experience Hypothesis, but being unemployed is a stronger signal of the state economy rather than the national economy (since the reason for the unemployment might be localized). The finding that individuals act rationally by discounting their personal experiences when making national judgments is encouraging for any hypotheses grounded in Bayesian learning models.

While the direct evidence that personal experience moderates cue-taking is established in the psychology literature, minimal research exists on linking personal experience to political evaluations. Gilens and Murakawa (2002) characterize the state of research by stating, “We are not aware of any research that explicitly compares citizens’ decision-making with regard to high-involvement versus low-involvement issues.” The Personal Experience Model aims to fill that void.

### 3.4 Easy Issues Affect Political Evaluations

Existing research also supports the Broadcast Corollary. Kelleher and Wolak (2006) combine presidential approval ratings and a content analysis of media stories to examine the priming effects of easy and hard issues. Since the dependent variable (presidential approval) is dichotomous, the Broadcast Corollary would predict that changes attributed to priming would be observable only for familiar issues. On complex issues, individuals who approve of the President would take the President’s side and continue to approve of him; individuals who do not approve of the President would act analogously (assuming two issue streams). Thus, even if considerations of the complex issue are more likely to be on the top of a person’s head (Zaller 1992), there would be no change in the correlation between issue opinion and presidential approval for before and after the increase in media stories. On the other hand, individuals’ opinions of familiar issues are not as susceptible to cue-taking; thus, issue priming by the media might alter their perceptions of the president.

Kelleher and Wolak’s findings are exactly consistent with this line of reasoning. When the
media reported on easy issues (e.g., the economy and the President’s character), Kelleher and Wolak observe the priming effects. On the other hand, the authors’ data do not exhibit the effects of priming when the media emphasizes hard issues (e.g., foreign policy). With respect to personal experience, easy issues are those issues for which a substantial segment of the population has experience with (e.g., the economy) or issues that do not require much direct experience to form a stable opinion (e.g., the President’s character). Lenz (2006) finds similar results when he examines over a dozen cases of suspected priming and determines that priming only occurred in a handful of cases. Of the 13 examples of supposed priming, Lenz argues just four are actual examples of priming: two character issues, the economy in 1992, and defense spending after 9/11. Scholars consistently label character issues and the economy as easy issues. The priming of defense spending is trickier: perhaps the lack of a competing stream of information prevented Democrats from polarizing away from the President.

The existing psychology and political science literature provides solid support for the Stability Postulate, Cue-Taking Hypothesis and the Broadcast Corollary. There is also circumstantial evidence for the Personal Experience Hypothesis, although the political science literature is lacking on this subject.

4 Alternative Voter-Issue Linkages in the Literature

While much of political science literature focuses on characteristics of a voter (e.g., attentiveness) or an issue (e.g., complexity) separately, strains of the literature emphasize linkages between voters and issues. Specifically, research on self-interest and issue publics both theorize why voters might rely on certain issues more than others in their political decisions. However, prior studies demonstration self-interest does not affect vote choice in a consistent manner. I capture the findings from the analyses of self-interest within the personal experience model. With regard to issue publics, the personal experience model provides a logical foundation for the conclusions reached by the issue publics literature; this logic also broadens the scope of the theory to include both issues and character traits.
Psychology research posits an additional alternative hypothesis. Fazio and Zanna (1978) propose that confidence is an intervening factor between the experience-issue stability link. Individuals with direct experience with a topic are more likely to hold higher confidence in their attitudes as well as to be more likely to match their behavior to their attitudes. More pertinently, when Fazio and Zanna exogenously increase confidence in an attitude (independent of how the attitude was formed), the correlation between attitude and subsequent behavior increases as well. Thus, voters who have more confidence in all of their opinions (regardless of whether this confidence is justified) may exhibit less cue-taking than would be otherwise expected. If this research is correct, while the Personal Experience Model would still hold as presented (because direct experience would lead to confidence which would moderate cue-taking), part of the picture would be unmodeled (i.e., more confident people are less prone to cue-taking). I further explore this causal mechanism in subsequent empirical chapters.

One perspective on issue-voter interaction is that voters base their political decisions on self-interest. Chong et al. (2001) demonstrate that self-interest in a policy can be primed or unprimed depending on the political communication delivered. Individuals with a vested interest in a certain policy change (e.g., domestic partner health benefits) displayed a higher propensity to favor the change after their self-interest in the change was highlighted. Although the authors do not measure voters’ evaluations of candidates who take a position on the policy changes tested in the experiment, one logical conclusion to the research might be that politicians should communicate to voters on issues in which the voters have a self-interest and that these communications should emphasize that connection. On the other hand, Chong et al. also find that self-interested voters can be swayed against their direct economic interests with sociotropic arguments. In a climate with message streams (one that primes self-interest and one that primes sociotropic considerations), it is unclear how much self-interest would affect political judgments.

Consistent with Chong et al.’s finding that political communication can reduce the salience of self-interested consideration, Sears and Funk (1990) find that self-interest is rarely a factor in vote decision; instead, symbolic politics often drives individuals’ policy stances. The influence of symbolic politics is predicted by the Personal Experience Model: voters take cue-take from their
respective group’s leaders, polarize, and do not alter their political evaluations. In some cases, however, Sears and Funk do find that self-interest plays a role in politics—specifically when the benefits are clear or the stakes are high (i.e., easy issues). By focusing on which issues are easy for which voters, the Personal Experience Model extends the findings of Sears and Funk and yields more nuanced implications.

In a second thread of political science research, Krosnick (1990) develops the idea of issue publics first presented by Converse (1964). Although the vast majority of voters do not closely follow the political debate on most issues, many voters find one or two issues to be important. Krosnick emphasizes self-interest, group identification, and personal values as the bases for how voters choose issue publics. Voters in an issue public have more stable opinions about the issues and base their political decisions on these issues, findings which Gershkoff (2006) confirms in an extensive analysis on issue publics. Malhotra and Kuo (n.d.) demonstrate that, in the aftermath of Hurricane Katrina, increased personal importance of the Hurricane devastation moderates the effects of partisan polarization and cue-taking, analogous to the Cue-Taking Hypothesis for personal experience.

The Personal Experience Model shifts and extends the idea of issue publics in two ways. First, the level of personal experience explains why a person enters an issue public. For instance, in the preface of Gershkoff’s dissertation, she relates a story about a Russian hairdresser who was in the immigration issue public. Left unsaid is the high likelihood that the hairdresser was in the immigration issue public because of her personal experience emigrating. Second, the Personal Experience Model provides does not rely on large differences in issue salience to affect political preferences. Under the issue publics framework, certain issues are crucial for political judgments because of the conscious weight that a voter places on these issues. These issues are most likely to be reported as “most important” on a political survey. In contrast, in the Personal Experience Model the mechanism by which some issues are more predictive of political preference than others—the desire to avoid cognitive dissonance—is the result of life-happenstance. Voters have often these experiential issues foisted upon them (e.g., receiving Social Security checks, emigrating from Russia) rather than choosing to be a member of an issue public. The Personal Experience
model focuses on issues—big or small, inherently political or not—that form the bases for voters’
“ground truth” with which they judge politicians. In addition to those two theoretical differences
between the two frameworks of voter-issue interaction, I also implement the theory differently.
Specifically, I develop a detailed psychological model and a Bayesian learning model.

Undoubtedly, further alternative hypotheses to the personal experience model exist. But,
having dealt with the two main alternatives in the political science literature, this paper now
focuses on finding direct support for the hypotheses and implications of the personal experience
model.

(To be decided later: do I need a couple paragraphs about retrospective voting and “resolved”
issues above?)

5 Further Implications

Much of the following chapters focus on providing supporting evidence for the Personal Experience
Model. Assuming for the moment that the model is generally correct, specific implications exist
for campaign strategy and the workings of democracy. While Chapter X provides the mathematics
behind the model’s predictions in these areas, a preview of the arguments is useful since the model
is fresh in the readers’ mind.

5.1 Game Theoretic Model of Campaign Microtargeting

Every election, campaigns face decisions about how to allocate their resources. The Personal Ex-
perience Hypothesis and Broadcast Corollary demonstrate two distinct ways in which a campaign
can alter voters’ political judgements. If a campaign attempts to match voters to specific issue
signals (i.e., microtargets voters), then its messages more efficiently reach the segments of the
electorate who are most susceptible to the communication. On the other hand, if a campaigns
opts to mass communicate to the electorate (i.e., use broadcast advertising), then the campaign
has the opportunity to center the election around one issue, as the campaign’s communications
will be focused and visible. Certainly, a campaign may not choose to devote all of its resources
to one of these two endeavors. But given a finite budget the campaign must choose an allocation between them.

The most effective method to win voters’ allegiances is to broadcast campaign communication about an “easy issue” on which the campaign’s position is very popular. The best example of this strategy is race in the South during the mid-to-late 20th Century: whichever party sided with the whites on the issue of race (i.e., the Democrats in local elections and the Republicans in presidential elections) did extremely well on Election Day. As predicted by the Personal Experience Model, in this situation the electorate polarizes on difficult issues along the same lines as the easy issue. This fracturing protects campaigns against the outcome of the election changing because a new difficult issue suddenly appeared on the political radar (e.g., a foreign policy crisis).

If a single easy issue such as race is not available to the campaign, this Chapter demonstrates another way to affect voters’ perceptions in a similar fashion: microtarget voters with issues by determining voters’ personal experiences. The cost of this strategy may depend on the availability and price tag of political databases. The benefits are akin to those of the mass easy issue appeal, though the variance of the benefit is likely greater since individuals receive different appeals of varying effectiveness.

A campaign that is trailing badly in the polls and cannot avail itself of either of the above two strategies, may want to take a different approach. Instead of focusing on issues for which voters already have stable opinions about, the campaign could try focusing on a “difficult” issue that might resolve (Canes-Wrone et al., 2001) into an “easy” issue. An example of such an issue would be the Iraq War. After no weapons of mass destruction were found and violence in Iraq erupted, about a third of the population went from being for the war to thinking it was a mistake. These massive shifts in public opinion often occur when issues resolve because the information streams often transform from balanced and two-sided to more favorable to the side that turns out to be (or at least, appears to be) correct.

7Source: Aggregate analysis (Franklin 2007) of several organizations’ surveys, http://politicalarithmetik.blogspot.com/2007/05/iraq-opinion-war-was-right-thing-or.html
5.2 Normative Implications for the Electorate

There is some disagreement in the literature about whether cues (or “heuristics”) improve the judgements of relatively uninformed voters, allowing them to make more informed political decision. On one side of the debate, some claim that low-information judgements by individuals are about as effective as judgments made based on encyclopedic knowledge about politics (Popkin, 1994; Lupia, 1994; Sniderman, 2000; Lupia, 2004). In contrast, other research (Bartels, 1996; Kuklinski and Quirk, 2000; Lau and Redlawsk, 2001) argues that heuristics are ineffective and are occasionally leave the voter more poorly informed than she would be if she had not received any cues at all. Since scholars do agree that voters do not generally possess encyclopedic knowledge of the political system (Delli Carpini and Keeter, 1996), the efficacy of voters’ shortcuts matter a great deal for the proper functioning of the political system.

The personal experience model does not directly address the claims put forth in this debate. If the Personal Experience Hypothesis is correct, heuristics should work in some cases and not others. If the politicians who take congruent stances on the issue with which a voter has personal experience are the same elites who would agree with the voter on other issues (assuming full voter information), then the personal experience shortcut assists with the citizen’s political judgements. In other cases, in which the voters have little experience on a heuristic’s issue, the voters are likely to learn the candidates’ positions, cue-take from their preferred candidate, and leave their voting calculus unchanged. Thus, for democracy to “work” (i.e., for elected officials to reflect the will of the people) candidates must hold positions consistent with voters’ views on issues that did not alter the course of the campaign. In other words, the ideological constraints of elites need to be similarly structured as the counter-factually fully-informed voters’ ideological constraints.

That condition is a seemingly a tall order, especially given voters’ actual lack of constraint (Converse, 1964). However, the landscape is not entirely bleak. Imagine that a voter’s full-information ideology were exactly orthogonal to the elites’. In that case, voting for either party yields the same utility, so it does not matter which party the non-attentive voter prefers. With a dichotomous choice, imperfect heuristics are often “good enough.” For example, Bartels (1996)
argues that heuristics do not work, yet finds that in the 1972-1988 presidential elections, the
difference between the probabilities of voting for the Democratic nominee for the voters and their
fully-informed counterfactual counterparts is only 10%. The aggregate vote count between these
two groups only differs by 3 percentage points. Granted, this difference would switch the results
of recent presidential elections, but the electorate is not being led widely askew.


