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Author(s): Larry M. Bartels
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*Uninformed Votes: Information Effects in Presidential Elections**

Larry M. Bartels, *Princeton University*

Theory: Recent scholarship has emphasized the potential importance of cues, information shortcuts, and statistical aggregation processes in allowing relatively uninformed citizens to act, individually or collectively, *as if* they were fully informed.
Hypotheses: Uninformed voters successfully use cues and information shortcuts to behave *as if* they were fully informed. Failing that, individual deviations from fully informed voting cancel out in a mass electorate, producing the same aggregate election outcome *as if* voters were fully informed.
Methods: Hypothetical "fully informed" vote choices are imputed to individual voters using the observed relationship between political information and vote choices for voters with similar social and demographic characteristics, estimated by probit analysis of data from National Election Study surveys conducted after the six most recent United States presidential elections.
Results: Both hypotheses are clearly disconfirmed. At the individual level, the average deviation of actual vote probabilities from hypothetical "fully informed" vote probabilities was about ten percentage points. In the electorate as a whole, these deviations were significantly diluted by aggregation, but by no means eliminated: incumbent presidents did almost five percentage points better, and Democratic candidates did almost two percentage points better, than they would have if voters had in fact been "fully informed."

The political ignorance of the American voter is one of the best-documented features of contemporary politics, but the political significance of this political ignorance is far from clear. Observers as diverse as Bryce (1893), Lippmann (1922), Schumpeter (1942, chap. XXI), and Dahl (1989, 332–41) have seemed to take it as a natural and unavoidable feature of democratic politics. Others have seemed to assume as a matter of course "that a well-informed electorate is necessary for a democracy to function well . . . feeling neither the logical obligation of proof nor the empirical obligation of evidence" (Kinder and Palfrey 1993). Still others have theo-

*The American National Election Studies data analyzed in this report were collected by the Center for Political Studies, University of Michigan, and are publicly available through the Inter-University Consortium for Political and Social Research. Replication data sets are available from the author. The statistical results reported in Tables 1 through 8 were produced using SST Version 1.12. Earlier versions of the analysis reported here were presented to colloquia at Princeton University, the University of California at San Diego, the University of Iowa, and Arizona State University. I am grateful for comments and suggestions received from participants in those colloquia and from John Jackson, Gary King, Michael MacKuen, Tali Mendelberg, Samuel Popkin, Wendy Schiller, and anonymous referees.

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rized that low average levels of political information may in fact be inconsequential, either because poorly informed voters make efficient use of relevant cues in the social and political environment (Berelson, Lazarsfeld, and McPhee 1954; McKelvey and Ordeshook 1985; Neuman 1986; Page and Shapiro 1992), or because individual errors tend to cancel out in a large electorate (Miller 1986; Wittman 1989; Converse 1990; Page and Shapiro 1992; all following Condorcet 1785).

What is striking is that political scientists have done so little to investigate empirically the electoral consequences of voter ignorance. If those who have viewed a well-informed electorate as crucial to the functioning of democracy have been too little burdened by the scientific demand for supporting evidence, the same could be said of those who have viewed the political ignorance of the average voter as largely or wholly irrelevant. They have preferred either to limit their analyses to individual information stores and information processing, or to extrapolate from individuals to collective outcomes on the basis of assumptions rather than evidence.

Here I attempt to measure more directly the impact of information, and hence of its absence, on voting behavior in each of the last six United States presidential elections. My aim is to use the observed relationship between information and voting behavior in recent elections to simulate the behavior of a hypothetical "fully informed" electorate, and to compare actual voting behavior at both the individual and aggregate levels to this hypothetical baseline. The empirical analysis indicates that the behavior both of individual voters and of the electorate as a whole deviates in significant and politically consequential ways from the projected behavior of a "fully informed" electorate.

Does Information Matter?

One of the most striking contributions to political science of half a century of survey research has been to document how poorly ordinary citizens approximate a classical ideal of informed democratic citizenship.[1] According to the most influential early report (Berelson, Lazarsfeld, and McPhee 1954, 308),

> The democratic citizen is expected to be well informed about political affairs. He is supposed to know what the issues are, what their history is, what the

[1]The intellectual pedigree of this "classical ideal" has itself been challenged, most notably by Pateman (1970, chap. 1). But despite Pateman's argument that the ideal does not, in fact, fairly reflect the views of any historical theorist or school, she does not seem to doubt the political significance of the fact that it has "become almost universally accepted in recent writings on democratic theory" (1970, 5).

> relevant facts are, what alternatives are proposed, what the party stands for, what the likely consequences are. By such standards the voter falls short.

Similar points have been made over and over again. The authors of *The American Voter* noted that "many people know the existence of few if any of the major issues of policy" (Campbell et al. 1960, 170) and emphasized the political importance of long-standing psychological attachments to political parties. Converse (1964) argued that incoherence and temporal instability are the most striking characteristics of most public attitudes about most political issues most of the time. Writing in reaction to this and other similar portrayals of public opinion, Key (1966, 7) felt compelled to defend what he called the "perverse and unorthodox argument . . . that voters are not fools." A recent literature review characterized public opinion research from the 1950s through the 1970s as being "dominated" by the "fundamental paradigm" of "minimalism": the view that mass publics display "minimal levels of political attention and information," "minimal mastery of abstract political concepts," "minimal stability of political preferences," and "minimal levels of attitude constraint" (Sniderman 1993, 219).

Some recent research has departed from this litany of "minimalism" to paint a more optimistic portrait of mass publics. Key's "perverse and unorthodox argument" has been taken up in major works whose titles nicely convey their aim of revising the older portrait of ordinary citizens: *The Reasoning Voter* (Popkin 1991), *Reasoning and Choice* (Sniderman, Brady, and Tetlock 1991), and *The Rational Public* (Page and Shapiro 1992). These and other works have emphasized the ability of ordinary citizens, individually and collectively, to make sense of the political world despite their lack of detailed information about ideologies, policies, and candidates. For present purposes it is important to underline that this newer research, in Sniderman's (1993, 219–20) words,

> managed to get beyond minimalism precisely by accepting its fundamental thrust: ordinary citizens tend to pay attention to politics only fitfully, and possess in consequence a thin, rather than thick, knowledge of it. . . . What marks the new look in public opinion, then, is the denial not of the classic premise of minimal levels of information and attention of mass publics, but rather of the conclusion of minimal coherence and reasonableness in their thinking commonly drawn from it.

Indeed, although information levels have fluctuated from time to time with changes in the political environment (Bennett 1988), the basic facts

with respect to levels of political information do not seem to be much different now than they were when political scientists first pointed out that "the voter falls short" of the knowledge required by classical standards of democratic citizenship (Neuman 1986). Identical factual questions produced only slightly more evidence of political information in 1989 than in the 1940s and 1950s, despite dramatic increases in education levels in the intervening decades: only about half of the adult population knew which party had more members in the House of Representatives, less than half knew what the first ten amendments to the Constitution are called, and less than 60% knew what a "recession" is (Delli Carpini and Keeter 1991, Table 1).

How, then, have contemporary scholars managed to recast the image of the ordinary citizen? For the most part, they have done so by changing the focus of research from *information levels* to individual and collective *information processing*. "Rational," "reasoning" citizens need not be highly informed; indeed, gathering political information merely for the sake of casting one informed vote in an electorate of millions would violate the principle of "rational ignorance." Instead, a "rational," "reasoning" public must simply be adept at using the bits and pieces of information at its disposal to mimic the choices it would make *if* citizens were fully informed.

How might a mass public composed of relatively uninformed citizens act *as if* it was fully informed? Analysts have offered two kinds of answers to this question, one based upon cues and "information shortcuts" and the other upon statistical aggregation. The first of these strands of argument emphasizes the ways in which even people who are uninformed by the standards of political scientists can figure out what they need to know about the political world. One basis for this argument is the sociological literature on the two-step flow of communication from relatively attentive and well-informed "opinion leaders" to the public at large (Berelson, Lazarsfeld, and McPhee 1954; Katz and Lazarsfeld 1955). In this vein, Neuman (1986, 186) wrote that "On most issues, the great majority of citizens are inattentive and uninformed. But, as with many social phenomena of this sort, there is a natural and effective division of labor."

Others have emphasized the importance of "low-information rationality" or "'gut' reasoning" (Popkin 1991, 7). Party identification (Robertson 1976) and retrospective evaluations of the economy (Fiorina 1981) have been interpreted as efficient "information shortcuts" for "cognitive misers." Brady and Sniderman (1985), Conover and Feldman (1989), and others have formulated psychological models in which citizens infer their own policy preferences from those of liked or disliked political figures or groups, candidate's policy positions from partisan cues, and so on. Even

Gerald Ford's ignorance of how to eat a tamale has been offered as a reasonable basis for voters to make inferences about the acceptability of his policy positions (Popkin 1991, 3, 111).[2]

The implication of this research is that, as Page and Shapiro put it (1992, 387–8),

> People probably do not need large amounts of information to make rational voting choices. Cues from like-minded citizens and groups (including cues related to demographic characteristics and party labels) may be sufficient, in an environment where accurate information is available, to permit voters to act as if they had all the available information (McKelvey and Ordeshook 1986; Wittman 1989).

McKelvey and Ordeshook's own formulation (1986, 934) is, if anything, even more categorical: "Cues can provide more than approximations: They provide, under appropriate assumptions, all the information that is required to identify a preferred candidate."

The obvious question is whether these "appropriate assumptions" reflect real political conditions. It is easier to assume than to demonstrate that cues and shortcuts do, in fact, allow relatively uninformed voters to behave *as if* they were fully informed. The assumption that cues and shortcuts work is especially seductive because it allows analysts to proceed to the (arguably) more tractable question of *how* they work, which in turn seems to provide indirect support for the unsupported claim that they do, in fact, work.

Thus, for example, Neuman (1986, 6) claimed that "The system apparently works quite well despite a generally low level of public interest in and knowledge about the political world," but immediately sidestepped the problem of providing empirical support for that claim:

> A full resolution to the paradox requires a demonstration that the system does indeed work well, which would lead the book into quite a different direction. But the formulation that, under the circumstances, the system works as well as it does focuses attention on how the system works.

Sniderman (1993, 220–1) wrote that "the emphasis on mass publics' minimal levels of information has given way to an emphasis on how they over-

[2] "In 1976," Popkin argued (1991, 111), "when President Ford tried to eat an unshucked tamale, he committed a faux pas far more serious than spilling mustard on his tie or ice cream on his shirt. To Hispanic voters in Texas, he betrayed an unfamiliarity with their food which suggested a lack of familiarity with their whole culture. Further, tamales were a way of projecting from the personal to the political, of assuming that personal familiarity with a culture and the acceptability of a candidate's policies to a group were linked."

come informational shortfalls," but provided little evidence that mass publics do in fact "overcome informational shortfalls," beyond the facts that mass belief systems "achieve a measure of coherence" and that "substantial numbers of citizens know what they favor." It seems that there is more than one sense in which, "in speaking of citizens taking advantage of judgmental shortcuts, or heuristics, there is plainly a risk of a merely verbal solution to the problem of mass publics' knowledge of politics" (Sniderman 1993, 221).

The second major argument for the wisdom of mass publics—more particularly of mass *electorates*—is based upon the presumed beneficial effects of aggregating many imperfect individual judgments into a collective choice. The logic of the argument is derived from the "jury theorem" of Condorcet (1785), who demonstrated mathematically that the probability of a correct majority vote in a group of modestly (and equally) well informed individuals may increase substantially as the size of the group increases.[3] Miller (1986), Wittman (1989), Converse (1990), and Page and Shapiro (1992) have all used Condorcet's logic to argue that aggregate election outcomes may be markedly more informed or enlightened than the individual votes that go to make them up.

The practical difficulty with Condorcet's argument is that it only works to the extent that individual errors are truly "random"—with an expected value of zero and no correlation across voters. Although the psychological and social processes that are supposed to produce voting "errors" are seldom specified, most plausible possibilities seem quite unlikely to produce uncorrelated errors. If one uninformed voter is inappropriately swayed by a rhetorical flourish in a televised debate or advertisement, another may be equally swayed in the opposite direction; but it seems more likely that the second "error" would reinforce rather than mitigate the first. If one uninformed voter is influenced by systematic biases in press coverage of the campaign, another may be equally influenced by systematic biases in the opposite direction; but again it seems more likely that the two biases would work in the same direction. If sources of error affect the entire electorate

[3]In an electorate consisting of N individuals voting independently, if the probability of a correct choice by each individual voter is p, the probability of a correct majority choice is (for N odd)

$$P = \Sigma_{k>(N+1)/2} p^k (1-p)^{N-k} N!/k!(N-k)!.$$

For example, when $p = .55$, an electorate of $N>70$ is sufficient to produce $P > .8$. Values of p even slightly greater than .5 produce values of P approaching 1 in mass electorates. It is interesting to note that for $p < .5$, the probability of a correct majority choice *decreases* with N in the same fashion.

(or a significant fraction of the entire electorate) in similar ways, the resulting errors will simply not cancel out no matter how large the electorate may be.[4]

How likely is it that the effects of voter ignorance would persist even in the aggregated choices of a mass electorate? The simple answer is that no one knows. Despite the elegance and theoretical importance of Condorcet's argument, to the best of my knowledge no scholar has attempted to apply it to real data from a mass electorate. Indeed, what seems most remarkable about the whole resurgence of interest in cues, information shortcuts, and information aggregation is how little concrete effort has been made to investigate the extent to which they actually facilitate informed choices by real electorates. Aside from experimental tests under artificial laboratory conditions (McKelvey and Ordeshook 1985, 1986),[5] I am aware of only three previous empirical studies of the electoral consequences of political information levels: an analysis of 1980 presidential election data focusing primarily on the relationships between information, extremism, and turnout (Palfrey and Poole 1987), a small-scale survey of voting on auto insurance propositions in Los Angeles County (Lupia 1994) and a larger-scale comparative study of voting on 36 statewide propositions in California (Gerber and Lupia 1993).

Lupia's (1994) study demonstrated that, at least under some circumstances, voters can use endorsements as substitutes for "encyclopedic" policy information.[6] Gerber and Lupia (1993) more systematically compared the actual outcomes of 34 California statewide ballot propositions to hypothetical outcomes based upon "complete information preferences" estimated from survey data. They found an average divergence of 13.8 percentage points (calculated from Gerber and Lupia 1993, Table 5). They also found that the magnitudes of these divergences were significantly re-

[4]Formal models of correlated individual choices (for example, Berg 1993) confirm the intuition that modest positive correlation reduces the efficacy of statistical aggregation modestly, while severe positive correlation reduces it severely (for $p > .5$).

[5]McKelvey and Ordeshook's experiments were constructed to ensure that both "candidates" and "voters" had very simple preferences and very limited opportunities for communication. In particular, the tendency of "voters" to vote "correctly" on average seems attributable in large part to the fact that "candidates" had neither incentives nor opportunities for transmitting biased information in the experimental setting.

[6]Ironically, voters who could successfully identify the preferences of the insurance industry and the trial lawyers' association on a series of five competing auto insurance propositions were significantly *less* likely to share those preferences. In this respect they successfully emulated the behavior of voters who were better informed about the content of the competing propositions; voters who lacked both "encyclopedic" information and "cue" information exhibited very different choice behavior.

lated to features of the electoral context; for example, divergences were generally smaller for propositions that attracted heavy campaign spending.

This last result suggests that disparities between "complete information preferences" and actual election outcomes should be considerably smaller in presidential elections, which are much more competitive and highly publicized than even the most important statewide referenda. In that sense, the analysis of voting in presidential elections presented here provides a considerably easier test of an electorate's collective ability to act *as if* it was fully informed. On the other hand, the present analysis allows for a much wider variety of information effects than those considered by Gerber and Lupia (1993), and thus may capture a greater variety of divergences between actual and "fully informed" election outcomes.[7]

What might produce such divergences, and what might they look like? We have a good deal of suggestive empirical evidence, but little in the way of systematic theory. One relevant strand of empirical research has demonstrated that voters resist supporting candidates they know little about (Bartels 1986; Bartels 1988; Alvarez 1992; Alvarez and Franklin 1994). Although any major candidate in a presidential election is likely to be much better known than the average candidate in a presidential primary, Senate, or congressional campaign, it is nevertheless the case that "the incumbent tends to have a prominence that the challenger finds hard to match, especially among voters who are not politically informed or attentive" (Sniderman, Brody, and Tetlock 1991, 166). By one calculation (Bartels 1986, 724), differential effects of issue uncertainty alone netted incumbent Jimmy Carter more than three percentage points in his 1980 presidential campaign against challenger Ronald Reagan. If these differential effects are mitigated by political information, as they may well be, then a more informed electorate should be expected to be less supportive of incumbents, other things being equal.

More generally, researchers analyzing data from mass opinion surveys have found a variety of potentially relevant differences between the perceptions and opinions of well-informed and less well-informed citizens. Bartels (1988) showed that presidential primary campaigns are more likely to "activate" the political predispositions of well-informed citizens in predictable ways. Zaller (1992) demonstrated that well-informed citizens are more likely to hear and absorb elite political arguments, and thus to display patterns of mainstream consensus or partisan polarization consistent with those arguments. Krosnick and Brannon (1993) and others have found noticeable differences between informed and uninformed citizens in susceptibility to

[7]The relevant differences in model specification are detailed in notes 11, 12, and 13 below and in the accompanying text.

priming. These strands of research are especially relevant because they suggest that information effects may be expected to vary systematically with both personal characteristics and aspects of the larger political context.

Related experimental research on information processing in laboratory settings indicates that sophisticated citizens are more likely than unsophisticated citizens to process new information "on line" (McGraw and Pinney 1991) and less sensitive to variations in the format of political argument (Rahn, Aldrich, and Borgida 1994). In perhaps the closest approach to the sort of analysis envisioned here, Lau and Redlawsk (1992, Table 9) found that "expert" subjects were much better able to vote "correctly" (i.e., in accordance with their own expressed issue positions, party affiliations, and group attachments, each weighted in proportion to the frequency with which the subjects searched out corresponding information about the fictitious candidates) in some experimental settings, though not in others.

All of this evidence suggests that, as Sniderman, Brody, and Tetlock (1991, 165–6) put it,

> It is not reasonable to suppose that the voter who is exceedingly well informed about politics and the one who is largely ignorant of it would enumerate potentially relevant considerations with the same exhaustiveness; or frame alternative considerations with the same precision; or foresee consequences of alternative choices with the same distinctness; or coordinate calculations, both about alternative means and alternative ends, with the same exactness.

Given the variety of demonstrable differences between well-informed and less well-informed citizens in sensitivity to external stimuli, diversity and precision of political perceptions, information-processing strategies, access to shared understandings of politics, and integrative ability, it hardly seems outlandish to entertain the possibility that disparities in political information lead to systematically different vote choices by citizens in otherwise similar political circumstances, despite—or perhaps even, in part, because of—the availability of cues and information short-cuts. Of course, there is nothing illogical about the contrary assertion that less well-informed citizens canvass fewer relevant considerations, absorb less of the ongoing political debate, discern less clearly the differences between the competing candidates, and attach less weight to the implications of those differences for their own political values, yet still manage to come to the same decisions they would have if they were better informed. Convincing empirical evidence simply has not been adduced one way or the other.

Estimating Information Effects

My aim in this report is to provide concrete, quantitative estimates of the effects of information—and thus, equally, of the absence of informa-

tion—in recent United States presidential elections. It should, therefore, be obvious that the first requirement for the empirical analysis is an appropriate measure of individual differences in general political information.

Public opinion analysts have experimented with a wide variety of measures of political information or sophistication, including factual "test" items, respondent self-descriptions, measures of the conceptual sophistication or consistency across issues of political attitudes, and proxy indicators such as levels of formal education.[8] A detailed study by Zaller (1985) produced the somewhat surprising finding that the "single most effective information item" in the American National Election Studies, across a fairly wide range of applications, was a five-level summary evaluation of each respondent's level of information made by the interviewer at the end of the interview. Interviewers classified respondents' "general level of information about politics and public affairs" as "very high," "fairly high," "average," "fairly low," or "very low." Zaller (1985) demonstrated that these interviewer ratings of respondents' political information correlated strongly with a variety of relevant criterion variables, that this single indicator of political information had a coefficient of statistical reliability of about .78, and that respondents' race, income, education, and gender produced no apparent biases in the interviewers' ratings.[9]

Here, I use interviewers' ratings as a summary measure of respondents' political information. I assigned numerical scores of .95, .8, .5, .2, and .05, respectively, to the "very high," "fairly high," "average," "fairly low," and "very low" information ratings. These numerical assignments corre-

[8]Luskin (1987) provided a comprehensive survey and critique of various measures of political sophistication, but discussed "information holding" only in passing. Fiske, Lau, and Smith (1990) identified "political knowledge" as the most significant dimension of political expertise more broadly defined. Zaller (1992, 333–7) also discussed the use of information tests and alternative measures of "political awareness."

[9]Luskin (1987), Zaller (1992, 333–44), and Delli Carpini and Keeter (1993) all advocated using factual "test" items to build political information scales, including "correct" placements of candidates on issue scales and more direct factual questions (Is China a member of the United Nations? What office does Dan Quayle hold?). Even rather elaborate information scales based on these sorts of items turn out to be only slightly more reliable than the interviewer ratings, however; scales based on as many as 15 separate "test" items have estimated reliabilities between .80 and .85, as compared with about .78 for the interviewer ratings (Zaller 1985, 5). (Readers concerned about marginal differences in reliability of this magnitude should recall that typical seven-point issue scales have reliability coefficients in the neighborhood of .4 to .6.) Interviewer ratings also turn out to be no less (and sometimes more) strongly related than factual information scales are to relevant criterion variables such as political interest, education, registration, and turnout (Zaller 1985, 4). Given the added difficulty of making comparisons from one election year to another using scales based on rather different sets of available information items of variable quality, the simpler interviewer ratings seem preferable for my purposes here.

spond approximately to the category midpoints in a uniform distribution of political information over the unit interval in each election year. They produce conservative estimates of the effect of information, in that respondents with "fairly high" and "fairly low" levels of information are assumed to behave more like those with "very high" or "very low" levels of information than like those with "average" levels of information, while respondents with "very high" levels of information are assumed to behave very much like those with (hypothetical) "full information."[10]

By observing how reported voting behavior varies with information thus measured, I propose to simulate the behavior of a hypothetical "fully informed" electorate. Obviously, such a simulation is artificial in several respects. It does not capture the complex process by which some citizens *choose* to become politically informed and others do not. Nor does it distinguish between the specific effects of factual information about politics and the broader effects of cognitive styles and information processing behavior that may differentiate well informed from uninformed citizens (McGraw and Pinney 1990). As a result, the hypothetical "fully informed" electorate that is the focus of my analysis here should be thought of not only as better informed than the actual electorate in a narrow factual sense, but also as (at least somewhat) more interested in and sophisticated in thinking about politics.

How might the preferences of this hypothetical "fully informed" electorate differ from the preferences of the actual electorate? One possibility is to assume that increasing information reduces the variability of voters' choices without altering the central tendency of their underlying preferences.[11] Alternatively, we might suppose that more informed voters are more likely across the board to prefer Republican candidates (or Democrats), controlling for other relevant factors.[12] Both of these assumptions

[10]Modifying the relative scores of respondents with "fairly high" and "fairly low" levels of information does not appreciably alter either the statistical fit of the model or the substantive results; increasing the presumed gap between "very high" information in the survey sample and "full information" increases the magnitude of all the estimated information effects but does not otherwise alter the pattern of results.

[11]This is the assumption underlying the heteroskedastic logit model employed by Gerber and Lupia (1993). The heteroskedastic logit specification models observed choices as a function of a systematic component unresponsive to information plus a disturbance term with zero mean and a variance that *decreases* with *increases* in information. In the more general framework adopted below, the parallel assumption would be that the probit parameters for fully informed preferences are exactly proportional to the corresponding parameters for uninformed preferences, but larger in magnitude. Franklin (1991) applied a similar model to prospective voters' perceptions of incumbent Senators running for reelection, but focused primarily upon variations in uncertainty attributable to candidate behavior.

[12]This possibility could be incorporated in the empirical analysis by simply including the information variable along with any other relevant explanatory variables in the model

seem unduly restrictive, however, in that they require information to have essentially similar effects on all voters regardless of their circumstances. It seems much more plausible to suppose that increasing information—by giving voters a better sense of the credibility and likely consequences of each party's proposals, priorities, and political predicaments—could make some voters systematically more Republican in their preferences but at the same time make others systematically more Democratic.

The model employed here allows for that possibility by including a complete set of interactions between political information and all of the other explanatory variables in the analysis. While this approach significantly increases the number of parameters to be estimated, it also allows for much greater flexibility in the nature of the information effects estimable from the survey data. In particular, this specification allows information both to affect the variability of underlying voter preferences and to affect the central tendency of voter preferences differently in different social and demographic groups.[13]

The model takes the form

$$\text{prob}(Y_i = 1) = \Phi(\Sigma_k[\alpha_k(1 - W_i)X_{ik} + \omega_k W_i X_{ik}]), \quad (1)$$

where Y_i is respondent i's reported dichotomous vote choice (1 for a Republican vote, 0 for a Democratic vote), W_i is respondent i's level of political information on the 0 to 1 scale as estimated by the interviewer, X_{ik} is respondent i's observed score on characteristic k, α_k and ω_k are estimable parameters reflecting the impact of characteristic k on the voting behavior of uninformed and fully informed respondents, respectively, and Φ is the cumulative normal (probit) function.

Estimates of the probit parameter vectors α and ω generated by applying this model to survey data from the 1992 presidential election are reported in Table 1. The dependent variable in the probit analysis takes a value of 1 for survey respondents who reported voting for George Bush and 0 for those who reported voting for Bill Clinton; those who reported

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of voting behavior. Lupia (1994) took this approach in his analysis of voting on insurance propositions, although he also allowed for interactions between (general) "encyclopedic information" and knowledge of (specific) "cues" derived from endorsements. Lupia justified his specification by attributing identical underlying preferences to his respondents based upon "their status as consumers."

[13] Of course, this much flexibility may not always be necessary to account for observed patterns of political preference. More restrictive model specifications can be emphatically rejected for the analyses of recent presidential voting reported below, but not, apparently, for the analyses of California referendum voting reported by Gerber and Lupia (1993, note 12).

Table 1. Probit Parameter Estimates for Republican Vote Propensity, 1992

	Fully Informed Preferences	Uninformed Preferences	Information Effect (Difference)
Intercept	−1.542	−.348	−1.194
	(.766)	(1.112)	(1.673)
Age (years)	−.0435	.0000	−.0436
	(.0278)	(.0389)	(.0594)
Age squared (years)	.000429	−.000045	.000474
	(.000278)	(.00384)	(.000590)
Education (years)	.0962	.0017	.0945
	(.0337)	(.0536)	(.0779)
Income (percentile)	.399	.828	−.428
	(.329)	(.563)	(.802)
Black	−1.063	−2.285	1.222
	(.319)	(.479)	(.717)
Female	−.420	.326	−.746
	(.153)	(.269)	(.381)
Married	.335	−.035	.369
	(.166)	(.265)	(.387)
Homeowner	.178	.029	.149
	(.164)	(.263)	(.382)
Housewife	.290	.033	.257
	(.298)	(.394)	(.617)
Retired	.531	−.334	.865
	(.281)	(.386)	(.598)
Clerical	.367	−.494	.861
	(.214)	(.349)	(.508)
Professional	−.242	.492	−.734
	(.207)	(.404)	(.551)
Union household	−.168	−.655	.486
	(.191)	(.306)	(.446)
Urban	−.450	.299	−.749
	(.168)	(.297)	(.420)
East	−.569	.594	−1.163
	(.208)	(.363)	(.517)
South	−.128	−.048	−.080
	(.179)	(.281)	(.411)
West	.098	−.644	.743
	(.207)	(.337)	(.485)
Protestant	.935	.539	.396
	(.226)	(.342)	(.507)
Catholic	.868	−.635	1.503
	(.251)	(.388)	(.573)
Jewish	−.221	−2.610	2.389
	(.563)	(1.954)	(2.342)

Standard errors of parameter estimates are in parentheses.
Log likelihood = −729.0. Correct classifications = 70.7%. N = 1,323.

voting for other candidates or not voting are excluded from the analysis.[14] The explanatory variables consist of a variety of familiar social and demographic characteristics, including age, education, income, race, gender, occupation, region, and religious affiliation.

What distinguishes the analysis reported in Table 1 from a standard probit analysis of vote choice is that two parameters are estimated for each explanatory variable, ω_k representing the effect of variable k among fully informed voters and α_k representing its effect among totally uninformed voters. These separate parameter estimates allow the impact of each explanatory variable to vary systematically with voters' measured levels of political information.

Of course, relatively few voters even approximate the extremes of high and low information represented by the two columns of parameter estimates in Table 1. But the assumption underlying the analysis is that each voter's choice is governed by a weighted average of the "fully informed" and "uninformed" effects, with the relevant weights determined by the voter's own measured level of political information. For example, for voters whose general level of information about politics and public affairs was judged to be "very high," the estimated effect of each explanatory variable is 95% of the parameter value ω_k in the first ("fully informed") column of Table 1 plus 5% of the parameter value α_k in the second ("uninformed") column. For voters whose general level of information was judged to be "average," the estimated effect of each explanatory variable is 50% of the "fully informed" parameter value plus 50% of the "uninformed" parameter value, and so on.

It should be obvious that the assumed linearity of information effects for prospective voters with a given combination of demographic characteristics is too restrictive to be more than a useful approximation. The work of Zaller (1992) and others suggests good theoretical reasons for expecting non-linear information effects under some plausible circumstances. The assumption of linear information effects does seem to work reasonably well in the present context; however, a variety of alternative monotonic and

[14] Perot voters are excluded from this analysis to facilitate comparability of results across election years. A multinomial logit analysis in which Perot voters and non-voters were included produced results for Bush and Clinton voters very similar to those reported in the text. The actual reported preferences of the survey respondents, excluding non-voters, were 48.2% for Clinton, 33.8% for Bush, and 18.0% for Perot. The corresponding hypothetical "fully informed" preferences estimated from a multinomial logit model including the same explanatory variables listed in Table 1 were 50.1% for Clinton, 30.7% for Bush, and 19.2% for Perot. By this calculation, Bush's projected share of the fully informed two-party vote was 3.2% less than his share of the actual two-party vote; the corresponding estimate based on the analysis in the text is 2.7%.

nonmonotonic functional forms failed to produce significant improvements in fit over the simple linear specification.

It should be equally obvious that the statistical fit of the model represented in Table 1 could be improved by including indicators of various more proximate political attitudes among the explanatory variables. The problem with including such indicators, for present purposes, is that the attitudes they reflect may themselves be affected by levels of political information, rendering problematic any imputation of vote choices from more informed people to less informed people with the same measured attitudes. By contrast, since demographic and social characteristics of the sort represented in Table 1 are essentially fixed, they provide a firmer base for imputing the hypothetical "fully informed" vote choices of less informed people from the observed choices of more informed people with similar characteristics. Thus, the model specification reported in Table 1 may be thought of as a reduced form model corresponding to some more elaborate, more realistic, but unspecified structural model in which proximate political attitudes mediate between demographic and social characteristics on one hand and vote choices on the other. Here, as usual, it is unnecessary to specify or estimate the detailed structural model if the reduced form is sufficiently flexible and politically rich to provide interesting answers to our substantive questions.[15]

The model proposed here is well suited to detect a wide variety of potential information effects. If political disagreements were due simply to ignorance and not to deep-seated differences in values and interests, the social and demographic voting patterns evident among less informed voters might simply disappear among the "fully informed." Since nothing in the model forces them to disappear, however, the model is equally capable of capturing the fact that "people who are 'fully informed' may nonetheless disagree, as experience regularly shows" (Zaller 1992, 312). Furthermore, these disagreements among people who are "fully informed" may parallel the differences among less informed people, or they may have quite different bases and consequences.

It is also worth emphasizing that nothing in the structure of the model proposed here biases it in favor of finding information effects of any kind at all. If well informed and uninformed voters in similar social locations made similar choices, the two columns of parameter estimates in Table 1 would simply be identical (within sampling error), and the model would

[15] Of course, *different* reduced form models may produce *different* answers to our substantive questions. However, extensive experimentation with alternative specifications including various combinations of these and other social and demographic variables produced results essentially similar to those reported here.

Table 2. Likelihood Ratio Tests for Deviations from Fully Informed Voting, 1972–1992

Election Year	Probit Log Likelihood Without Information Effects	Probit Log Likelihood With Information Effects	*p*-value for Difference: $\chi^2_{(21)}$
1992	−749.1	−729.0	.007
1988	−705.7	−692.4	.183
1984	−769.4	−743.8	.0003
1980	−496.2	−482.1	.135
1976	−781.5	−770.3	.384
1972	−858.4	−839.7	.015

be equivalent (again, within sampling error) to a standard probit model including the single list of explanatory variables and no information effects.

This equivalence provides a straightforward way to formally test the hypothesis that uninformed voters act *as if* they were fully informed. Comparing the likelihood of the data under the unconstrained model with information effects in Table 1 and under a constrained model with the same explanatory variables but no information effects produces a χ^2 value of 40.2 with 21 degrees of freedom. Since the probability of observing a χ^2 value this large by chance is less than .01, the comparison produces an emphatic disconfirmation of the hypothesis that uninformed voters act *as if* they were fully informed.

Table 2 shows the results of similar likelihood ratio tests for the hypothesis of no information effects for each of the last six presidential elections. The corresponding (unconstrained) probit parameter estimates for the 1988, 1984, 1980, 1976, and 1972 elections are presented in Tables 4 through 8 in the Appendix. In every election year the unconstrained model provides a considerable improvement in fit over the constrained model without information effects; in three of the six election years—1992, 1984, and 1972—the improvement is substantial enough to warrant *prima facie* rejection of the hypothesis of no information effects at conventional levels of "statistical significance."

Of course, strong and precise theoretical claims invite strong and precise empirical disconfirmation. A more interesting use of the parameter estimates presented in Tables 1 and 4 through 8 is to examine the nature, magnitude, and political consequences of the apparent deviations from fully informed voting evident in recent presidential elections. For what sorts of voters do levels of political information significantly influence vote choices? How consistent are these effects across elections? What are their

aggregate consequences for presidential election outcomes? These are the sorts of questions addressed in the next two parts of my analysis.

Who Needs Information?

Parameter estimates like those reported in Table 1 provide an empirical basis for testing the hypothesis that uninformed voters manage to mimic the behavior of fully informed voters with similar social and demographic characteristics. They also provide an empirical basis for more detailed investigation of the respects in which information matters in contemporary American presidential elections. Does information tend to magnify or suppress demographic patterns in voting behavior? Are more informed voters consistently more Republican or more Democratic than their less informed counterparts, or does the partisan effect of information vary markedly from group to group? Which social and demographic characteristics are associated with significant information effects and which are not?

Investigation of questions like these may be facilitated by graphical representations of the statistical patterns represented numerically in Table 1 and in Tables 4 through 8 in the Appendix. The four panels of Figure 1 provide graphical representations of information effects for four different demographic categories: females, blacks, Protestants, and Catholics. The six lines in each panel of the figure show how the impact of being in the relevant demographic category varied with information in each of the six presidential campaigns examined here. Flat lines indicate that the impact of a demographic characteristic on survey respondents' probabilities of voting for the Republican presidential candidate did not depend in any systematic way upon the respondents' level of information; lines sloping *toward* the dotted zero-impact line as information increases indicate that the impact of the demographic characteristic on respondents' vote choices *decreased* with increasing information; lines sloping *away from* the dotted zero-impact line indicate that the impact of the demographic characteristic *increased* with increasing information; lines *crossing* the dotted zero-impact line indicate that the impact of the demographic characteristic *reversed direction* (from pro-Republican to pro-Democrat or vice versa) with increasing information.

In each case, the positive or negative effect illustrated in the figure represents the difference in the probability of voting for the Republican presidential candidate attributable to membership in the relevant demographic category, for a hypothetical voter who would otherwise vote for each candidate with equal probability. For example, the estimated effect of being Catholic in 1992 ranges from −.21 among respondents with "very low" levels of political information to +.29 among respondents with "very

high'' levels of political information, producing the steepest of the six slopes shown in the lower right panel of Figure 1.[16]

As the standard errors associated with the corresponding parameter estimates in Tables 1 and 4 through 8 make clear, some of the apparent information effects in Figure 1 simply reflect random variation in the estimated parameters. Others are too large to be attributable to random variation, but vary across election years in ways that probably reflect the specific character of political discourse in individual campaigns, including the nature and clarity of candidates' issue positions and commitments and the extent to which candidates and interest groups succeed in stimulating latent group loyalties. Still other information effects are too persistent to be attributable either to sampling variability in the parameter estimates or to the vagaries of political discourse in specific campaigns.

For example, the upper left panel of Figure 1 indicates that ''fully informed'' women were more Democratic than relatively uninformed women in every one of the six elections analyzed here, often by substantial margins. Indeed, the gender gap so evident to political observers in recent presidential elections, though quite real among well informed voters, disappears entirely among uninformed voters (the sole apparent exception, in 1980, has an associated t-statistic of less than 1.0). The effect of information on the voting patterns of Protestants, illustrated in the upper right panel of Figure 1, is roughly similar, though somewhat less uniform across elections

[16]From Equation (1) in the text, the impact of a one-unit positive change in X_{ik} on the vote probability of a hypothetical voter who would otherwise vote for each candidate with equal probability is

$$\Delta \text{ prob}(Y_i = 1) = \Phi[\alpha_k (1 - W_i) + \omega_k W_i] - .50,$$

where W_i is the voter's measured level of political information, α_k and ω_k are the parameters associated with characteristic k for totally uninformed and fully informed voters, respectively, and .50 is the assumed baseline probability of a Republican vote. Thus, the estimated effect of being Catholic among respondents with ''very low'' levels of political information is

$$\Delta \text{ prob}(Y_i = 1) = \Phi[-.635 (.95) + .868 (.05)] - .50 = -.21,$$

where $-.635$ is the estimated effect of being Catholic among totally uninformed voters (from the second column of Table 1), .868 is the estimated effect of being Catholic among fully informed voters (from the first column of Table 1), the measured information level $W_i = .05$, and $(1 - W_i) = .95$. By contrast, among respondents with ''very high'' levels of political information $W_i = .95$ and $(1 - W_i) = .05$, so that the estimated effect of being Catholic is

$$\Delta \text{ prob}(Y_i = 1) = \Phi(-.635 (.05) + .868 (.95)) - .5 = .29.$$

Figure 1. The Impact of Information on Some Estimated Demographic Effects, by Election Year

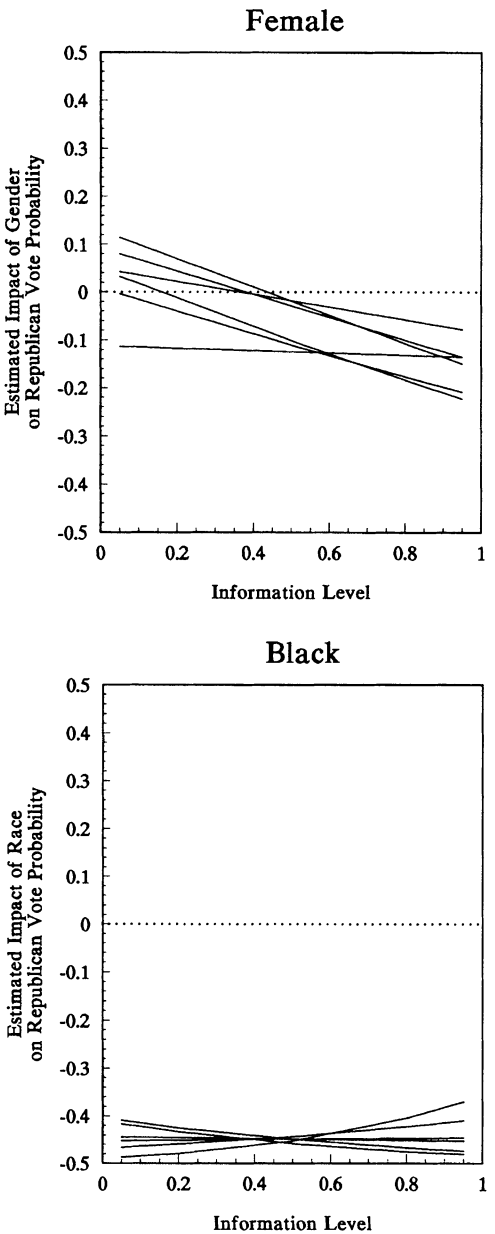
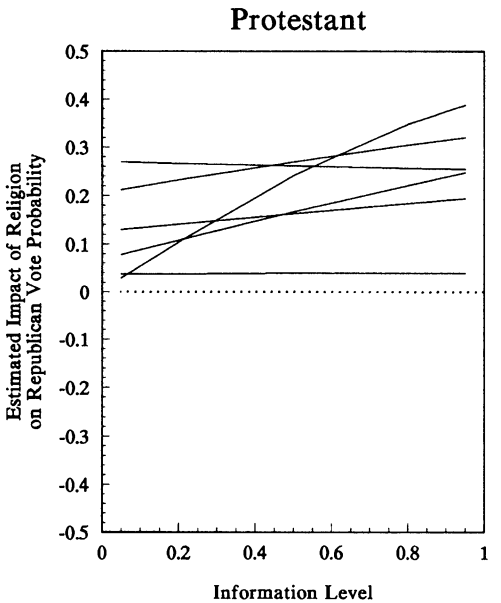
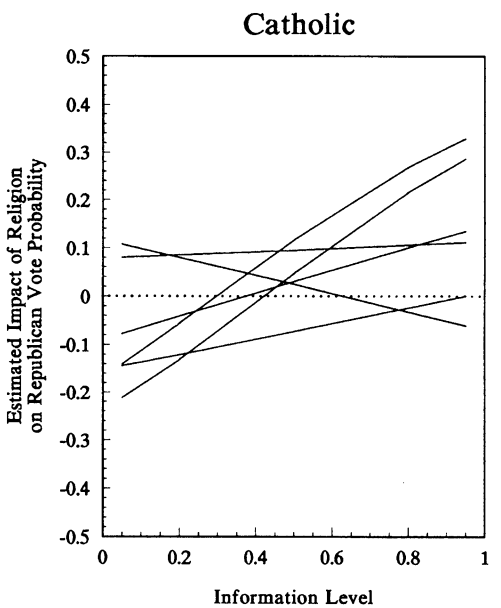


Figure 1. (*continued*)





and less precisely estimated: on average, and especially in 1972, relatively uninformed Protestants exhibited a much attenuated version of the pro-Republican tendencies evident among "fully informed" Protestants.

The impact of information on the voting behavior of Catholics, illustrated in the lower right panel of Figure 1, adds one more wrinkle to the picture. Although the results are again rather imprecise and vary from one election to the next, on average the impact of Catholicism was actually reversed by information. "Fully informed" Catholics were disproportionately Republican in their presidential voting behavior in most recent election years, while relatively uninformed Catholics were usually disproportionately Democratic.

If the political implications of gender and religion appear to have been opaque to many uninformed voters in recent presidential elections, the same is emphatically not true of some other social characteristics. For example, as the lower left panel of Figure 1 makes clear, African-Americans in every recent presidential election have been dramatically more Democratic in their voting propensities than other citizens, regardless of how informed or uninformed they were about politics. By the same token, higher income voters have been consistently more Republican than lower income voters even among the politically uninformed.

Why does information significantly condition the effects of some demographic variables but not others? One possible explanation has to do with whether the issues supporting a particular demographic voting pattern are "easy" or "hard" in the sense of Carmines and Stimson (1980).[17] For example, the consistency of racial voting patterns across information levels seems explicable on the grounds that race is a quintessentially "easy" issue—symbolic, salient, and persistent. Another potential explanation has to do with patterns of political communication within particular social groups. For example, African-Americans may have sufficiently well developed channels of communication to produce substantial agreement across information strata about the political implications of their shared racial identity. Finally, political rhetoric and tradition may make some political

[17] "Easy" issues are "symbolic rather than technical," "more likely deal with policy ends than means," and are "long on the political agenda" (Carmines and Stimson 1980, 80). Carmines and Stimson classify issue difficulty in part by observing the extent to which levels of political information condition the relationship between issue positions and presidential votes. Thus, Vietnam is classified as a "hard" issue in part because the relationship between dovish opinion and McGovern support is significantly stronger among highly informed voters than among those with less information (Carmines and Stimson 1980, Figure 1); desegregation is classified as an "easy" issue in part because the relationship between policy views and McGovern support is essentially similar regardless of information level (Carmines and Stimson 1980, Figure 2).

implications of a given social identity more salient to highly informed citizens and others more salient to less informed citizens. For example, it seems plausible from the work of Converse (1964) and others that less informed Catholics have been predominantly oriented toward the traditional group loyalties handed down from the New Deal era, while more informed Catholics have been more attentive to the positions of contemporary Democratic candidates on such issues as abortion, crime, public morality, and support for private schools.

However group-specific information effects of the sort illustrated in Figure 1 are to be explained, it seems clear that the interactions between political information and social characteristics allowed for here capture important and relatively unexplored aspects of the role of information in voting behavior.[18]

The Electoral Consequences of Uninformed Voting

In addition to estimating how information conditions the electoral impact of specific demographic and social characteristics, it is possible to estimate more broadly the impact of information on the choices of real people with their various combinations of relevant demographic and social characteristics. I do this by comparing each survey respondent's actual voting behavior with hypothetical "fully informed" voting behavior imputed on the basis of the statistical analyses reported in Tables 1 and 4 through 8.

The hypothetical "fully informed" Republican vote probability imputed to each survey respondent in the 1992 election is a function of the respondent's observed characteristics and the probit parameters estimated in the first ("fully informed") column of Table 1. In particular, applying Equation (1) above, the hypothetical "fully informed" vote probability for respondent i is

$$\lim(W_i \rightarrow 1)\ [\text{prob}(Y_i = 1)] = \Phi(\Sigma_k[\omega_k X_{ik}]) \qquad (2)$$

[18]Skeptical readers have wondered whether patterns like these might more plausibly be attributed to the effects of unmeasured characteristics differentiating less informed and more informed respondents in a given demographic category. Perhaps, the argument goes, information acts as a surrogate for other factors that make some Catholics (for example) significantly more likely than others to vote Republican. Such skepticism is always difficult to allay, especially in the absence of any specific hypotheses about the nature of the unmeasured factors at work. Whatever those unmeasured factors are, they must (1) be strongly correlated with differences in political information, (2) *not* be *consequences* of differences in political information, and (3) operate distinctively in a particular demographic group, since similar information effects do not appear among prospective voters generally. My own view is that we are likely to get farther with substantive interpretations along the general lines of those offered in the text, although the specific substantive interpretations offered there may well turn out upon further investigation to be mistaken.

Table 3. Estimated Deviations from Fully Informed Voting, by Presidential Election Year, 1972–1992

Election Year	Average Deviation (%) from Fully Informed Vote	Aggregate Deviation (%) from Fully Informed Outcome
1992	10.62	2.73
	(1.50)	(1.18)
1988	7.91	−3.01
	(1.54)	(2.13)
1984	11.80	4.87
	(3.06)	(2.05)
1980	11.70	−5.62
	(2.38)	(3.35)
1976	7.58	0.35
	(2.72)	(2.20)
1972	8.28	1.71
	(2.06)	(2.20)

Jackknife calculations based upon parameter estimates in Tables 1 and 4 through 8.
Standard errors are in parentheses.

and the difference between the estimated Republican vote probability calculated for each respondent on the basis of the complete model in Equation [1] (using the respondent's vector of characteristics $\mathbf{X}_i$ and the sample estimates of the parameter vectors ω and α reported in Table 1) and the corresponding estimate of the hypothetical "fully informed" Republican vote probability based on Equation [2] (using the respondent's vector of characteristics $\mathbf{X}_i$ and the same sample estimates of the parameter vector ω from the "fully informed" column of Table 1) provides a concrete estimate of the impact of political ignorance on each respondent's vote.

The average absolute value of these individual-level deviations from "fully informed" voting in each of the last six presidential elections is presented in the first column of Table 3. The average deviation for 1992 is 10.6 percentage points, which is roughly typical of the range of average deviations (from 7 to 12 percentage points) across the six elections.

Are average deviations of this magnitude surprisingly large or surprisingly small? Obviously, the answer depends in large part upon one's prior expectations. Some useful perspective may be provided by noting that if every voter simply behaved randomly, voting for each candidate half the time, the resulting average deviation from "fully informed" voting probabilities would be on the order of 20 percentage points (ranging from 18 to

24 percentage points across the six elections).[19] Thus, it appears that the information voters bring to bear in presidential elections, albeit limited, reduces the average magnitude of their deviations from a hypothetical baseline of "fully informed" voting by about 50%.

The estimated average deviations presented in the first column of Table 3 measure the extent to which individual voters' behavior departed from what it would have been with complete information. These estimates speak to the argument that even relatively uninformed individual voters can use social cues and information shortcuts to behave much as they would have with complete information. The fact of the matter, it seems, is that they do significantly better than they would by chance, but significantly less well than they would with complete information, despite the availability of cues and shortcuts.

The average individual deviations in the first column of Table 3, however, do not speak to the argument that individual errors are likely to cancel out in large electorates, bringing actual collective choices into close alignment with the corresponding hypothetical fully informed collective choices in spite of large individual deviations. In order to address that argument it is necessary to aggregate across voters the individual deviations from "fully informed" voting identified in the first column of Table 3.[20] If pro-Republican deviations for some voters are exactly balanced by pro-Democratic deviations for others, the average (signed) value of the deviations will be exactly zero, suggesting that the electorate as a whole acts as though it was "fully informed" even though individual voters do not. If the aggregate deviation is positive, the implication is that the election outcome was more favorable to the Republican candidate than it would have been if all voters had been "fully informed"; if the aggregate deviation is negative, the im-

[19] That is, the average value of

$$|.5 - \Phi(\Sigma_k[\omega_k X_{ik}])|$$

in each election year is about .2, whereas the average value of

$$|\Phi(\Sigma_k [\alpha_k (1 - W_i) X_{ik} + \omega_k W_i X_{ik}]) - \Phi(\Sigma_k [\omega_k X_{ik}])|$$

in each election year is about .1.

[20] Thus, whereas the first column of Table 3 reports the average of the absolute value

$$|\Phi(\Sigma_k[\alpha_k(1 - W_i) X_{ik} + \omega_k W_i X_{ik}]) - \Phi(\Sigma_k[\omega_k X_{ik}])|$$

for each election year, the second column reports the average of the signed value

$$\{\Phi(\Sigma_k[\alpha_k(1 - W_i) X_{ik} + \omega_k W_i X_{ik}]) - \Phi(\Sigma_k[\omega_k X_{ik}])\}$$

for each election year.

plication is that the electorate as a whole was more Democratic than it would have been if all voters were "fully informed."[21]

Estimates of these aggregate deviations from "fully informed" election outcomes for each of the six most recent presidential elections are presented in the second column of Table 3.[22] The aggregate deviations for the electorate as a whole are certainly smaller than the average individual deviations shown in the first column of Table 3; on average, they are about one third as large in absolute value. This difference suggests that simple aggregation does allow the electorate as a whole to act *as if* it was significantly more informed than its constituent individual voters. The strong version of this hypothesis, however, in which the electorate as a whole acts *as if* it was *fully* informed, can be strongly rejected on the basis of these estimates. In four of the six elections examined, the aggregate deviations from hypothetical "fully informed" election outcomes are both large (with absolute deviations ranging from 2.7 to 5.6 percentage points) and statistically significant (with p-values of .16, .09, .02, and .02 for separate two-tailed t-tests of the null hypothesis of no aggregate deviation).

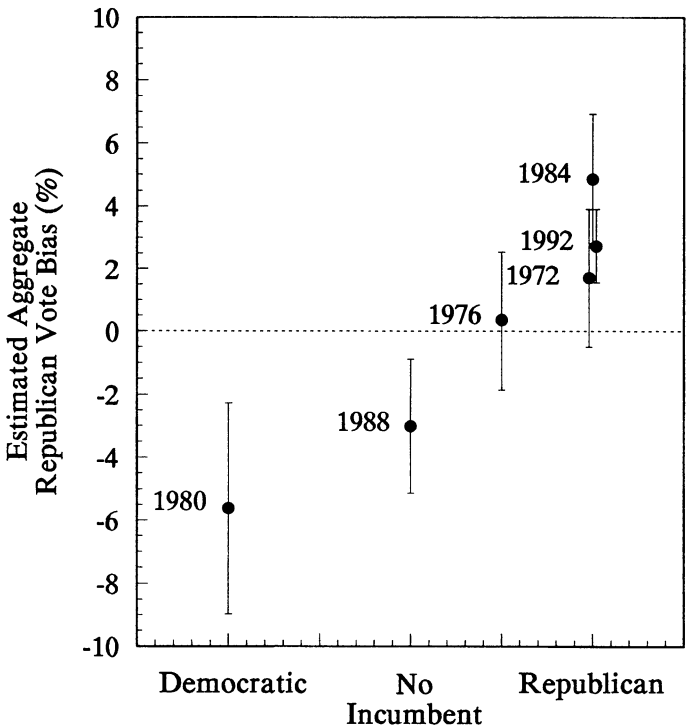
What is more, the aggregate deviations from "fully informed" voting shown in the second column of Table 3 do not appear to be idiosyncratic deviations that advantage or disadvantage particular candidates in random, unpredictable ways. Rather, the aggregate deviations display two clear and politically consequential patterns: relatively uninformed voters are more likely, other things being equal, to support incumbents and Democrats.

These two patterns are evident in a visual inspection of the estimated aggregate deviations classified by incumbency, as in Figure 2. Even with only six aggregate-level observations, the significance of the patterns can be confirmed by regressing the estimated aggregate deviation in each election year upon incumbency (+1 when a Republican incumbent runs for reelection, 0 when neither candidate is an incumbent, and −1 when a Dem-

[21] It is worth noting that these simulations of "fully informed" election outcomes take no account of a potentially consequential second-order effect: the impact of information on election turnout. The calculations are based only upon survey respondents who reported voting. If non-voters were also "fully informed" they would be more likely to vote, which might alter the projected election outcome in ways not accounted for here. A preliminary analysis of the 1992 data suggests that this second-order effect is relatively minor, primarily because the projected preferences of non-voters do not differ dramatically from those of voters (Wolfinger and Rosenstone 1980); nevertheless, further investigation is in order.

[22] The estimates presented in Table 3 and their standard errors were calculated by the jackknife method: the overall sample in each election year was randomly divided into ten subsamples, and the ten separate sets of estimates produced by omitting these subsamples one at a time were used to compute the mean and variance of the overall estimates (Achen 1982, 37–41).

Figure 2. Deviations from Fully Informed Election Outcomes As a Function of Incumbency



ocratic incumbent runs for reelection) and a constant.[23] The parameter estimates from the ordinary least squares regression are −1.73 for the constant (with a standard error of .76, p = .02 for a two-tailed t-test of the null hypothesis that neither party is systematically advantaged by deviations from "fully informed" voting) and 4.57 for incumbency (with a standard error of .77, p < .001); the adjusted R^2 is .87.[24]

[23] I classify Gerald Ford in 1976 as midway between a Republican incumbent and no incumbent; omitting him from the analysis entirely produces almost identical results.

[24] It is possible to improve upon the ordinary least squares estimates by taking account of the varying amounts of sampling error in the six estimated aggregate deviations from "fully informed" election outcomes (the standard errors reported in the second column of Table 3 and graphically represented as vertical lines in Figure 2). Weighting each observation by the inverse of the standard error associated with the estimated aggregate deviation produces results essentially similar to the ordinary least squares results, with parameter estimates

These results suggest that, on average, Democrats do almost two percentage points better and incumbents do almost five percentage points better than they would if all voters in presidential elections were, in fact, fully informed. These systematic deviations from "fully informed" election outcomes obviously invite explanation. Perhaps, to adopt the language of Zaller (1992), the "louder" persuasive messages of incumbent presidents penetrate further down through the information distribution than the corresponding messages of their (typically) less famous challengers. Perhaps supporting the incumbent is simply a kind of natural default option for voters too uninformed to compare the candidates on their merits. Perhaps the bias in favor of Democratic candidates among relatively uninformed voters reflects the aggregate Democratic advantage in inherited partisan attachments.[25] These and other possible explanations seem deserving of sustained investigation. Whatever the sources of the aggregate discrepancies between actual vote choice and hypothetical "fully informed" vote choices may be, however, they suggest very clearly that political ignorance has systematic and significant political consequences.

Discussion

The results reported here highlight several broad sets of questions about the role of information in politics. First, and most obviously, much additional work will be required to ascertain how robust the results are to different specifications of information effects, and how they compare to parallel results generated in other political settings. Do different measures of political information or sophistication produce similar effects? Do the apparent aggregate biases in favor of incumbents and Democrats in recent presidential elections also appear in earlier presidential elections or in statewide and local races? Are there systematic biases in aggregate preferences on specific policy issues (Bartels 1990) or referenda (Gerber and Lupia 1993) comparable to those observed in aggregate election outcomes? Questions like these can only be answered on the basis of further empirical research.

Second, while sophisticated analysts of individual political behavior have increasingly taken account of differences in behavior attributable to differences in political information (for example, MacKuen 1984, Bartels 1988, Zaller 1992, and the contributors to Ferejohn and Kuklinski 1990, and Sniderman, Brody, and Tetlock 1991), they have seldom paused to trace out either the social and political processes that produce those differences or their

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of −2.01 (with a standard error of .81) for the constant and 4.89 (with a standard error of .92) for incumbency and an adjusted R^2 of .87.

[25] I am indebted to John E. Jackson for suggesting this last hypothesis in a personal communication.

macro-political consequences. To what extent, and how, are information effects contingent upon the way the mass media portray politics? When and how can they be manipulated by politicians? Adequate answers to questions like these will require a much more sophisticated blending of individual-level and macro-level investigation than has so far been customary.

Third, the empirical analysis presented here seems to me to underline fundamental questions about the normative role of public opinion in democratic theory. Does the attractiveness of democracy as a political system depend in any fundamental way upon the degree of correspondence between the opinions the public actually expresses about a given candidate or policy and the opinions it would express if it was "fully informed"? Does it depend upon the relative degree of correspondence between "fully informed" preferences and actual outcomes produced by democratic and non-democratic procedures? If deviations between actual and "fully informed" preferences of the magnitude reported here will not shake anyone's confidence in democracy, would deviations twice as large do so? Ten times as large? The willingness of some theorists (and many others) who advocate democracy to assert without systematic evidence that democratic procedures produce outcomes that reflect what people *would* want if they were fully informed as well as what they *do* want given the information they actually have tends to obscure the potential for conflict among distinct normative standards for evaluating alternative political systems.

Finally, it is worth noting that statistical analysis of the sort employed here is by no means the only way to attempt to find out what people would want if they were fully (or, at least, better) informed. Elsewhere (Bartels 1990) I have criticized the common practice in the literature on political interests of deriving political actors' "enlightened preferences" from theories of "needs" (Bay 1968), mental experiments (Mansbridge 1983, 25), and other non-empirical sources. More concrete and innovative methods have been proposed, however for approximating on a small scale the ideal political process that would be required to cultivate and elicit the "enlightened preferences" of real political actors.

For example, Fishkin advocated the use of "deliberative opinion polls," in which random samples of the general population would be encouraged to meet, learn, and deliberate about candidates and policy issues. The aim would be to find out—and then to publicize—"what the public *would* think, if it had a more adequate chance to think about the questions at issue" (1991, 1). Dahl's (1989, 340) notion of a "minipopulus" is in the same spirit, and the Charles F. Kettering Foundation and the Public Agenda project have attempted to implement similar procedures for simulating a social process of "coming to public judgment" about controversial policy issues (Yankelovich 1991).

Of course, these small-scale experiments still beg many important questions about the significance of information in democratic deliberation. How sure are we that "more informed" results will point us in the direction of "fully informed" results?[26] Can and should democratic processes compensate not only for deficits in political information, but also for deficits in basic reasoning skills?[27] What is the appropriate role of experts in a democratic system (Dahl 1989; Hill 1992; Zaller 1992, chap. 12)? And where is the dividing line between "education" and "manipulation"?

None of these questions is likely to receive serious, sustained scholarly attention until political scientists are convinced that information matters. If the present work adds something to that conviction, it may contribute indirectly to the development of a richer understanding of the political consequences of political ignorance.

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APPENDIX

Tables 4, 5, 6, 7, and 8 replicate the analysis of voting patterns in the 1992 presidential election presented in Table 1 for the elections of 1988, 1984, 1980, 1976, and 1972, respectively. In each table the dependent variable takes the value 1 for respondents who reported casting a Republican vote for president and 0 for respondents who reported voting for the Democratic candidate; respondents who reported voting for some other candidate or not voting are excluded from the analysis; the explanatory variables are the same demographic variables included in Table 1; all of the effects are estimated in interaction with political information as measured by interviewer assessments; and the data are from the corresponding American National Election Study (NES) surveys.

[26] This is, in effect, the necessary experimental substitute for the assumption of linear information effects in the statistical analysis reported above.

[27] "Information shortcuts" must be short indeed when nearly half the adult citizens in an "advanced" democracy lack basic reading and arithmetic skills. Of 191 million adult citizens in the United States, according to a *New York Times* account of a major Education Department study of "skills needed for the workplace and for civic activities like voting or jury service" (Celis 1993, A1), "between 40 million and 44 million Americans perform at the lowest level: unable to to [*sic*] calculate the total of a purchase, determine the difference in price between two items, locate a particular intersection on a street map and enter background information on a simple form. It also indicates that an additional 40 million perform at the second-lowest level: unable to answer a specific question about facts in a newspaper story or write a paragraph summarizing information on a chart about schools" (Celis 1993, A22).

Table 4. Probit Parameter Estimates for Republican Vote Propensity, 1988

	Fully Informed Preferences	Uninformed Preferences	Information Effect (Difference)
Intercept	−.339	−1.664	1.325
	(.862)	(1.143)	(1.765)
Age (in 1992)	.0308	−.0355	.0663
	(.0310)	(.0388)	(.0618)
Age squared (in 1992)	−.000301	.000257	−.000558
	(.000288)	(.00369)	(.000582)
Education (years)	−.0344	.1017	−.1360
	(.0314)	(.0483)	(.0704)
Income (percentile)	1.178	.500	.678
	(.372)	(.507)	(.782)
Black	−1.604	−1.666	.063
	(.389)	(.438)	(.735)
Female	−.375	.231	−.606
	(.162)	(.248)	(.364)
Married	−.151	.198	−.349
	(.167)	(.241)	(.361)
Homeowner	−.329	.422	−.752
	(.186)	(.258)	(.394)
Housewife	.007	.332	−.325
	(.322)	(.345)	(.588)
Retired	.213	.352	−.140
	(.310)	(.395)	(.626)
Clerical	.155	−.191	.346
	(.238)	(.317)	(.492)
Professional	−.085	−.397	.312
	(.216)	(.370)	(.524)
Union household	−.338	−.777	.439
	(.187)	(.292)	(.428)
Urban	−.344	.312	−.656
	(.179)	(.277)	(.407)
East	−.210	.654	−.864
	(.204)	(.303)	(.445)
South	−.086	.094	−.180
	(.191)	(.269)	(.408)
West	−.283	.626	−.909
	(.225)	(.299)	(.463)
Protestant	.683	.738	−.055
	(.260)	(.413)	(.597)
Catholic	.286	.197	.088
	(.274)	(.430)	(.625)
Jewish	−.299	−2.104	1.804
	(.576)	(2.085)	(2.520)

Standard errors of parameter estimates are in parentheses.
Log likelihood = −692.4. Correct classifications = 68.5%. N = 1,189.

Table 5. Probit Parameter Estimates for Republican Vote Propensity, 1984

	Fully Informed Preferences	Uninformed Preferences	Information Effect (Difference)
Intercept	1.424	−1.157	2.581
	(1.039)	(1.260)	(2.047)
Age (in 1992)	−.0547	.0164	−.0711
	(.0342)	(.0394)	(.0655)
Age squared (in 1992)	.000507	−.000167	.000674
	(.000304)	(.000346)	(.000576)
Education (years)	−.0327	.1118	−.1445
	(.0335)	(.0467)	(.0705)
Income (percentile)	1.386	.185	1.201
	(.347)	(.485)	(.741)
Black	−1.314	−1.846	.532
	(.416)	(.414)	(.747)
Female	−.580	.019	−.598
	(.160)	(.247)	(.364)
Married	.242	−.357	.599
	(.171)	(.234)	(.361)
Homeowner	−.069	.108	−.176
	(.192)	(.244)	(.386)
Housewife	.332	.144	.188
	(.311)	(.344)	(.583)
Retired	−.184	−.139	−.044
	(.314)	(.399)	(.637)
Clerical	.324	.043	.281
	(.246)	(.312)	(.501)
Professional	.189	−.513	.702
	(.231)	(.377)	(.544)
Union household	−.972	−.181	−.791
	(.177)	(.252)	(.384)
Urban	−.152	−.418	.266
	(.175)	(.256)	(.383)
East	.106	.160	−.054
	(.208)	(.311)	(.462)
South	.084	−.441	.525
	(.200)	(.263)	(.413)
West	−.626	.341	−.967
	(.204)	(.304)	(.455)
Protestant	.517	.323	.194
	(.232)	(.405)	(.567)
Catholic	−.178	.296	−.474
	(.252)	(.424)	(.603)
Jewish	−1.321	.411	−1.732
	(.472)	(.831)	(1.172)

Standard errors of parameter estimates are in parentheses.
Log likelihood = −743.8. Correct classifications = 72.4%. N = 1,366.

Table 6. Probit Parameter Estimates for Republican Vote Propensity, 1980

	Fully Informed Preferences	Uninformed Preferences	Information Effect (Difference)
Intercept	−.943	1.387	−2.330
	(1.434)	(1.709)	(2.828)
Age (in 1992)	.0377	−.0324	.0701
	(.0465)	(.0562)	(.0927)
Age squared (in 1992)	−.000411	.000234	−.000645
	(.000384)	(.000472)	(.000770)
Education (years)	.0087	.0553	−.0466
	(.0435)	(.0594)	(.0917)
Income (percentile)	.024	.628	−.604
	(.466)	(.654)	(1.009)
Black	−1.970	−1.303	−.667
	(.460)	(.492)	(.842)
Female	−.348	−.284	−.063
	(.231)	(.329)	(.509)
Married	.572	−.898	1.470
	(.233)	(.324)	(.505)
Homeowner	.267	.073	.194
	(.243)	(.366)	(.551)
Housewife	.439	.204	.235
	(.375)	(.471)	(.766)
Retired	.928	−.536	1.464
	(.392)	(.523)	(.831)
Clerical	.598	−.317	.915
	(.353)	(.444)	(.724)
Professional	.110	−.339	.449
	(.275)	(.444)	(.648)
Union household	−.608	−.517	−.091
	(.228)	(.350)	(.526)
Urban	−.021	−.840	.819
	(.231)	(.349)	(.526)
East	.498	−.436	.933
	(.313)	(.436)	(.685)
South	.066	−.255	.321
	(.257)	(.348)	(.549)
West	−.139	.364	−.503
	(.298)	(.449)	(.685)
Protestant	.099	.095	.004
	(.332)	(.554)	(.797)
Catholic	.021	−.390	.412
	(.366)	(.587)	(.855)
Jewish	−.741	.171	−.912
	(.598)	(1.180)	(1.632)

Standard errors of parameter estimates are in parentheses.
Log likelihood = −482.1. Correct classifications = 70.8%. N = 874.

Table 7. Probit Parameter Estimates for Republican Vote Propensity, 1976

	Fully Informed Preferences	Uninformed Preferences	Information Effect (Difference)
Intercept	−.281	.128	−.409
	(1.141)	(1.457)	(2.272)
Age (in 1992)	−.0246	−.0717	.0471
	(.0370)	(.0432)	(.0703)
Age squared (in 1992)	.000230	.000539	−.000309
	(.000293)	(.00339)	(.000553)
Education (years)	.0160	.0985	−.0824
	(.0292)	(.0452)	(.0649)
Income (percentile)	1.031	.629	.402
	(.354)	(.473)	(.733)
Black	−1.675	−1.589	−.086
	(.465)	(.565)	(.913)
Female	−.213	.122	−.335
	(.174)	(.249)	(.376)
Married	−.176	.266	−.442
	(.178)	(.238)	(.368)
Homeowner	.047	.038	.009
	(.182)	(.245)	(.376)
Housewife	.333	.253	.080
	(.274)	(.313)	(.521)
Retired	.109	.732	−.623
	(.293)	(.376)	(.592)
Clerical	.204	.317	−.114
	(.259)	(.338)	(.534)
Professional	.006	.446	−.441
	(.229)	(.350)	(.518)
Union household	−.932	.199	−1.131
	(.184)	(.247)	(.387)
Urban	−.284	.344	−.627
	(.161)	(.237)	(.353)
East	.055	−.218	.273
	(.194)	(.274)	(.412)
South	−.153	−.080	−.073
	(.182)	(.245)	(.377)
West	.118	−.427	.546
	(.209)	(.306)	(.459)
Protestant	.691	.171	.520
	(.295)	(.465)	(.674)
Catholic	.374	−.223	.597
	(.317)	(.487)	(.713)
Jewish	−.342	−.957	.614
	(.477)	(1.065)	(1.388)

Standard errors of parameter estimates are in parentheses.
Log likelihood = −770.3. Correct classifications = 67.9%. N = 1,306.

Table 8. Probit Parameter Estimates for Republican Vote Propensity, 1972

	Fully Informed Preferences	Uninformed Preferences	Information Effect (Difference)
Intercept	−1.637	−2.159	.523
	(1.277)	(1.535)	(2.505)
Age (in 1992)	.0568	.0091	.0477
	(.0398)	(.0446)	(.0756)
Age squared (in 1992)	−.000383	.000066	−.000449
	(.000304)	(.000332)	(.000570)
Education (years)	−.0205	.0691	−.0895
	(.0293)	(.0405)	(.0614)
Income (percentile)	.194	.611	−.418
	(.319)	(.440)	(.674)
Black	−2.119	−1.344	−.775
	(.354)	(.357)	(.631)
Female	−.630	.119	−.749
	(.175)	(.243)	(.374)
Married	−.276	.552	−.828
	(.178)	(.230)	(.363)
Homeowner	.006	.205	−.199
	(.167)	(.213)	(.336)
Housewife	.425	−.190	.616
	(.250)	(.282)	(.475)
Retired	−.243	.019	−.262
	(.317)	(.370)	(.613)
Clerical	.172	−.057	.229
	(.238)	(.318)	(.499)
Professional	−.097	−.176	.079
	(.224)	(.359)	(.528)
Union household	−.595	−.011	−.584
	(.171)	(.223)	(.354)
Urban	−.479	.201	−.417
	(.159)	(.219)	(.674)
East	−.221	.508	−.729
	(.196)	(.251)	(.399)
South	−.028	.674	−.701
	(.183)	(.251)	(.387)
West	.013	.036	−.023
	(.208)	(.288)	(.445)
Protestant	1.281	.009	1.272
	(.305)	(.485)	(.717)
Catholic	1.025	−.433	1.458
	(.320)	(.500)	(.743)
Jewish	−.659	.169	−.490
	(.536)	(.791)	(1.187)

Standard errors of parameter estimates are in parentheses.
Log likelihood = −839.7. Correct classifications = 74.6%. N = 1,574.

REFERENCES

Achen, Christopher H. 1982. *Interpreting and Using Regression.* Sage Quantitative Applications in the Social Sciences, No. 29. Beverly Hills: Sage Publications.

Alvarez, R. Michael. 1992. *Issues and Information in Presidential Elections.* Ph.D. diss. Duke University.

Alvarez, R. Michael, and Charles H. Franklin. 1994. "Uncertainty and Political Perceptions." *Journal of Politics* 56:671–88.

Baker, Keith M., ed. 1976. *Condorcet: Selected Writings.* Indianapolis: Bobbs-Merrill Company.

Bartels, Larry M. 1986. "Issue Voting Under Uncertainty: An Empirical Test." *American Journal of Political Science* 30:709–28.

Bartels, Larry M. 1988. *Presidential Primaries and the Dynamics of Public Choice.* Princeton: Princeton University Press.

Bartels, Larry M. 1990. "Public Opinion and Political Interests." Paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago.

Bay, Christian. 1968. "Needs, Wants and Political Legitimacy." *Canadian Journal of Political Science* 1:242.

Bennett, Stephen Earl. 1988. "'Know-nothings' Revisited: The Meaning of Political Ignorance Today." *Social Science Quarterly* 69:476–90.

Berelson, Bernard R., Paul F. Lazarsfeld, and William N. McPhee. 1954. *Voting: A Study of Opinion Formation in a Presidential Campaign.* Chicago: University of Chicago Press.

Berg, Sven. 1993. "Condorcet's Jury Theorem, Dependency Among Jurors." *Social Choice and Welfare* 10:87–95.

Brady, Henry E., and Paul M. Sniderman. 1985. "Attitude Attribution: A Group Basis for Political Reasoning." *American Political Science Review* 79:1061–78.

Bryce, James. 1893. *The American Commonwealth.* New York: Macmillan.

Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The American Voter.* New York: John Wiley & Sons.

Carmines, Edward G., and James A. Stimson. 1980. "The Two Faces of Issue Voting." *American Political Science Review* 74:78–91.

Celis, William, 3d. 1993. "Study Says Half of Adults in U.S. Can't Read or Handle Arithmetic." *New York Times* September 9: A1, A22.

Condorcet, Marie-Jean-Antoine-Nicolas Caritat, Marquis de. 1785. *Essai sur l'application de l'analyse a la probabilité des decisions rendues a la pluralite des voix.* Chelsea Publishing Company, New York, 1972. Portions translated by Baker (1976).

Conover, Pamela Johnston, and Stanley Feldman. 1989. "Candidate Perception in an Ambiguous World: Campaigns, Cues and Inference Processes." *American Journal of Political Science* 33:912–40.

Converse, Philip E. 1964. "The Nature of Belief Systems in Mass Publics." In *Ideology and Discontent,* ed. David E. Apter. New York: Free Press.

Converse, Philip E. 1990. "Popular Representation and the Distribution of Information." In *Information and Democratic Processes,* ed. John A. Ferejohn and James H. Kuklinski. Urbana: University of Illinois Press.

Dahl, Robert A. 1989. *Democracy and Its Critics.* New Haven: Yale University Press.

Delli Carpini, Michael X., and Scott Keeter. 1991. "Stability and Change in the U.S. Public's Knowledge of Politics." *Public Opinion Quarterly* 55:583–612.

Delli Carpini, Michael X., and Scott Keeter. 1993. "Measuring Political Knowledge: Putting First Things First." *American Journal of Political Science* 37:1179–1206.

Ferejohn, John A., and James H. Kuklinski, eds. 1990. *Information and Democratic Processes.* Urbana: University of Illinois Press.

Fiorina, Morris P. 1981. *Retrospective Voting in American National Elections.* New Haven: Yale University Press.

Fishkin, James S. 1991. *Democracy and Deliberation: New Directions for Democratic Reform.* New Haven: Yale University Press.

Fiske, Susan T., Richard R. Lau, and Richard A. Smith. 1990. "On the Varieties and Utilities of Political Expertise." *Social Cognition* 8:31–48.

Franklin, Charles H. 1991. "Eschewing Obfuscation? Campaigns and the Perception of U.S. Senate Incumbents." *American Political Science Review* 85:1193–1214.

Gerber, Elisabeth R., and Arthur Lupia. 1993. "When Do Campaigns Matter? Informed Votes and the Responsiveness of Electoral Outcomes." Unpublished paper, California Institute of Technology and University of California, San Diego.

Hill, Stuart. 1992. *Democratic Values and Technological Choices.* Stanford: Stanford University Press.

Katz, Elihu, and Paul Lazarsfeld. 1955. *Personal Influence.* New York: Free Press.

Key, V. O., Jr., with the assistance of Milton C. Cummings, Jr. 1966. *The Responsible Electorate: Rationality in Presidential Voting, 1936–1960.* Cambridge, MA: Harvard University Press.

Kinder, Donald R., and Thomas R. Palfrey. 1993. "On Behalf of an Experimental Political Science." In *Experimental Foundations of Political Science,* ed. Kinder and Palfrey. *Experimental Foundations of Political Science,* Ann Arbor: University of Michigan Press.

Krosnick, Jon A., and Laura A. Brannon. 1993. "The Impact of the Gulf War on the Ingredients of Presidential Evaluations: Multidimensional Effects of Political Involvement." *American Political Science Review* 87:963–975.

Lau, Richard R., and David P. Redlawsk. 1992. "How Voters Decide: A Process Tracing Study of Decision Making During Political Campaigns." Paper presented at the Annual Meeting of the American Political Science Association, Chicago.

Lippmann, Walter. 1922. *Public Opinion.* New York: Macmillan.

Lupia, Arthur. 1994. "Short Cuts versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections." *American Political Science Review* 88: 63–76.

Luskin, Robert C. 1987. "Measuring Political Sophistication." *American Journal of Political Science* 31:856–99.

MacKuen, Michael. 1984. "Exposure to Information, Belief Integration, and Individual Responsiveness to Agenda Change." *American Political Science Review* 78:372–91.

Mansbridge, Jane J. 1983. *Beyond Adversary Democracy.* Chicago: University of Chicago Press.

McGraw, Kathleen M., and Neil Pinney. 1990. "The Effects of General and Domain-Specific Expertise on Political Memory and Judgment." *Social Cognition* 8:9–30.

McKelvey, Richard D., and Peter C. Ordeshook. 1985. "Sequential Elections with Limited Information." *American Journal of Political Science* 29:480–512.

McKelvey, Richard D., and Peter C. Ordeshook. 1986. "Information, Electoral Equilibria, and the Democratic Ideal." *Journal of Politics* 48:909–37.

Miller, Nicholas R. 1986. "Information, Electorates, and Democracy: Some Extensions and Interpretations of the Condorcet Jury Theorem." In *Information Pooling and Group Decision Making,* ed. Bernard Grofman and Guillermo Owen. Greenwich, CT: JAI.

Neuman, W. Russell. 1986. *The Paradox of Mass Politics: Knowledge and Opinion in the American Electorate.* Cambridge, MA: Harvard University Press.

Page, Benjamin I., and Robert Y. Shapiro. 1992. *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences.* Chicago: University of Chicago Press.

Palfrey, Thomas R., and Keith T. Poole. 1987. "The Relationship between Information, Ideology, and Voting Behavior." *American Journal of Political Science* 31:511–30.

Pateman, Carole. 1970. *Participation and Democratic Theory.* Cambridge, UK: Cambridge University Press.

Popkin, Samuel L. 1991. *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns.* Chicago: University of Chicago Press.

Rahn, Wendy M., John H. Aldrich, and Eugene Borgida. 1994. "Individual and Contextual Variations in Political Candidate Appraisal." *American Political Science Review* 88: 193–9.

Robertson, David. 1976. "Surrogates for Party Identification in the Rational Choice Framework." In *Party Identification and Beyond: Representations of Voting and Party Competition,* ed. Ian Budge, et al. London: Wiley.

Schumpeter, Joseph A. [1942] 1950. *Capitalism, Socialism, and Democracy.* 3rd Edition. New York: Harper & Row.

Sniderman, Paul M. 1993. "The New Look in Public Opinion Research." In *Political Science: The State of the Discipline II,* ed. Ada W. Finifter. Washington, DC: American Political Science Association.

Sniderman, Paul M., Richard A. Brody, and Philip E. Tetlock. 1991. *Reasoning and Choice: Explorations in Political Psychology.* Cambridge, UK: Cambridge University Press.

Wittman, Donald A. 1989. "Why Democracies Produce Efficient Results." *Journal of Political Economy* 97:1395–1424.

Wolfinger, Raymond E., and Steven J. Rosenstone. 1980. *Who Votes?* New Haven: Yale University Press.

Yankelovich, Daniel. 1991. *Coming to Public Judgment: Making Democracy Work in a Complex World.* Syracuse: Syracuse University Press.

Zaller, John. 1985. Pre-Testing Information Items on the 1986 NES Pilot Survey. Report to the National Election Study Board of Overseers.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion.* Cambridge, UK: Cambridge University Press.