CHAPTER 1

INTRODUCTION

Fritz Scheuren and Wendy Alvey

1.1 INTRODUCTION

We compiled this book on *Elections and Exit Polling* to honor a great and gifted individual, Warren Mitofsky. Sadly, Mitofsky is not here to see the results contributed by so many of his colleagues and friends.

Those who knew Mitofsky undoubtedly miss him deeply.[1] His blunt, principled fierceness and persistence made him a force of nature. He could – and did—inspire fear. You had to love him, however, especially when he was on a crusade against what he (usually rightly) considered bad polling practice. There, perhaps, may never again be anyone else as authoritative as Warren Mitofsky on exit polling or on still other practical arts in our business, such as the conduct of telephone surveys.

It is hoped that those who knew Mitofsky may find material here that contributes to improvements in exit polling methodology, thus keeping his efforts and memory alive. Those who missed the opportunity to know him personally may find in these pages at least a taste of his pioneering genius – maybe even a "starter set" to move the technology he created to a higher level, as the authors here have already done.

[1] For those who do not know Warren Mitofsky, a brief biographical sketch is provided in the Preface. For more on the man and his contributions, see Morin (2006), Brick and Tucker (2007), and Fienberg (2007).

Elections and Exit Polling. Edited by Fritz Scheuren and Wendy Alvey

In a very real sense, the collection of insights provided in this volume is a community effort. We were fortunate to interview Warren Mitofsky shortly before he died and selected recollections from his career are presented in "boxed in" text in each chapter. Our role, as editors, was basically to shape the work, mostly of others. We added connective material and context (presented in gray shaded text), in an effort to create a united whole. After this general introduction (Chapter 1), we look at exit polling during three of the last four U.S. election cycles: 2000, 2004, and 2006 (Chapters 2 to 4, respectively). To round out our effort, we added a chapter on election polling elsewhere in the world (Chapter 5). We follow that with some predictions and recommendations for the upcoming 2008 U.S. elections (Chapter 6) and conclude with some more methodological selections (Chapter 7).

While we recognize that we are unable to be comprehensive, this compilation attempts to highlight some of the key issues facing pollsters, their media clients, and the rest of us. We hope you will find here some of the newer approaches to the puzzles we all face. This book is a distillation of the wisdom of experts, both in the U.S. and elsewhere; also there is a prediction of things to come.

In this chapter we start by defining a few terms (Section 1.2), say something about the history of election polling (Section 1.3), and present a description of an exit polling experience (Section 1.4). We then sketch the sampling techniques that support such surveys (Section 1.5).

Election polling, in general, and exit polling, in particular, have many limitations. We describe some of them in Section 1.6. While their impact may be obvious to experienced practitioners, they may be inadequately dealt with if the methods are not applied by someone like a Warren Mitofsky. After all, in polling we are talking about something that is more of an art than a science. Applications of election polls (Section 1.7) are well known, but we still summarize them briefly, if only as lessons learned for those who might otherwise misuse them. (See, also, Chapter 4.)

By design – and with considerable effort—this volume appears before the 2008 U.S. presidential election. The co-evolution of polling and the election process, itself, may well be beyond any specific predictions that might have been made here. Even so, we could not resist repeating general recommendations and predictions (Section 1.8) that we thought worthy of consideration. (See, especially, Chapter 6.)

New surprises will continue to make elections in the U.S.---and other countries – fascinating methodologically. We hope for everyone's sake, however, that whatever surprises occur, they are ones that can be taken in stride and survived, leading us back, ultimately, to the trust—deserved, we hope, this time—which we had in the election system before the 2000 Florida debacle opened our eyes.

Some readers may want to skip what comes immediately below and go right to the research papers that follow (starting on page 16)--most of which are being published for the first time.

1.2 DEFINITIONS

Polling is a seemingly indispensable tool in the running of modern democracies. While public opinion polls can cover a broad range of topics, *election polling* focuses in on data collected by independent groups—such as the media—to obtain information on voting intent from respondents. Election polls can be administered in person or by mail. Initially the polls done by George Gallup were conducted in person.[2] One notorious mail survey that was conducted was *The Literary Digest* poll, conducted during the 1936 election, which predicted Alf Landon would win over Franklin Roosevelt.[3] Today, pre-election polling is done mostly by telephone, although some Internet polling has started. This book touches on all of these approaches to some extent, but focuses mainly on exit polling—a technique made popular by its best known practitioner, Warren Mitofsky.

Exit polling is a form of intercept polling that has come into its own beginning with the 1967 primaries. Some practitioners actually conduct short interviews, but now usually every nth individual leaving a polling location is handed a clip-board and asked to fill out a one-page questionnaire. In addition to asking some demographic questions—and even, occasionally, some queries about the election process—the main focus of the questionnaire is to learn for whom the respondent has just cast a vote.

These questionnaires are then sent immediately to a central location where they are added to a statistical database for ongoing analysis. Technologies vary, but the transmission of the questionnaire results can be by conventional telephone or fax; by cell phone, usually as a text message; or via the Internet. Because settings vary outside polling locations, sometimes more than one method can be used in a given election.

For the data transmission to be successful it has to be accurate and fast. Projections based on the results are traditionally developed throughout the day, with full summaries available about the time the polls close. Typically, analysts evaluate exit poll data using previously developed statistical models. They also consider available information obtained on Election Day, such as actual outcomes and reports from the field team about irregularities, as well as information obtained before Election Day, such as absentee ballots, early voter surveys, and data from pre-election polls or previous electoral results, to eventually project the winner on election night. When information is not enough to make a projection or the race is very tight, forecasters may not "call" a winner on election night.

Figure 1.1 contains other key terms that are commonly used in exit polling. For definitions of response and nonresponse concepts specific to exit polling, see Slater and Christensen (2002) in this volume (2.3.1).

Some other sources of information about election and exit polling include Edison Media Research (2008), Traugott and Lavrakas (2004), and Zukin (2004). In addi-

[2] See Lee (1999) for information on George Gallup.
[3] See Cirier (2002).

Important Exit Polling Terms

Exit Poll A sample survey of voters exiting a collection of polling places.

Precinct The smallest political division in the state consisting of registered voters residing in a geographic region defined by the county clerk.

Polling Place A location specified by the county clerk where voters from one or more precincts cast votes.

Post-Election Survey Sample survey of registered voters after Election Day (typically done by telephone) to confirm information about the election and voting decisions.

Pre-Election Survey Sample survey of likely registered voters prior to Election Day (typically done by telephone) to measure voting intentions and opinions on election issues.

Stratification The division of a population into non-overlapping subgroups called strata. It is done either for administrative purposes and/or to improve efficiency of estimation.

Ultimate Sampling Unit (USU) The basis unit in a sample survey from which information is to be gathered or on which measurements are to be made. Examples: A person, a voter, a household head, a classroom in a school.

Primary Sampling Unit (PSU) A set of ultimate units, often belonging to a geographic area, that represents a unit to be sampled as the first step in selecting a sample. Examples: A county consisting of voters, a school district consisting of students, a housing unit consisting of households.

Secondary Sampling Unit (SSU) A collection of ultimate units, created by dividing a primary sampling unit, which is to be sampled once a PSU is chosen. Examples: A polling place chosen within a sampled county, a classroom of students chosen within a sampled school.

Two-Stage Sampling A sample design where the secondary sampling unit is the ultimate sampling unit, so that there are only two stages of sampling: the selection of PSUs and the selection of SSUs sampled.

Systematic Sampling A sample design where sample units are selected sequentially, following the order of the sample frame. Examples: including every 14th voter exiting a polling place or every 5th name in a telephone directory in the sample. Systematic random sampling is choosing the first sample element at random.

Certainty Units A PSU that is included in the set of sampled units with a probability of inclusion of one. Certainty units are usually determined by administrative decision. Very large or important PSUs may be chosen as certainty units. Examples: The counties containing the largest population centers and those in which a participating college or university are located are certainty units in an exit poll, to guarantee their inclusion in the sample.

PPS Sampling Assigning the probability of inclusion for PSUs equal to the size of the PSU. PSUs with a large number of USUs are more likely to be included in the sample than PSUs with a small number of USUs. Examples: The probability of selecting a county in an exit poll is proportionate to the number of voters, or the probability of selecting a school for a school district survey is proportionate to the number of students in the school.

Sample Weights The weight attached to each ultimate unit in the sample that represents the inverse of the probability of selection. The sample weights provide a simple expression for producing unbiased estimates in complex designs.

Complex Sample Design A sample design involving more than one of the sampling methods of stratification, cluster sampling, systematic sampling, and so forth.

Figure 1.1 Important exit polling terms.
Source: Twenty Years of the Utah Colleges Exit Poll: Learning by Doing, by Scott Grimshaw, Howard Christensen, David Magleby, and Kelly Patterson. Reprinted with permission from *Chance*. Copyright ©2004: American Statistical Association. All rights reserved.

tion, among the blogs and listserves that encourage discussion regarding election and exit polling, see especially *http://www.pollster.com* or join *AAPORnet*. AAPOR also provides a free, online course for journalists and their readers—*Understanding and Interpreting Polls*.[4] For more general information on surveys, see also Frankel and Frankel (1987) and the American Statistical Association's (ASA) pamphlet series *What Is a Survey?*[5]

1.3 BRIEF HISTORY

As early as the 1940s, a modest exit poll took place in Denver, Colorado, where voters were interviewed outside polling stations (Frankovic, 1992); however, such a methodological exercise was overlooked and the benefits were not evident in those days, mainly because neither the polling nor the media industry were developed as we know them today.[6] The early polls were not very reliable. In fact, some pre-election polls were clearly unsuccessful, as was the case of the 1936 *Literary Digest* poll, which erroneously "called" electoral outcomes despite its use of a large mail "sample" of almost 2.3 million people (Squire, 1988). Problems occurred in the 1948 election, as well, even though much better methods were used.

It was not until the 1960s that a major television network devoted significant resources to the collection of information from actual voters in order to "call" electoral results (Lindeman, 2006). Before such exit polling attempts, journalistic predictions were based mainly on known patterns in "key" or "tag" precincts from previous elections (Mitofsky, 1991; Sudman, 1986). In the context of the 1967 Kentucky gubernatorial election, an exit poll was conducted and sponsored by the CBS television network; the survey design was proposed by Warren Mitofsky (Mitofsky, 1991, 2004). An interesting Mitofsky anecdote, published by Richard Morin of *The Washington Post*, describes the inspiration of the exit polling technique:

> "In 1967, CBS was preparing its coverage of the Kentucky governor's race. Mitofsky had hired a market researcher, George Fine, to help him collect voting data on Election Day. During a conversation, Fine happened to mention some work he was doing for the movie industry. 'The movie people wanted to test a film before they released it for distribution,' Mitofsky recalled, 'so they would show it in test theaters, show it to a test audience. And George decided to interview the people as they left the theaters. . . . I can't swear whether he suggested it or we put two and two together. And we said, 'Why don't we interview [Kentucky residents] leaving the polling places?'" (Morin, 2006).

Towards the end of the 1960s—certainly by the beginning of the 1970s—exit polling had become a widespread way of collecting data from actual voters. In 1968 CBS expanded exit polls to twenty states for the presidential election. In 1973, the

[4]See *http://www.newsu.org/Angel/section/default.asp?format=course&id=aapor_polling07*.

[5]See *http://www.whatsasurvey.info/* on the ASA's Web site, *www.amstat.org*.

[6]Fienberg (2007) dates early election night forecasting efforts back to the 1951 use of the UNIVAC I computer. In addition to Mitofsky's contributions, Fienberg also describes the role of John Tukey in 1960, when he used "swing-o-metric" precincts to predict the election outcome.

NBC television network conducted its first exit poll and started incorporating exit poll data into its projections—before that, projections were exclusively based on a sample of actual tallies, also known as "quick counts." As exit polling estimates became more expedited and precise, they came to be seen as primarily being collected to call electoral results;[7] as a consequence, their use became highly controversial in U.S elections.

For instance, in 1980 NBC made its call for the presidential winner (about 90 minutes before the ABC television network, and two hours before CBS) almost three hours before the West Coast polls closed. Such anticipation in calling results raised questions about whether announcing early predictions of the presidential winner depressed voter turnout in the West, thereby affecting the outcomes of several close congressional races. This hypothesis was, according to Sudman (1986), "not a statistical, but a political, issue."

In the early 1990s the Voter News Service (VNS) was created by the major TV networks in the United States: ABC, CBS, CNN, Fox, and NBC; the Associated Press (AP); and 19 newspapers. They pooled funds to get a larger and theoretically more accurate sample from voters on Election Day. However, there was no central decision-maker; each partner wanted to decide on how things should be done, resulting in a complicated arrangement among participants. On Election Day 2000, the networks and the VNS miscalled the winner of the Florida presidential contest. "What happened on election night 2000 was that the television networks and wire services first mistakenly called Al Gore the winner of Florida's 25 electoral votes; six hours later, the networks declared them the property of George W. Bush—only to retract that call [later] as well." (Frankovic, 2003). David Moore asserts such miscalls were partly triggered by fierce competition among the networks (Moore, 2006). Then, on Election Day 2002, VNS was unable to deliver the exit poll data; the VNS was subsequently disbanded.

For Election Day 2004, the networks' relied on a newly created entity, the National Election Pool (NEP), which hired Joe Lenski of Edison Media Research and Warren Mitofsky of Mitofsky International to provide the exit polling results to the consortium and its subscribers. After the experience on Election Day 2000, and despite the careful and conservative criteria adopted by NEP for calling results, in 2004 early and incomplete exit polling data were improperly leaked to part of the journalistic-political community and quickly spread over the Internet. Before polling stations closed, the 2004 election had been characterized positive to one candidate and negative to the other, but towards the end of the day electoral outcomes were at odds with those early expectations. Confusion around early results leaked to some media were mainly due to a misinterpretation of exit polling data. Furthermore, the difference between exit poll results and official tallies in 2000 and 2004 were seen by some analysts and journalists as evidence of electoral fraud (e.g., Freeman and Bleifuss, 2006).

[7] Lost from this understanding was the, perhaps, even more desirable benefit that exit polls could provide the demographic make-up of each candidates' voters and the issues they rated as most important in making their selection. This use of the exit polls in the 2008 primaries, arguably, has been central.

1.4 A DAY IN THE LIFE OF AN EXIT POLL

In the excerpt below, Mitofsky and Edelman (2002) describe a typical day in the life of a network pollster on Election Day. While they do not detail the trials of the interviewer trying to capture respondents on a blustery November day in Minnesota, they do provide a sense of what it is like to peek behind the scene on Election Day.

1.4.1 Excerpt from: Election Night Estimation[8]
Warren J. Mitofsky and Murray Edelman

What It's Like on the Front Line. Our talk is about election night. For the most part we will tell you about what we did at CBS News. ... We will give you some understanding of what it takes to simultaneously conduct 51 surveys of over 100,000 respondents and present the results to millions of viewers—and almost never get the outcome wrong...

We thought the place to start was to get you in the mood. We want you to know what it feels like on a typical Election Day to be one of us. It starts the night before, when we hope all the last-minute details have been dealt with. Everyone has his or her assignment. Everyone has been trained and rehearsed: the vote collectors at the precincts, the exit poll interviewers, the analysts, those entering and reviewing vote returns and data, those who use the results in the television and radio studios. There are literally tens of thousands of people in a myriad of jobs. All our reference materials are where they should be. All the phone numbers we need are handy. Every computer system works. We are ready for Election Day, the culmination of the last two years' work.

A good night's sleep and we can be ready for a day that will last from the time we get up on Election Day until after the next night's network news broadcasts – some 36 hours later. Unfortunately, the night's sleep is not very restful. Usually the phone rings too early in the morning about yet another problem and a few more missed details cross our thinking. The area where we worked was in the studio during our CBS days. Now Murray is in a neutral site and is working for all the networks, the Associated Press, and most of the large newspapers in the country, as well as an assortment of television stations in cities around the country. Warren is in a similar place, but only has to worry about CNN and CBS.

Shortly after noon, we are anxious to get our first look at the first wave of exit poll results. This is the time when we confirm that the computer system really works; that the interviewers are doing their jobs; and that no official has kept our interviewer away from the exit to the polling place. We also want to see if the contests we were told were landslides really are landslides and the close races really are close. We do it when the first round of exit poll results comes in. We try not to forget that sometimes the results change over the day.

[8]Excerpt from Election Night Estimation, by Warren J. Mitofsky and Murray Edelman, reprinted with permission from the *Journal of Official Statistics*. Copyright ©2002: Statistics Sweden. All rights reserved.

During the hour before the polls close in the first states, we have to be ready for the third and last wave of exit poll results. Kentucky and Indiana close first. The best way to handle the buildup yet to come is to triage. Someone else on the decision desk can confirm the winner of an expected landslide as we get closer to poll closing. And the very close races can wait, too. They cannot be called from an exit poll. Exit polls are not that precise. It is those races that are in between, the ones with about eight point margins, that we must concentrate on in the half hour before the polls close.

We review detailed results for each race on our list. If we can make a call, we do; and if not, we wait for more sample precinct vote returns. The biggest problem in this time period is not to lose track of races that have still to be decided. Even though the computer screen lists all races in priority order, a race can slip between the cracks for a period of time. We try not to let this happen.

What we are trying to do is give the results and not make a mistake doing it. Forget those cynics who tell you that this is a reckless race to be first on the air with a winner. That is not the goal. We want to get projections on the air as soon as we can, once we feel certain we have correctly identified the winner. Fear of being wrong is the overriding emotion, not racing through projections.

Once those first two states [Kentucky and Indiana] close, we hurry to look at the nine states that close at 7:00 p.m. and 7:30 p.m. That number is manageable. Any states not called at poll closing are assigned to other members of the team to watch, unless they are races of national interest. Then we watch them ourselves. These are races where an incumbent senator might be defeated, like Ashcroft in Missouri or Abraham in Michigan in the [2000] election, or states that are key to an electoral victory, like Florida.

But for the most part, we want to get started on the 8 o'clock states. That is the big rush. Eighteen states close their polls in the 8 o'clock hour and another twelve the next hour. Those two hours will be the big crush. It will test our capacity to collect and process all that [sic] data. It also will test the organizing we have done so we, or the analysts working with us, can review everything carefully enough to be confident about what we project. If things go as usual, there will be lots of senate, governor, and presidential states where the winner is known with enough precision from the exit poll. If we cannot make a projection at poll closing, we will have to keep monitoring the race until there are enough real vote returns in our sample precincts to enable a projection.

We have help doing this. First, there are fine statisticians working with us on election night. Next, there is a computer screen that lists all the races in states where the polls have closed that have not been called. As more sample precinct returns come in, the color for each state indicates the current status of the results. Yellow means all criteria for a call have been met, and light blue means the results are getting close to call status. With any luck we will not see a state colored red. Red states go to the top of the list automatically. That means a race that has been called may no longer meet all the criteria for a projection. For the states in red, we look to see if we have to make a retraction. Usually this early warning sign turns out to be of no consequence. One of many criteria for making a call may have been marginal. One precinct more or less may turn this indicator red temporarily.

Occasionally, we have a mistake. The sooner we recognize it and announce on air that we are retracting a projection, the less trouble the errant projection will cause the news reporting. It is bad enough to have made a mistake, but it must be corrected as publicly as it was made. If a state is crucial to control of the Senate or to an electoral vote victory, the projection can seriously mislead the election reporting. If the state is not key to some trend, the wrong projection still has misled viewers. On the other hand, we do not want to retract a call too quickly. We do not want to issue a retraction just because the leading candidate is not ahead by a big enough margin to satisfy our call criteria. We want to be reasonably sure we were wrong.

As the night progresses, it becomes clear that some races are just too close to call from sample precinct returns. Our next source is the county vote tallies. In the New England states, they report from towns or cities. These county and town returns trickle in after the polls close and eventually reach 100 percent of the precincts reporting in the early hours of the morning. We model these returns also. They can be used in combination with the precinct samples or they can be used separately. For the closest races, this is what we rely upon for projections. It can be in the middle of the night or sometimes it takes until the next day. And sometimes the best call we can make when all the votes are counted is "Too Close to Call."

1.5 THEORY AND METHODOLOGY

Grimshaw et al. (2004:32) explain that

> "An exit poll is a sample of voters exiting the polls on Election Day. The purpose is to find out whom the electorate voted for and why they voted as they did. This allows pollsters to predict the winners for various political races of interest without having to wait for a complete count. For the television news media, concerned about ratings and market share, that is sufficient justification for their extensive involvement in exit polls. But early projections are of less interest than the academic study of the election process and investigating the reasons people vote as they do. Traugott and Lavrakas (2000) point out that an exit poll's respondents are interviewed immediately after voting and before any results are announced, so they are not prone to the bandwagon effect that tends to inflate winners' percentages in post-election surveys. Also, because the sample takes place as voters exit the voting place, the problem of misreporting actual voter response is reduced, compared to the responses of other post-election surveys."

In Fienberg (2007:9), Philip Meyer of *USA Today* points out that "It is the combination of fast relays of official returns and exit poll data that make the broadcasters' election night projections so spookily fast and accurate." (Figure 1.2 summarizes the steps for modern exit polling.)

The methodological approach for election projections made using the UNIVAC in the 1950s was based on regression analysis using historical data and early returns. By 1960, Tukey was using key precincts in each state that represented how the state would vote. "What mattered was how closely the swings from year to year in that precinct reflected the swing in the state total." (Fienberg, 2007:11) (Alternate precincts were

Interviewer-respondent phase	After voters have cast their ballots in a given polling booth, interviewers select respondents based on a systematic interval (every *n*th voter), which is previously calculated on probabilistic principles, to hand them a questionnaire that may include questions on vote choice, public opinion and demographic characteristics. Depending on the design, the questionnaire can be self- or interviewer-administered, or a combination of both modes.
Interviewer-data entry personal phase	Interviewers transmit collected exit polling data to a Data Center facility on the telephone at prescheduled times. Usually three or four hours are set in advanced. Toll free numbers are the typical way fieldwork personnel call to the Data Center facility. Data-entry personnel receive and capture exit polling data by means of ad hoc software computer. After transmitting exit polling data, interviewers resume exit polling interviews until the polling booth closes. The interviewer may report some observed irregularities in these calls, may call to a different telephone number, or make such reports after the fact.
Data analysis phase	As information comes, data are formatted to be analyzed using standard or ad hoc statistical software packages. Procedures for statistical analyses vary across exit polling agencies. Once analysts have run statistical tests and other less formal analysis, such as comparison with previous election results and pre- election polls, exit poll estimates are prepared to be presented at the end of the Election Day. Sometimes the election is *too close to call* or there is not enough information, so analysts await information from actual tallies, also known as *quick counts*.

Figure 1.2 Typical exit poll process on Election Day.
Source: Bautista et al. (forthcoming).

selected, though, if the swing precincts didn't use machine ballots.) These data were used to predict the national electoral vote totals, adding in the impact of historical data, pre-election polls, political scientists' predictions, and early voting returns. (Fienberg, 2007:12) The forecasting models that resulted were later recognized as "hierarchical Bayesian methods with the use of empirical Bayesian techniques at the top level."[9] In the meantime, from 1964 to 2000, Jack Moshman and his team of statisticians and political scientists had good results at ABC, using regression models to predict the winning candidates.

Beginning around 1967, Mitofsky, Murray Edelman, and Joe Waksberg introduced survey research methods, by initiating exit polling. Samples were based on a:

> "stratified probability sample with precincts selected in a single stage with probability proportional to the vote total in a recent election. They also used a weighting technique to control the variation in a party's vote, a form of regression estimation to allow for reporting from early return precincts, and a form of ratio estimation to utilize information from a past election in the denominator." (Fienberg, 2007:14)

In exit polling, large samples are generally possible at the precinct level. As done by Edison-Mitofsky, the precincts are selected at random with probability proportional to size (PPS).[10] The number of sample precincts, however, is usually on the small side—perhaps 20 or so in the smaller states or states predicted to have one-sided outcomes. In larger states and states with close contests, more precincts may be employed. For example, for the 2004 presidential election, Ohio had 50 sample precincts.

Exit polls, like surveys in general, are affected by both sampling and nonsampling errors. Sampling errors can be estimated using conventional cluster sampling formulas. A common mistake made by many users of exit polls is to focus on the large number of completed interviews and ignore the clustering which typically can lower the effective sample size by a third to a half.[11]

Nonresponse is a big problem in exit polls, with less than half the sampled voters responding. The results of the survey are thus very sensitive to how the nonresponse is handled. A number of the contributing authors in the following chapters address nonresponse issues.

1.6 RECENT ELECTORAL APPLICATIONS

Public opinion polls have a long history. As noted in section 1.3, election polling was conducted as early as the 1940s, but didn't come into its own until the mid- to late-1960s. Such polling was first used to predict election results for the media in presidential and statewide elections. Congressional projections were added later, when election polling was able to focus in on precinct-specific data. Today election and exit polling are used to project winners in all types of election races. In addition to

[9] Fienberg (2007:13)

[10] See Zukin (2004) for a general discussion on sample selection in election polls.

[11] For data by ethnicity, unlike by gender, this can be particularly important.

winning candidates, the outcomes of ballot initiatives can also be forecast using such techniques. Demographic information and multi-mode designs permit collection of supplemental data that provide insights into who is voting for whom and what some of the potential motivations are for their votes. This helps candidates target voters more effectively and serves as input for development and support for public policy.

The collection of demographic data and information on the polling process also provides the ability for data users to apply the results to assess the veracity and accuracy of the election. In some other countries, the impetus for exit polling was actually to reassure the public of a fair election---see, for example, Bautista et al. (2005) and Bautista et al. (forthcoming).[12] More recently, in the 2008 primary in New Hampshire, the fact that polling results failed to predict Hillary Clinton as the winner led to extensive review of the data and a host of explanations for the discrepancies which occurred, ranging from machine fraud to failure to account for likely voters.[13]

1.7 SOME MAJOR LIMITATIONS

Like all survey research, pre-election polls and exit polling are subject to a number of major limitations. In section 1.5 we mentioned two of the principal limitations of exit polling---sampling and nonsampling error. Two important ways of reducing polling error are to ensure that the sample selected is representative of the voting population and to ensure that the random sampling scheme that the design depends upon is, indeed, followed. Since not all persons vote—especially in primary elections and mid-term elections—developing stratified samples for pre-election polls that reflect those who will vote is quite challenging. In the case of exit polls, once the selection scheme is developed, it is necessary to be sure that those intercepted to report their vote are, in fact, the ones who should be in the sample. One of the biggest concerns that can occur arises when the selection discipline of taking every nth person breaks down and interviewers approach individuals whom they think will respond, rather than keeping to the prescribed selection order. A breakdown here can introduce selection bias that has not been accounted for in the sample design. Another problem is that of co-location of precincts. *Co-location* occurs when two or more precincts are in the same physical facility—a school, for example. When someone is approached upon leaving such a facility, it is usually not clear which precinct the voter voted in, which makes it difficult to maintain the desired selection probabilities.

Limitations due to nonsampling error can include missed voters who are not asked to respond for various reasons---either due to the respondent or the interviewer; respondents who refuse to cooperate or are unable to respond for a host of reasons; failure to interpret the questions accurately; transmission errors, and data entry problems. Site-specific problems that interfere with the voters' intent to cast an accurate ballot are also concerns that can impact exit polling results. For example, the design of the butterfly ballot in Palm Beach County, Florida in the 2000 presidential election

[12] For Bautista et al. (2005), see 5.2.4 in this volume.

[13] See Dopp (2008); Thompson. (2008); and Erikson and Wlezien (2008).

led many voters to believe they had cast a ballot for Al Gore, when, in fact, they had voted for Patrick Buchanan.[14]

Many of the contributing authors in the chapters that follow discuss limitations they have dealt with and describe their approaches to improving the quality of the election and exit polling data. Chapter 6, in particular, addresses problem areas that still persist today or that have arisen as polling efforts have become more widespread. In so doing, that chapter looks at the quality of the voting data, as well as that of the polling information.[15]

1.8 RECOMMENDATIONS AND A FEW PREDICTIONS

Growth and changes in polling technology and methods have led to improvements in current techniques. Recent challenges posed by the elections of 2000 and 2004, in particular, have also raised questions about current methods and the need for further refinements. Chapter 6 looks at some of the recommendations that followed those events and likely issues that remain to be addressed. This book went to the printer near the end of the primary season for the 2008 presidential election in the United States. Even though the 2008 election process is still in its early stages, we have already seen areas that have raised concerns. Fortunately, there is much data available to examine these problems and there is an active and creative audience that is eager to help. Warren Mitofsky would surely be pleased.

1.9 REFERENCES

In addition to works cited by the contributing authors, each chapter provides some additional references provided by the editors. For more complete coverage of the topic, also see:

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[14]For example, see Pomper (2001), Adams (2001), and Dillman (2000).
[15]See Rotz and Gracely (2008) in this volume (6.5.1).

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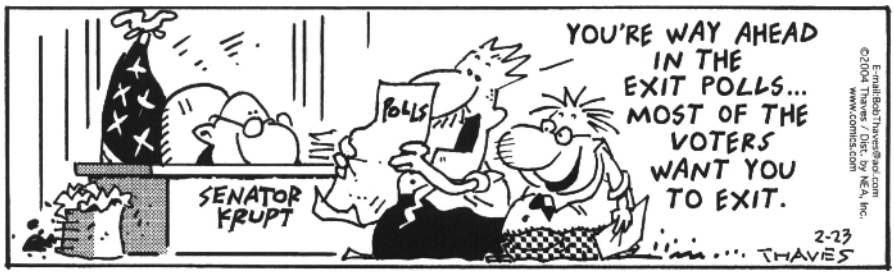

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