
A Dissertation in
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by
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ABSTRACT

Previous scholarly explorations of agenda-setting in presidential campaigns have resulted in two competing theories regarding how candidates select which issues receive their attention. *Issue Avoidance* theory posits that candidates emphasize their own strengths, even going so far as to avoid their opponents' favored issues entirely. *Issue Convergence* theory argues the opposite; suggesting candidates will direct attention to their opponents' key issues in an effort to erode their support. Both theories, however, neglect that issue attention is a finite commodity for both the candidates and the public, a reality that holds serious implications both for how candidates divvy their attention across issues over the course of the campaign and the susceptibility of candidates to agenda-setting efforts from their opponents, the media, and other outside forces. In my dissertation I propose a Double-Bottleneck theory of candidate attention under which candidates choose to stress a small subset of "key" issues that emphasize their strengths while sending a campaign message in a way the public can follow. As a result, candidates are protective of their primary issues and are largely insulated from outside influence; however, the remaining lower importance issues are largely unaddressed and are open to agenda-setting actions or other outside influence.

I test this theory through the use of several unique datasets from the 2004 and 2008 presidential campaigns, and offer an in-depth picture of which issues are chosen to serve as the "key" issues of the campaigns and the dynamics of how candidate attention to those issues change over the course of the race. My theory suggests candidates will be largely unaffected by shifts in attention from other actors for their most important issues, with the largest exception coming from the debate they engage in with their opponents over those policy areas. Further, as the salience of an issue declines candidates will be more likely to be influenced by outside sources as the candidates both possess less expertise in these areas and also do not wish to complicate the message they send to the voters. Empirical results offer support for my Double-Bottleneck theory, indicating candidates' patterns of attention to the top issues in 2004 and 2008 are largely unaffected by outside forces, with the exception of major external events like the financial crisis of 2008 that define the entire campaign. Lower importance issues are open to influence by the media and other actors; yet, these effects do not appear in a pattern consistent enough to suggest any overt acts of
agenda-setting. To this end, despite the characterizations of campaigns as battlegrounds where the candidates and media fight to set the agenda, for the most part, significant acts of agenda-setting in presidential campaigns is much less frequent than we might believe.
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“Patience and perseverance have a magical effect before which difficulties disappear and obstacles vanish.”

- John Quincy Adams

It is cliché to state that patience is a virtue, perhaps even more so to laud our peers for possessing it. Yet, based on patience alone, I have several parties I would nominate for sainthood as the road to this point has been far longer and harder than ever anticipated.

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Having gotten all of that off my chest, I believe it’s time to get on with the show.
Chapter One
Campaigning for the Agenda... of the Campaign

On September 24, 2008, Senator John McCain boldly proclaimed that he would suspend his campaign for the presidency and called for his opponent, Senator Barack Obama, to do the same in response to the bankruptcy filing of Lehman Brothers Holdings, Inc., the fourth-largest investment bank in the United States, in the wake of a massive exodus of their clients, asset devaluations, and stock losses. If to only add to the drama, the announcement McCain would be suspending his campaign came only three days before the candidates were scheduled to face off at the University of Mississippi in the first presidential debate.

Over the next two days it quickly became apparent McCain’s decision was not entirely genuine, as he was not simply putting partisanship aside and working to help the economy. His strongest claims to the presidency lay in his traits as an elder statesman, a decorated military leader, and as a man unafraid to break from party lines. This maneuver was meant to appeal to these strengths by portraying him as a candidate taking a leadership role in the face of a crisis, and, perhaps most importantly, as the candidate who could break away from the standard fare of Washington politics. Yet, as history tells us, Obama countered McCain’s move. He posited that anyone who is qualified to become president must be able to address more than one problem at a time. As a result of Obama’s counter, McCain’s actions were viewed by the public as being a quick judgment by someone who was unqualified to address the situation. As such, with his request to suspend the presidential campaign denied and having failed to significantly shift the campaign agenda in his favor, McCain quickly returned to the campaign trail and was promptly on stage when the first debate rolled around.
In another campaign 16 years earlier George Herbert Walker Bush was on the receiving end of a similar set of events. In the early morning hours of November 3, 1992, a crowd gathered at the Westin Galleria Hotel to see him give a speech, yet this was no ordinary stump speech. Following a series of thanks to supporters for their efforts and contributions to the campaign, Bush offered his congratulations to Arkansas Governor Bill Clinton for his victory and having run a strong campaign.\(^1\) Admittedly, the speech Bush gave that night is not particularly noteworthy on its own, as not every effort by a candidate to affect the agenda is as nicely packaged as McCain’s campaign suspension. Rather, the series of events that transpired over the course of the race that resulted in Bush conceding the presidency that night which draws our interest.\(^2\)

The effort to reshape the agenda this time began with James Carville, Clinton’s campaign manager, who famously (or infamously if you prefer) hung a set of slogans on the wall of the Clinton campaign headquarters in Little Rock, Arkansas. The most prominent among those slogans being, “It’s the economy stupid!” (The War Room 1993). The purpose of the slogan was to remind everyone working on the campaign that their top priority was

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\(^1\) The full speech is available through the C-SPAN video library at the following site: [http://www.c-spanvideo.org/program/34051-1#](http://www.c-spanvideo.org/program/34051-1#).

\(^2\) All things being equal, there were numerous indicators that Clinton could have just as easily been giving a similar speech on that November evening. For one, prior to Bush’s loss in 1992, only seven other incumbent presidents had been defeated by a challenger when seeking re-election.\(^2\) To put this into perspective, in the post-war period, Bush joined Jimmy Carter as the only presidents to lose their bid for a second term. A second indicator of Bush’s potential for re-election comes from his presidential approval rating. According to Gallup, his average rating during his tenure in office was 60.9%, placing him third, trailing only John Kennedy (70.1%) and Dwight Eisenhower (65.0%) in public support. By this measure Bush was a full eight percentage points more popular than his predecessor Ronald Reagan, who many consider as the most popular Republican president of the modern era and who had secured re-election by a sizable margin in 1984.\(^2\) Yet another sign of a likely Bush re-election comes in the form of his electoral votes. Lastly, a series of trial-heat polls showed Bush as trailing Clinton by only around five percentage points in the weeks leading up to the election. Given the margin of error for these polls, the two candidates were arguably neck-and-neck going into Election Day (Holbrook 1994, Shaw & Roberts 2000, Stimson 2004). Thus, when looked at in combination, these facts suggest a Bush loss was a more surprising outcome than many of us may recall.
to direct attention to economic issues. Much like McCain’s bid to turn attention toward his statesmanship and experience as a leader, the Clinton campaign team identified the economy as Bush’s weakest issue, and, most importantly, the issue where they could garner the most support.

President Bush, having recently presided over the widely supported and overwhelmingly successful operations liberating Kuwait from Saddam Hussein and the Iraqi military, was a popular president with a solid record of performance on his handling of foreign affairs. Historically, wartime presidents are much more successful when seeking re-election, as evidenced by Harry Truman, Eisenhower, Lyndon Johnson, Richard Nixon (and later George W. Bush). But, if one weakness to Bush’s presidency could be identified, it came in the performance of the economy. By the time of the election, the unemployment rate had peaked at 7.5 percent, a full 2 percentage-points higher than when Bush took office in 1988.³ As the story goes, the result of the Clinton campaign’s efforts was that the media, the public, and even the Bush campaign paid more attention to the economy and economic related issues, resulting in a Clinton victory.

While the case of the 1992 election has become something of an urban myth, or at least the cliché economic election, the result, in conjunction with Clinton and Carville’s claims that they were able to direct the agenda toward the economy, reveals the potential for something else – agenda setting in presidential campaigns. However, the basic idea that one candidate would be able to actively manipulate his opponent to achieve his goals is nothing new. In providing classic examples ranging from air-club members manipulating airplane purchasing decisions, to policy proposals in the Roman Senate, to the famed Lincoln-Douglas debates of 1858, Riker (1986) would suggest that McCain’s brief campaign

³ Unemployment rates are listed at the following site: http://www.bls.gov/cps/prev_yrs.htm.
suspension is business as usual in the realm of politics and that McCain simply was unsuccessful in applying his heresthetic maneuver. Yet, this raises an intriguing question: If candidates are always attempting to alter the campaign agenda to their advantage, why do we not have more examples of successful maneuvers? Given the large number of regular interactions between presidential candidates, it seems peculiar that we do not possess other well known examples. Indeed, with the exceptions of the Lincoln-Douglas debate and Clinton’s “it’s the economy stupid” strategy, one is hard pressed to think of instances where one candidate has managed to convincingly out-maneuver his opponent or otherwise direct the campaign’s attention toward his favored issues. Therefore, perhaps the better question is: Was McCain’s failed attempt to set the campaign agenda the norm?

The fact Clinton was able to defeat a strong, incumbent president on the back of a single issue in 1992 while McCain was unable to draw attention to his leadership experience during a time of economic crisis raises questions about the dynamics of presidential campaigns, what we know about them, and how the candidates are able to affect the attention of their opponents and the voting public. In turn, I have reason to investigate the issues that comprise presidential campaigns; how attention to these issues varies over time; and the larger implications of efforts to shape the campaign agenda-setting have on the outcome of the race and the subsequent policy pursued by the victorious candidate.

4 Heresthetic is the term Riker (1986) uses to describe the strategic use of language. Specifically, a heresthetic maneuver, “involves the use of language to accomplish some purpose: to arrive at truth, to communicate, to persuade, and to manipulate” (pg. X). However, heresthetic maneuvers are not limited to language and, as Riker addresses later in The Art of Political Manipulation, can include other strategic actions such as abstaining from a vote or walking out of a meeting in protest.

5 It goes without saying that candidates will often out-maneuver one another on a much smaller scale, managing to win a debate or small exchanges; but my interest is with larger, more campaign-defining agenda-setting actions.
Agenda Setting and Campaign Dynamics

A natural reaction to the stories I have offered above is that Clinton’s successful shifting of the agenda in the 1992 election was a fluke, that an act of agenda setting did not take place, and, that the election was decided by the real economy, not one candidate’s efforts to shift attention to it. This point is supported by many scholars who find that the outcome of presidential campaigns can be predicted quite accurately by the state of the economy, without any need for additional consideration of the campaigns (Markus 1988, 1992; Holbrook 1994; Alvarez & Nagler 1995, 1998). By this logic the 1992 race was not decided by Clinton’s campaign efforts at all; rather, the decline of the economy on Bush’s watch pre-determined that he would lose the race. Under this scenario voters simply took it upon themselves to punish the incumbent president for the poor performance of the economy.

But as Riker (1986) suggests, there are other examples where one candidate has managed to out-maneuver his/her opponent, set the agenda, and cruise to victory. Riker details the 1858 Illinois Senate campaign, where Abraham Lincoln posed a question to the incumbent Senator Stephen Douglas regarding his stance on the issue of addressing slavery in states’ constitutions. As a Northern Democrat, Douglas was in line with the rest of his party in wanting to avoid the issue entirely, knowing the possible divide it could cause between the Northern and Southern factions of his party. Yet, the importance of the question came from the dilemma it created for Douglas, as he was forced to take a stance on

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6 Yet it should be noted that these works mark only a few points in a sizable literature that examines the scope and magnitude of the economy’s effects across a variety of data and methodologies. For a more complete overview of the literature see: Kiewiet and Rivers (1984), Lewis-Beck and Stegmaier (2000, 2007), and Linn and Nagler (2009).

the controversial issue, and by doing so, had to decide whether he wanted to win the Illinois Senate race or whether he should maximize his chances for a run for president in 1860. Posed with only two choices, Douglas was trapped. If he stated his position in favor of excluding slavery he would satisfy the Northern Democrats and his constituents for the race at hand, but at the expense of offending Southern Democrats and harming his presidential aspirations at a later date. Stating the alternative would prove equally problematic, as he would appear as though he were succumbing to the pressures of the Southern party members for their support in a future run at the White House, in turn, agitating the Illinois voters and potentially costing him his place in the Senate. In this scenario Douglas chose to please his Illinois constituents but his decision later cost him in his bid for the presidency in 1860, conveniently against his familiar opponent for the Senate seat, Abraham Lincoln. As such, Lincoln’s maneuver may have taken place outside of the direct context of the presidential race; yet, he still managed to successfully affect the agenda for the campaign a full two years in advance.

Admittedly, the Lincoln-Douglas debates and Clinton’s campaign are two very prominent examples that are spread across more than 100 years; however, as Riker also documents, it is uncommon to see such a one sided outcome. It is much more common for those who stand to lose from acts of agenda control to thwart their opponents’ efforts through the use of similar tactics, much like McCain’s efforts fell prey to Obama’s critical statements about multitasking. But these two examples present the extreme cases where a single candidate was successful in securing the upper hand and setting the agenda. This explains why both examples are better known and documented than the average campaign. However, the simple fact that we cannot provide a series of examples where presidents have managed to utilize heresthetic maneuvers suggests that, in the case of presidential
politics, agenda-setting is not achieved by a single act; rather, it follows a dynamic process in which multiple actors vie for attention over the course of the campaign.

This preposition is supported by events from the 2004 election, where Massachusetts Senator John Kerry sought to unseat President George W. Bush. While the race was clearly defined as a war-time election, which I discuss in greater length in Chapter Four, I find the candidates addressed numerous issues and neither was able to single-handedly dictate which issue(s) received attention. As an example, in the first two-weeks of August we saw the rise of the Swift Boat Veterans for Truth and increased efforts to paint Kerry as an individual who was unqualified to serve as commander-in-chief. Indeed this exchange garnered a significant amount of media coverage and often forced Kerry to respond to questions regarding his military service in Vietnam. During those two weeks, Kerry gave four notable speeches, including a radio address and a keynote at the Unity 2004 conference. Yet, across those speeches Kerry allocated no more than seven percent of his total attention to defense related policy. Even if we extend his attention to every notable speech he gave in the month of August, now including lengthy addresses to the International Association and Veterans of Foreign Wars, his attention to defense climbs to 26 percent of his total attention on any given day. As such, the most prominent, defining issue in the campaign required roughly one-quarter of his attention, with the rest being spread across the economy, healthcare, labor and immigration issues, federal government operations, and discussions of the election itself. For each issue, Kerry’s attention also

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8 Kerry obviously gave more than four speeches during this two-week period; however, these were the four speeches identified, collected, and coded following the data collection procedures explained in Chapter Three.
9 Each of these issue areas received at least ten percent of Kerry’s attention at some point during the month of August.
varies considerably, with most issues experiencing periods of time in which they do not receive any attention at all, including defense.

At this point I have spoken candidly about how acts of agenda-setting have the capacity to influence the outcome of a presidential race, and to the fact that most agenda-setting efforts are lengthy endeavors that can easily result in failure. However, currently, our knowledge of these agenda-setting acts are limited. Simply put, we do not know enough about the dynamics of presidential campaigns and their issue content. This is evidenced by the reluctance of numerous scholars to include measures of presidential campaigns and their content in their models of election outcomes. In fact, a brief survey of the election forecasting literature reveals that the most powerful predictors of election outcomes are public perceptions of economic conditions (Markus 1988, 1992; Abramowitz 2008, Campbell 2008, Erikson & Wlezien 2008, Lewis-Beck & Tien 2008), presidential approval, and external events (MacKuen et al. 1992). In many cases these models predict the vote shares of the major candidates quite well. However, they exclude the campaigns themselves. Only a few works even attempt to include the campaigns, presenting them as dynamic processes with a series of events that can affect the outcome (Holbrook 1994, Doherty & Gimpel 1997, Shaw & Roberts 2000, Stimson 2004, Linn et al. 2008). But even in these models we are not given any representation of the content of the campaign, relying on indicator variables for “election events.” While these scholars offer a step in the right direction, they too omit the possibility that the issues being addressed by the candidates actually matter.

Yet, despite these omissions, many scholars note a continued reluctance to simply pass over the campaign, leaving us with the nagging feeling that the issue content of a

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10 See citations for economic conditions.
11 Examples of these events include the candidates securing their respective party nominations, the party conventions, and the presidential and vice-presidential debates.
campaign is important, even if we have yet to determine how. This, then, lends the question: If we assume that issue content matters in elections, why do we constantly leave it out of our models for presidential races? Or, more pointedly, can we include issue content in our models?

This leads us to the topic of this dissertation, issue attention and agenda dynamics in modern presidential campaigns. First and foremost we must consider that attention is arguably the most scarce, and potentially most valuable, resource in government.\(^{12}\) While budgets can have deficit spending and policies can be delegated to committees or the bureaucracy, the amount of attention that any one actor has at any given time is most definitely finite. This is clearly visible as government activity is limited by the amount of attention each body can provide. For instance, between 1989 and 2009 there have been no more than 2,100 Congressional hearings per year; no more than 410 laws passed by Congress per year; and no more than 66 executive orders issued per year. These numbers do not indicate that all the problems to be addressed by government have been solved, in fact, pointing only to the opposite and, given additional time and attention we would only expect these numbers to increase as there are countless problems that simply do not make it onto the government agenda. Not surprisingly these same attention restrictions, and more, apply for presidential candidates. As a result, these restrictions on candidate attention should serve to affect which issues candidates address, how much attention they direct to each issue, how that attention changes over time, and the degree to which they are influenced by other actors in the campaign system.

But where does this leave us? What we do know is that the issues addressed and campaign agenda dynamics have potential ramifications for both the outcome of the race

\(^{12}\) I argue this point in much greater detail in the next chapter but for the purposes of introducing the arguments in the dissertation, I provide it here.
and the subsequent policy that is formed afterward. But what we do not know is the extent to which any of this potential is realized. As Markus (1988, 1992) points out, the economy and other factors are incredibly powerful predictors of election outcomes and our models perform quite well in the absence of any measures of the campaign, but we are hesitant to exclude it. In other words, campaigns are omitted from models of election outcomes not because we think they don’t matter, but because we do not know how to include them. This is largely because we know relatively little about what actually comprises the modern campaign. What issues are addressed? How many issues are addressed by each of the candidates? How do they distribute their attention across these issues? How does the attention of a candidate change over time? Further, what sorts of forces weigh on the candidates when they decide what to address? Are the candidates able to pick and choose the issues they like? Or, are they bound to the issues their opponents choose, so as not to fall victim to some heresthetic maneuver like Bush or Douglas before him? And what about the media? Are they the “gatekeepers” that McCombs and Shaw (1972) suggest, capable of controlling the agenda? Or, are the media more malleable, as David Axelrod suggests, giving a tool for the candidates to try and out-maneuver their opponents (Kenski et al. 2010)?

These are the questions for my dissertation, which I seek to answer through the use of several original datasets containing the candidates’ agendas for the 2004 and 2008 presidential campaigns, as measured by the speeches given by the candidates and their direct surrogates over the course of each campaign. I examine how the candidates’ attention is distributed across policy issue areas and how these distributions change over time. I develop a broader theory of campaign attention dynamics, explaining which issues the candidates address, the ways in which candidate attention shifts over time, and the
extent to which agenda-setting is possible in modern presidential campaigns. I further supplement these data with comparable measures of media attention, public attention, and campaign contributions, allowing me to explore the interactions between these various actors to form a more complete theory of who drives candidate attention, in turn, driving the issue content of the campaign.

Agendas, Policy/Issue Areas, Agenda Setting, and Campaign Dynamics

There are several terms that need to be defined in order to move forward. In several cases, many of these terms have been given varying definitions across their relevant literatures, and by stating clearly how I define these terms I hope to alleviate the confusion that would surely follow.

While it has taken on many meanings in the relevant literatures in political science and communications, I define an agenda as the distribution of attention across a set of issues by an actor or actors at any given point in time. For instance, if John McCain addresses the issues of energy independence, healthcare reform, Social Security reform, and national defense on September 1, 2008, then the set of those four issues comprise his agenda for that given date. I further define agendas as being attributable to their respective actors, such that candidate agendas refer to the respective agendas of the major party candidates for the presidency. Other actors who have agendas for these analyses include the media, the public, and the campaign contributors. Lastly, the campaign agenda is defined as the sum of the two presidential candidates’ agendas across the span of the entire campaign. For example, if McCain’s agenda were to remain constant on the set of issues I state above and Obama directed his attention to those issues in addition to social

\[\text{This is not to be confused with the candidates’ individual respective agendas at any single point at time.}\]
welfare and tax policy, then the sum of all six issues would comprise the campaign agenda for the 2008 presidential election.\footnote{Note that the agendas will all be measured in much greater detail than they are here. Values will be assigned to each issue that capture the percent of attention directed toward it at any given time. Or, in the case of the campaign agenda, a broader distribution of attention across the entire campaign will be provided.}

The terms “policy” and “issue” are part of the regular vocabulary of politics; however, these terms, by definition, are vague as both can be used to refer to a variety of topics in government. What defines a policy or an issue? How many policies or issues are there? Thankfully, these questions have been addressed by previous scholars, allowing me to defer to their expertise. Specifically I refer to Jones and Baumgartner (2005),\footnote{This is also evident in Jones and Baumgartner (2005).} who developed a complex classification scheme that assigns practically every activity of the federal government into one of 19 major topic areas\footnote{This is then increased to 21 major topic codes with the addition of codes 24 and 99 for state-government operations and miscellaneous, respectively.} during an exploration of the dynamics of government attention.\footnote{I note that the Policy Agendas Codebook features the additional classification of government activities into a series of 225 sub-topic codes.} For the purposes of this dissertation, I define both the terms policy and issue as referring to one of these topic areas. For example, one of the major topic areas is defense, which encapsulates everything ranging from Department of Defense operations and appropriations, to terrorist attacks, nuclear proliferation, or the administration of Veterans Benefits programs. Therefore, throughout the discussion that follows, I will use the terms issue, policy, policy area, and similar transformations to refer to the 19 major topic areas as defined by the Policy Agendas Project (PAP).\footnote{Specifics regarding the Policy Agendas Project Codes, including a full list, is available in Appendix A.}

Whereas it is now clear what I mean when I refer to an agenda, there remain a few processes that serve as part of the central locus for this dissertation that also require some
clarification, specifically, agenda-setting and campaign dynamics. The origin of the term “agenda-setting” has been linked to two influential sources in political science and communications. Schattschneider (1966) introduced the idea as part of his theory of conflict expansion, arguing that agenda-setting is a process wherein political actors seek to change the dynamics of a debate in an attempt to expand their supporting coalition and achieve victory. This definition does not differ greatly from the one adopted by much of the current communications literature, which tends to define agenda-setting as a certain type of framing (Bennett & Manheim 2006; McCombs & Shaw 1972). In both cases, agenda-setting is the process of defining (or re-defining) debates from different perspectives in order to achieve some goal.

Yet, there is an alternative definition, put forth by McCombs and Shaw (1972), where agenda-setting is a process by which some actor actively alters which issues receive attention. In the case of their study, McCombs and Shaw (1972) detail the role of the media in elections, suggesting that they play a “gatekeeping” role that controls the flow of information to the public. As a result of this role, they suggest that the media actually possess the ability to shape the debate by controlling what information the public receives.

For my purposes, I utilize the McCombs and Shaw (1972) definition of agenda-setting, viewing it as a process by which one political actor attempts to exert influence over another in terms of which issues are addressed and the level of attention directed toward

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19 Framing is the process by which an issue is portrayed from a chosen perspective to emphasize particular characteristics of the issue or debate. For instance, for the issue of abortion, opponents frame the practice as being tantamount to murder while proponents frame the issue as being a question of women’s rights.

20 I refrain from arguing for or against this point here, suffice to say that this is one of the key questions of this dissertation; however, this is again a good example to use here.
them. For example, if Barack Obama allocates some of his attention to focus on social welfare policy and John McCain alters his distribution of attention to incorporate the issue, then Obama has successfully committed an act of agenda-setting. This is a low bar to set for successful agenda-setting; however, the lack of clear examples beyond the 1992 election suggests our expectations should be lowered. Further, if we believe the accounts of Schattschneider (1966) that suggest the candidates are in constant conflict over the campaign agenda even small victories seem an appropriate measure for the purposes of this discussion, as Clinton’s success was likely an outlier.

As I state briefly above, several scholars have begun to address the fact that campaigns are, by design, dynamic processes. But what does this mean? Dynamic processes are those that vary over-time and, unsurprisingly, presidential campaigns are the embodiment of this phenomenon. As such, I define campaign dynamics as the daily exchanges between the candidates and other actors as they interact over the course of the campaign. This distinction is important as the increasing availability of better data makes it possible to examine the campaign dynamics of presidential races, no longer reducing them to cross-sectional events; rather, recognizing campaigns as processes that play out over-time. This is one of the key features of my dissertation, as, to this scholar’s knowledge, there have not been any empirical examinations of the issue content of presidential campaigns in a dynamic context. Further, the exploration of campaign dynamics offers a variety of new opportunities to learn about the agenda-setting processes at work during a presidential race. Are the candidates free to choose which issues receive attention? How does their attention change over time? Are McCombs and Shaw (1972) or other scholars correct that the candidates’ agendas influenced by the media? Is the cynicism about
candidates being “bought” by their contributors justified? These are only a few of the questions that we can answer by looking at candidate attention over time.

**Broader Implications**

It is common among scholars to become so immersed in our own narrow veins of research that we lose sight of the larger picture and how our topics fit into the larger political system. As I have demonstrated already with three examples from 1860, 1992, and 2008, the issue content and campaign agenda dynamics of presidential races have the potential for affecting the outcome of each race. Further, the ramifications for candidate attention and agenda-setting extend beyond the campaign into the realm of policy. Issue attention, in the form of campaign promises, has been shown to have implications for future policy at the Congressional level (Sulkin 2009, 2011; Abbe et al. 2003). Put simply, increased attention to particular issues during the campaign seems to result in increased attention to the policy area once candidates take office. Further, as Sulkin (2005) also suggests, candidates tend to address the issues raised by their opponents when in office in an attempt to solidify their future re-election chances by removing those policy areas as potential avenues for attack by other candidates.

Naturally, one might point out that the findings of Sulkin (2005, 2011) pertain to Congressional candidates and that, once elected, members of the legislature are, in many ways, more capable of implementing policies that would fall in line with their respective campaign agendas. In this same line of reasoning, one would note that the president’s ability to pursue policy that would follow from his campaign agenda is more limited than
individual members of Congress both in terms of constitutional\textsuperscript{21} powers and in terms of legislative ability. Yet, as Bevan et al. (2011) illustrate in Britain, issue attention in speeches made by the executive are often followed by increases in attention to that policy area in the legislature. Similarly, Edwards (1989) finds that presidents are capable of exercising some influence over legislative production, even if they only have an effect “at the margins.” But, as Rutledge & Price (2013) illustrate, Edwards’ expectations of presidential influence are too high, as they find evidence that executive influence does not come in the form of legislative productivity as much as it comes in the form of directing changes in the distribution of legislative attention.\textsuperscript{22}

However, the verdict has yet to be decided with regard to the agenda-setting capacities of the president, much less those of presidential candidates fighting for the spotlight. As such, this dissertation serves as the first step toward a better understanding of not only the issue content and campaign agenda dynamics of modern presidential campaigns, but also the complexities of how presidential promises lead to executive action and changes in legislative attention.\textsuperscript{23} But, as the cliché goes, the only way to eat an elephant is one bite at a time, and the first step is to improve our understanding of presidential campaigns, their issue content, and the dynamics of attention over the course of the race.

\textbf{Chapter Outline}

\textsuperscript{21} By this I refer to the limits on presidential power as stated in the Constitution. While there are numerous venues in the Executive branch for the president to pursue his policy goals, there are limits to what he can do and to what extent he can pursue align his campaign promises with his policy goals.

\textsuperscript{22} This is also indicated by earlier research by Peake (2001).

\textsuperscript{23} By this I refer to future research projects that will examine the linkage between campaign attention and presidential attention and additionally more in-depth examinations of how presidential attention affects congressional attention.
The dissertation proceeds as follows. In Chapter Two, I provide a much more in-depth discussion of what we know about presidential campaigns, the issues they contain, and the processes at work. I offer an overview of the existing theories of candidate attention dynamics, namely the theories of Issue Ownership and Issue Convergence. I then build upon these theories by incorporating the attention limitations introduced by Punctuated Equilibrium Theory to build a new Double Bottleneck Theory of candidate attention that offers several expectations for how candidates will prioritize issues. Further, I argue that the limitations on candidate attention will reduce the ability of outside actors to influence candidate attention for candidates’ preferred issues while simultaneously increasing the likelihood those same actors can influence attention to lower salience issues.

In Chapter 3, I offer a description of the challenges entailed with performing an empirical analysis of candidate attention and, more broadly, presidential campaigns. I detail the process of identifying a set of suitable measures for the attention of the presidential candidates, the media, public preferences, and the funds received from varied campaign contributors. I further describe the location, collection, and classification of these data across the 2004 and 2008 presidential campaigns, offering a fully transparent account of the data collection process for this project. The resulting data, spanning almost 250,000 candidate speech-sentences, spanning more than 1,400 campaign speeches; approximately 15,000 newspaper stories, looking across both the front page and campaign coverage of the *New York Times*; 24 separate Gallup opinion polls; and more than one million campaign contribution filing reports, covering more than $1.5 billion in campaign funds offer a new, unique way to analyze the dynamics of attention during presidential campaigns.

My Double Bottleneck Theory of candidate attention dynamics relies on one critical assumption – that candidate attention is finite. Yet, there are two possible bottlenecks that
can result in these limitations on candidate attention, the candidates themselves and the public. Specifically, candidate attention is restricted by a lack of interest in or knowledge of various issues on the part of the candidates themselves, or by the public’s inability to either understand complex issues or process numerous issues at once. In Chapter 4, I begin the process of empirically testing these bottlenecks on candidate attention through a series of descriptive analyses that examine the scope and skewness of candidate attention in each campaign. I find that candidate attention is, indeed, limited on both fronts. Candidates address only two or three issues at any given point in the campaign and shift attention from issue-to-issue in a pattern that is consistent with Punctuated Equilibrium Theory.

Having established the reality of finite candidate attention, in Chapter Five I turn my attention to the expectations Double Bottleneck Theory offers regarding the agenda-setting abilities of the candidates, their opponents, the media, the public, and campaign contributors in the 2004 presidential campaign. While candidates ultimately decide which issues they will address, if agenda-setting is possible then candidates’ are required to be susceptible to outside influence. But who can exercise this influence and to what degree? Using a combination vector autoregression models, I assess the degree to which candidate attention is driven by the attention of their opponents, the media, the public, and their campaign contributors. I find that candidate attention is highly resistant to consistent outside influence, even that of their opponents, for the most prominent issues. However, for lower importance issues, I find that external stimuli are frequently able to significantly increase or decrease candidate attention to a specific issue area.

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24 This is evidenced by values of Shannon’s H entropy as detailed fully in Chapter Four.
25 This is supported by high levels of l-kurtosis in the distributions of changes in attention across each individual issue area and all issues combined. Similar to entropy, the methodology of this is explained more thoroughly in the chapter.
Although I find support for my Double Bottleneck Theory in the 2004 campaign, as any presidential scholar will attest, each campaign is different and filled with idiosyncrasies. In Chapter Six, I extend my analyses to the historic election of 2008, once again examining the abilities of the candidates, media, and other actors to influence candidate attention. Despite the differences in issue priorities and numerous contextual factors, I find once again that the issues valued most by the candidates are highly insulated from outside influence, but those issues which are given less priority are susceptible. These results, in conjunction with those from Chapter Five offer support for DBT as a potential model of campaign agenda-setting that can be applied across elections.

Finally, in Chapter Seven I draw the results of my analyses from Chapters Four, Five, and Six together to offer a more complete, all-encompassing evaluation of my Double Bottleneck Theory of candidate attention. I offer several insights gained during work on this project and highlight the broader implications of how candidate prioritization of issues might shape presidential campaigns in the years to come. I conclude with some suggestions for future research in the hope that this may be the first project in a line of inquiry that examines the ways in which candidates allocate their attention, how they choose their issues, and the extent to which they are able to manipulate one another via acts of agenda-setting.
Chapter Two
Building a Theory of Campaign Attention Dynamics

Imagine for a moment that you are a candidate running for president. Leave behind all the concerns about building a campaign staff, setting up regional and state offices, fundraising, and the other logistical challenges that exist behind the scenes. You are about to give your candidacy announcement. The stage is yours and the spotlight is on you. But there’s a dilemma: what do you talk about? Which issues do you address and which do you leave out? Do you try to talk about as many issues as possible or do you focus on one or two issues and to present yourself as being an expert in those areas? How do you decide?

Obviously very few of us are ever presented with this scenario, but as we can easily imagine, these decisions are not taken lightly and designing a popular, successful agenda is no small feat. Yet, it is one that every candidate faces every day of a presidential campaign. In every planning meeting, every discussion with campaign staffers, every interview with the media, candidates face this challenge. Do they pick something from the laundry list of issues they want to talk about or do they give in and talk about the issues someone else wants? Given that the latter option seems more likely, we are presented with yet another question: who affects which issues the candidates talk about? Plainly stated, who can affect the campaign agenda?

As I describe in Chapter One, the issue content of a campaign has serious implications for not only who wins the race, but also for the policies that are enacted following the campaign (Sulkin 2005, 2009, 2011; Abbe et al. 2003). Further, the issues adopted by the active president, arguably a function of their campaign agenda, have been documented to have a significant on the Congressional agenda (Rutledge & Larsen-Price 2013; Peake 2001). Yet, for all of the research that has been conducted on presidential
elections by scholars in political science and other disciplines, there are even more questions regarding the issue content of campaigns and how attention is distributed across issues over the course of the race that remain unaddressed. Namely, what is the nature of candidate attention? How is it distributed across issues? How does attention to issues shift over-time? Who is capable of influencing candidate attention and, in turn, affecting the campaign agenda?

These questions have serious import and comprise the central locus of this dissertation. In this chapter I seek to review the extant literature regarding the origins of candidate attention, how attention is distributed, and the degree to which outside actors are able to produce changes in the agendas of presidential candidates. I build upon the existing Issue Ownership and Issue Convergence theories of candidate attention by incorporating the limitations imposed by finite attention from Punctuated Equilibrium theory to propose a new theory of candidate attention dynamics – the Double Bottleneck Theory. Specifically, I posit that candidates, faced with the reality that how they distribute their attention is a zero-sum game, prioritize their attention according to their issue preferences. As a result candidates reserve the majority their attention at any given point for their top priority issues at any given point in time. Further, this prioritization of issues allows for a concentration of expertise that insulates the candidates’ top issues from almost all sources of outside influence, including the debate with their opponents. However, for issues of lower priority, candidates are less attentive and are more likely to be affected by spikes in attention to the issue outside of the campaign.
The Origin of Candidate Agendas

As the first question to arise regards how candidates select the issues they use to define their campaigns, where a candidate’s agenda begins is the natural place to begin our examination. So how exactly does a candidate choose which issues to address? Among the first to examine this question was Riker (1986), who argues that candidates will follow two basic principles when selecting which issues to address – the Dominance Principle and the Dispersion Principle. According to the Dominance Principle, when one side is favored on an issue, the opposing side will ignore it. Conversely, the Dispersion Principle suggests when neither side has an advantage on a given issue, both will attempt to seek out other issues that are more advantageous. As such, candidates should seek to discern the issues where they are favored and stress those, while strictly avoiding those issues that are either ambiguous or disadvantaged.

Ansolbahaere and Iyengar (1994) offer an alternative to the issue ownership suggested by Riker’s (1986) heresthetic theory of issue dominance dubbed “Riding the Wave.” According to this alternative, candidates seek to appear responsive and attentive to the voting public, altering their attention to address issues that are salient at the time. The result of ‘riding the wave’ is that both candidates would emphasize a very similar subset of the most salient issues.

If we use the Dominance Principle and “Riding the Wave” as a foundation for how candidates set their agendas, we are presented with the beginning of two diametrically opposed theories that have evolved into the Issue Ownership and Issue Avoidance theories that define the literature surrounding candidate attention. Issue Ownership draws both on Riker’s (1986) Dominance Principle and the “selective emphasis” thesis of Budge and Fairlie (1983), where they examine the volume of references to various issues in the
Democratic and Republican party platforms of the elections from 1920 through 1972, finding that each party would primarily emphasize the issues where they were viewed favorably by the public. Petrocik (1996) helps to support this theory, finding similar results as Budge and Fairlie (1983) in the 1952 through 1988 elections while examining candidate statements made through the *New York Times*. To this end, several additional studies have suggested that candidates do not engage one another in a fruitful debate; rather, they appear to “talk-past” one another in their use of advertisements (Damore 2004; Petrocik et al. 2003) and acceptance speeches (Petrocik et al. 2003) across a variety of issues (Holian 2004).27,28

In Figure 2.1 I offer a basic graphical representation of the Issue Ownership theory. The issues in black, namely Issues one, four, seven, and eight are where the candidate is viewed favorably relative to his opponent. Conversely, Issues two, three, five and six are colored red to denote that the candidate is not viewed as favorably as his opponent for the issue. The resulting behavior, as directed by the Dominance Principle underlying Issue Ownership theory, is that the candidate in question should direct his attention to Issues one, four, seven and eight while largely disregarding Issues two, three, five and six.

26 Typically Issue Ownership is viewed from the perspective of the major political parties, as they are capable of “owning” issues far more so than any particular candidate. Candidates from each respective party then rely on those party affiliations and the party’s favorable ratings on those issues for their campaigns. For instance, the Republicans are typically viewed as being stronger on defense and foreign policy areas while the Democrats are stronger with regard to domestic programs and assistance to lower income groups.

27 For a more complete description of the issue ownership literature see Sigelman and Buell (2004) or Damore (2004, 2005).

28 Issue Ownership or Issue Avoidance has also been demonstrated to exist beyond the immediate campaign context, as Thomas (1991) demonstrates how members of the U.S. Senate would avoid voting on various issues that would either anger their constituency or their party. Further, when pressed on the matter by Congressional Quarterly surveys, many senators would either acknowledge their decision to abstain from the vote or would refuse to answer the questions, indicating a deeply rooted avoidance of the issue.
In nearly direct contrast to the Issue Ownership theory, a competing theory has also emerged out of Ansolabehere and Iyengar’s (1994) “Riding the Wave” idea of candidate attention – Issue Convergence theory. Specifically the theory suggests that the candidates will seek to identify the most pertinent issues at any given point in time and will then direct their attention to those issues, resulting in both candidates actively engaging one another in debate as they both focus on the same narrow body of issues.\textsuperscript{29} In one of the strongest showings of support for this theory, Simon (2002) examines campaigns for the United States Senate revealing that, despite expectations to the contrary, “dialogue of some kind appears in almost every election” (p. 3). This finding is further corroborated by numerous other scholars who examine issue attention across several races using statements from candidates (Sigelman and Buell 2004) and candidate advertising (Kaplan et al. 2006; Damore 2005). In each case, evidence suggests the candidates engage in debate

\textsuperscript{29} The Issue Convergence theory differs from Issue Ownership in another critical way, as the theory is meant to explain the behavior of individual candidates, not political parties more generally. Although an argument certainly could be made that Issue Convergence theory could also be used to explain which issues a party will address at any given point.
over the issues, raising the question: Given the conflicting expectations of the Issue Ownership and Issue Convergence theories, do we really know anything more about the origins of campaign agendas or candidate agendas than when we started?

Figure 2.2 illustrates the disconnect between the Issue Ownership and Issue Convergence theories and how candidates would be expected to behave in a variety of scenarios. Specifically, the figure shows how a given issue, denoted as Issuei, would be handled by a candidate based on their opponent’s favorability rating for the issue.30 Let us assume the issue for this example to be defense policy and the candidate is President George W. Bush running for re-election in 2004. Under these circumstances, Bush was viewed more favorably than Senator Kerry on how he would handle matters of national defense. Specifically, an October survey conducted by Time/SRBI indicates he was favored 51 to 40 with regard to how he would handle the war on terrorism and 50 to 40 for the

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30 Note that the figure looks at the opponent’s favorability rather than the candidate’s own favorability; however, these two are essentially interchangeable, as an issue where the opponent is favored is an issue where the candidate is not favored and vice versa. Presumably, as candidates seek to maximize their gains, they would be attentive to more than whether they are favored, instead looking to capitalize off their opponent’s lack of public support wherever possible, hence my decision to present the figure in terms of opponent favorability.
situation in Iraq. As such, if we proceed through the figure, we would follow the lower arrow as Kerry was not favored on the issue. Yet, as we can see the two theories suggest we should have different expectations for how Bush will proceed. Issue Ownership theory would lead us to expect Bush to increase his attention to defense policy while potentially neglecting other issues. Conversely, Issue Convergence would likely suggest he do the opposite, instead allocating his attention to the other issue areas that are either more timely or where he could work to erode Kerry’s support.

So where does this leave us? Which theory offers us a better ability to correctly predict which issues candidates will select and how much attention they will allocate to them? Empirically, the answer to this question lies somewhere in the middle. As Sides (2006) demonstrates, candidates for the U.S. House and Senate typically emphasized their strongest issues with their campaign advertising. However, he also finds, “candidates are more willing to ‘trespass’ or talk about the other party’s issues than previous literature has found” (p. 407). As such, candidates seek to avoid their opponents’ strengths, but will still engage them in a debate over those issues when necessary.

Other empirical examinations of campaign agendas reveal similar results, where candidates and parties are seldom able to completely control one or more issues in a fashion that the resulting candidate agendas are totally disparate. Specifically, Dulio and Trumbore (2009) explore the degree to which the Iraq War was stressed in advertising by candidates for the House during the 2006 mid-term elections, finding that the party of the candidate was irrelevant when it came to the use of the issue in their ads. Further, candidates were quick to respond to one another, offering support to a more Issue

Convergence oriented perspective. Both Hayes (2005) and Doherty (2008) take an alternative approach, looking to see whether candidates are able to “own” particular traits such as being trustworthy or moral in the presidential elections spanning from 1980 through 2004. In both cases they find that candidates are able to build a reputation with voters that make them more easily identifiable with those traits; however, candidates are unable to completely monopolize particular traits, with their opponents frequently “trespassing” in the same fashion as Sides (2006) finds with regard to issue attention.

So what then can be concluded about the origins of candidate agendas? I would argue that while the debate remains between Issue Ownership and Issue Convergence, the truth, like it does for so many things, lies somewhere in between. Candidates clearly adopt the issues where they are favored by the voting public, choosing not to do so would be foolish and would hurt their chances to win the election. Yet, candidates hardly “own” these issues, as their opponents will happily engage them quite frequently on an opportunistic basis. Further, as issues increase in salience among the public, we should expect candidates to modify their agendas to address those issues, even if this means the candidates’ respective agendas overlap to a significant degree.

Once Things Start Moving

One glaring problem with both the Issue Ownership and Issue Convergence theories of candidate attention is that they do not account for the dynamic nature of campaigns. As many scholars have noted, campaigns are not static events; rather, they are composed of a series of related events and exchanges between candidates that occur over the course of several months (Dancey & Goren 2010; Aldrich 1980). For each theory, we are offered an indication of how candidates define their initial issue agendas, but what would the
candidate’s agenda look like a week into the campaign? What about a month into the campaign? Or what about when there are only two weeks remaining in the race?

While not explicitly stated as a part of either theory, as both operate on the basis of public opinion and could be extended into a dynamic framework by assuming the candidates update their issue preferences in line with their favorability ratings. Yet, this seems an unlikely scenario as it places an extremely high premium on polling of the public’s issue preferences and suggests that polls of that nature are more important than the more common candidate preference or “trial-heat” polling. However, if we briefly operate with the assumption this is the case, candidate attention would shift in a similar fashion as public opinion: that is, in a slow, incremental fashion (Erikson et al. 2002; Carmines & Stimson 1989). Yet, as I explain in the following sections, this type of change in candidate attention is counter to findings regarding the nature of attention by government actors who suffer from the restrictions imposed upon them by finite attention.

Limiting Candidate Attention

So how does candidate attention change over-time? As I suggest in the previous section, there are two possible options. First, candidates could follow a repeated updating process whereby they re-examine public issue preferences on a periodic basis and adjust their distribution of attention accordingly. Under this scenario, candidate attention will shift from issue-to-issue in a slow, incremental fashion. The second option proposes that candidates will use alternative methods of determining which issues they should emphasize. Given the undefined nature of these methods, it is unclear how candidate attention would shift over the course of the campaign. I argue, however, that this second
option is a form of issue prioritization the candidates impose upon themselves to account for the limited nature of attention.

While the Issue Ownership and Issue Convergence theories of candidate attention offer a useful departure for understanding how candidates define their agendas, both initially and over the course of a campaign, these theories offer relatively little clarity with regard to how candidate attention to a given issue will change over-time. These theories provide even less guidance if we seek to explain the degree to which agenda-setting occurs in presidential campaigns. Yet, I argue addition of one piece of information allows us to translate both theories into a broader, generalizable theory of candidate attention dynamics and campaign agenda-setting – candidate attention is finite and limited.

Within the agenda-setting literature, the work of Baumgartner and Jones (1993) has had a significant impact. Through an examination of policy changes with regard to nuclear energy, tobacco policy, and environmental policy they reveal that policies follow a pattern of extremes, with long periods of stability marked by extreme policy punctuations. This Punctuated Equilibrium Theory (PET) is then extended by Jones and Baumgartner (2005) to apply to the nature of governmental attention, where the simple addressing of an issue in Congress follows the same process of stability and punctuations. As such, PET offers one of the missing pieces of the candidate attention puzzle, an explanation for how attention shifts over time. But is candidate attention the same as that of Congress or the Supreme Court?

In order to understand whether PET can be effectively extended to presidential candidates, it is necessary to parse out the reason behind these periods of stability and

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32 By this I refer to the updating process I propose above. 
33 This theory has been extended and found to be robust across a variety of contexts ranging from how attention changes in other countries to the nature of the New York Times' front page agenda (Boydstun 2008).
extreme shift. Thankfully, the mechanism behind PET is identified by Jones and Baumgartner (2005) – serial information processing as a result of limited, or finite, attention. As government bodies only have so many hours in the day or so many days in a session, they must identify which issues they would like to emphasize and then distribute their scarce amounts of attention across them to best align with their priorities. This behavior produces periods of neglect that mark the start of a positive or negative feedback process that, once it crosses a threshold, produces a sudden landslide of attention.

Specifically, Jones and Baumgartner (2005) note there are three major self-reinforcing processes that produce dramatic punctuations – sieves, cascades, and friction. Among these processes, if there was ever a place to observe cascades, or any type of feedback loop for that matter, it is in a political campaign. Candidates send out messages every day with the expressed goal of precipitating a response, regardless of whether it is positive or negative. For instance, if McCain really does want to address immigration policy, he could give a speech or make a press release on the issue. This then produces feedback in the form of increased media coverage, a response by Obama, a change in the focus of interviews, or increased contributions from parties that share his views on the issue. In the event there is little or no feedback, McCain can simply abandon the issue and return to his core message; but in the event that his action produces any of these responses, he has an incentive to allocate even more of his attention to the issue, in turn, directing the focus of the campaign to his desired issue and, subsequently, in his favor. This type of process is the very underlying process we know as agenda-setting.

The reality is that modern presidential campaigns operate under the microscope of a 24/7 news cycle with increasingly sophisticated opponents, and, as a result, we are likely to observe feedback loops in candidate attention that produce lengthy periods of stability in
attention to issues followed by dramatic shifts, or punctuations, in the event they decide to shift their focus. Therefore, just as Jones and Baumgartner (2005) illustrate, McCain’s attention shift to immigration policy should be sudden and dramatic. In the case of McCain’s real attempts to alter the 2008 campaign agenda by suspending his campaign in response to the economic crisis, the response garnered by McCain’s action was not sufficient to cross the threshold necessary to spark a positive feedback loop. However, other examples from the 2004 and 2008 campaigns where these types of processes include the questioning of Kerry’s war record following the Swift Boat Veterans for Truth advertisements; the labeling of Kerry as a “flip-flopper;” the portrayal of McCain as being out of touch with average Americans; the adoption of a socialist label for Obama following his comments about spreading wealth to Samuel Wurzelbacher, also known as “Joe the Plumber;” and more.

A Double Bottleneck Theory of Candidate Attention

I argue candidate attention is finite and that changes in attention to issues should follow the patterns of stability and extreme change suggested by Punctuated Equilibrium Theory. But how do these facts combine with the Issue Ownership and Issue Avoidance theories to provide an indication of how candidate attention changes over time and, further, the extent to which we should expect to see agenda-setting occur in presidential campaigns? Specifically, I argue that candidate attention is limited in one of two ways and as a result candidates are forced to prioritize which issues they address. These limitations on candidate attention act like bottlenecks that both limit which issues candidates will address, but that also produce ideal conditions for serial information processing that would
produce patterns of changes in attention consistent with PET and that reduce the ability of outside actors to alter candidate attention.

But how is candidate attention limited? Presidential candidates, unlike members of Congress or other government actors, have access to ever-expanding networks of supporters and surrogates in addition to vast quantities of funds. As a result, presidential candidates possess the potential for a continually expanding agenda-space. I argue, however, there are two bottlenecks that restrict candidate attention despite their sizable campaign staffs and enormous campaign war chests – the public bottleneck and the candidate bottleneck.

The public bottleneck refers to the difficulty the public has processing political information and the desire of candidates to limit their messages to only a limited number of issues that the public can adequately process. Specifically, it is well documented that public knowledge regarding politics is quite sparse (Delli Carpini and Keeter 1996); and, more importantly, as psychologists have demonstrated, people often have inflated beliefs regarding their abilities, in this case, the capacity to process political information (Ehrlinger et al. 2008; Dunning et al. 2003). As Zaller (1992) details, voting decisions are not based upon encyclopedic knowledge of issue positions. Rather, voters utilize heuristics to access what information they possess and often rely an on-line model of information processing that centers on simple memory recall.
These limited abilities of the public have implications for how candidates proceed in their debate over the course of the campaign. As documented in earlier work by Carmines and Stimson (1989), issues can be separated into “easy” and “hard” categories. Those issues that evoke an immediate emotional response or can easily be processed by the voting public regardless of their level of political knowledge. For instance, abortion policy is an example of an “easy” issue, as voters are able to quickly stake out a position on the issue without much added information. Conversely, modifications to the estate tax or corn subsidies are examples of “hard” issues whereby a voter would need specific information regarding the costs and benefits of the policy before being able to formulate a meaningful opinion. Figure 2.3 illustrates this relationship. Simply put, when the complexity of the issue rises, the public’s ability, and willingness, to process the necessary information declines.

Given that the public possesses a limited ability to process information, candidates have incentives to limit their discussion to “easy” issues (like raising/lowering taxes or increasing defense spending) in order to maximize both their potential audience and the effect of their statements. Further, the indirect product of this incentive is that the public
assures candidate attention is seldom ever allocated to overly complex issues. Presented
with a choice between issues to address, it is a better strategy for candidates to hammer on
a few issues where they both favored and where the voters can understand their message.
Simply put, less is more.

The product of the public’s limited knowledge, heuristic processing, and need for
“easy” issues is that candidates are inclined to focus in on a small subset of issues and
through repetition ensure that those issues will be remembered on Election Day. This has
specific implications for how candidates will distribute their attention:

Public Bottleneck Hypothesis: Candidate attention is restricted by
the need to present a simple message for public consumption. Thus, I
expect to see candidate attention limited to a small number (three or
fewer) of issues.

Yet, the public present only one of the two bottlenecks to candidate attention. The
second restriction on candidate attention comes from the candidates themselves and the
reality that, despite all their surrogates and campaign funds, they are human and there are
only 24 hours in a day. This bottleneck draws most heavily upon the serial information
processing that is suggested by Punctuated Equilibrium Theory, as the candidates are
forced to choose between which issues they will address during the fleeting hours of each
day or the lines of each speech. Because of this restriction, candidates are forced to select a
narrow subset of issues where they possess significant expertise or knowledge.
Following the same trend as the relationship between issue complexity and the public’s ability to process political information, Figure 2.4 displays the relationship between candidate expertise/knowledge and the number of issues they choose to address. For the candidate bottleneck, I argue, candidates build upon Riker’s (1986) Dominance Principle by selecting the issues where they are both favored and where they possess enough experience to portray themselves as an expert to the voters. As a result, they will largely neglect the remaining issues where they possess lower levels of expertise.

Two clear examples of the candidate bottleneck can be drawn from the 2012 Republican primaries where both Texas Governor Rick Perry and Herman Cain experienced serious lapses in memory. Specifically, during one of the primary debates Perry stumbled as he sought to identify the government agencies he would seek to abolish in an effort to reduce government spending and bureaucracy. Similarly, after Perry fell in the polls and Cain surged into the lead, he experienced a similar lapse of memory during a

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34 During much of the time of this project the 2012 presidential campaign was still underway, as such, it is excluded from my analyses. However, upon completion of the dissertation I intend to collect data from the 2012 campaign to extend my analyses to include a third election.
widely publicized interview regarding the Obama administration’s handling of the conflict in Libya, where, after a lengthy pause, Cain offered a vague answer that failed to identify any policy specifics. In both of these examples the candidates demonstrate one clear truth – candidates are human and, as such, are susceptible to the same cognitive limitations on their memory and attention as any other citizen. These cognitive limitations, in turn, speak directly to the candidate bottleneck, illustrating how candidates have incentives to focus on their preferred subset of issues.

Thus, if the candidates are susceptible to cognitive limitations and are serial information processors, it should be evident empirically. Jones and Baumgartner (2005) demonstrate that when attention is focused through serial processing it produces a distribution of changes in attention that is highly leptokurtic, or, in other words, a distribution with a very high, narrow central peak with an abnormally high number of extreme observations. Therefore, I propose another hypothesis regarding the restrictions placed on candidate attention:

**Candidate Bottleneck Hypothesis:** Candidates face limitations in the way they direct their attention and this affects the way in which their attention shifts across issues over-time. As a result, I expect to see the distribution of changes in candidate attention to any given issue exhibit high levels of explosiveness (or highly leptokurtic distributions).

So, given that candidate attention is constrained by both their own cognitive limitations and the public’s inability to process information, what then can be said about how they allocate their attention across the population of issues? Further, what can be said about how their attention changes over time or the degree to which agenda-setting is present in modern campaigns? To address these questions, Figure 2.5 presents the basic
framework behind my Double Bottleneck Theory of candidate attention dynamics.

Specifically, we see a larger potential candidate agenda space on the left where candidates are free to choose to address whichever issues they choose, arguably a reflection of the Issue Ownership or Issue Avoidance Theories as presented in Figure 2.1, admittedly without the color shading to reflect candidate favorability on each issues. Yet, candidates are forced to move from the ideal, all encompassing agenda space when deciding how to distribute their attention, facing the restrictions imposed by both the Public and Candidate Bottlenecks of attention. The result of this narrowing of attention is that candidates must prioritize their agendas, selecting a reduced number of issues, typically somewhere between two and four, where they are both favored and possess a suitable level of knowledge and expertise. In

\[\text{Figure 2.5 - The Effects of Finite Attention From Either the Public or Candidate Bottlenecks}\]

\[\text{Note: Those issues that are lower priority might still receive attention, but often at very low levels. Simply put, these issues are not viewed by candidates as important to their campaigns.}\]

\[\text{In some cases candidates will address issues where they are not initially favored but where they believe they hold the potential to change public opinion in their favor or to otherwise negatively affect their opponent’s favorability on the issue.}\]
the case of the figure, issues two and five are selected by the candidate to be their “most important” issues, while the remaining issues, one, three, and four, are largely neglected.

This theory, I argue, offers insight into both how candidates initially formulate their campaign agendas and also how candidates will distribute their attention at any given point in the campaign. Further, if the candidates truly are limited by the Candidate Bottleneck, then this theory also speaks to the dynamics of candidate attention, where we should observe candidates maintaining comparable levels of attention to issues for long periods of time, followed by dramatic shifts in attention to other issues, presumably in response to some external stimuli. A key example of this can be seen in the 2008 campaign, where the economy was considered a significant issue for the majority of the campaign, but not one of the top issues. However, following Lehman Brothers’ filing for bankruptcy on September 14, 2008, as the dominoes continued to fall and the economy began to slide into a recession, both candidates’ attention to the issue spiked dramatically, giving way to McCain’s attempt to suspend his campaign.

But my theory extends beyond the dynamics of candidate attention to address one of the core questions of my dissertation: To what degree does agenda-setting take place in modern presidential campaigns? If we assume that candidate attention is finite and they prioritize their agendas, there are implications for how candidates will allocate their attention and how responsive they will be to external stimuli. Obviously not every event is of the same magnitude as the economic crisis of 2008, but my theory speaks to how candidates might react to a surprise news story, a sudden shift in one candidate’s attention, or even an increase in campaign donations from a particular sector of the economy.

So how then will outside influence factor into the candidates’ decisions of how to distribute their attention? I argue that, for the issues where the candidates possess the
most expertise and where they place the most emphasis, they will be largely indifferent to external stimulation. That is to say, the candidates are already allocating a sizable share of their attention to the issue and possess significant levels of expertise and knowledge regarding the issue, as a result, they are well suited to handle small-scale events or spikes in the attention of another actor that might normally precipitate a response. For instance, in the case of McCain’s suspended campaign, while the content of McCain’s argument was meant to focus on his leadership traits, as it was related to the issue of the economy, at that point the dominant issue in the campaign, the Obama team was prepared to respond to McCain’s attempt to affect his agenda. As such, I propose the following hypothesis regarding agenda-setting efforts for candidates’ most important issues:

**Top Issue Focus Hypothesis:** Candidates will select a subset of issues and will be experts on these issues, insulating them from most outside influences, e.g., media coverage or opponent critiques. Thus, candidate attention to the top issues should be marked by extended periods of stability and will be resistant to outside pressures.

So if candidates are highly insulated to outside influence for the top issues, what can then be said about the remainder of the campaign agenda? As I illustrate in Figure 2.5, the issues that fail to “make the cut” or otherwise achieve status as one of the candidates’ top issues will often receive very little attention at any given point in time.36 As such, candidates will allow their expertise and knowledge on these issues to lapse, in many ways reducing them to reading the same newspaper articles or learning about the issues at the same time as the voting public. The result of this behavior is that candidates will be far more susceptible to external influence for these issues, opening the door for successful, consistent acts of agenda-setting. For example, education did not take a prominent role during the 2008 campaign, but if there were a report released that indicated the cost of

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36 Note that these issues do receive attention, but for large shares of the campaign these issues are completely neglected, receiving literally zero attention from the candidates.
tuition was rising at an alarming rate or that high school dropout rates were spiking, the candidates would likely have to adjust their agendas accordingly to direct attention to the issue. Therefore, I propose the following hypothesis regarding agenda-setting efforts for these lower priority issues:

**Lower Salience Focus Hypothesis:** Issues that are not critical to the campaign are utilized on an opportunistic basis to broaden candidate appeal, but at the risk of spreading the public’s attention too thin. Thus, as the salience of an issue declines, so do the candidate’s expertise and investment, making these issues more susceptible to outside influence.

**Identifying the Players**

One of the basic components behind both the Top Issue Focus and Lower Salience Focus hypotheses is that it is possible to successfully affect the campaign agenda. Indeed if candidates are to be influenced to direct more of their attention toward issues that they typically would rank low on their priorities, a reason for that attention must originate somewhere. This raises the question: who, if anyone, has the power to affect the agenda of a presidential candidate?

The most obvious potential agenda-setters in a presidential campaign are the candidates themselves, namely a candidate and his opponent. Presumably, as the candidates engage in debate with one another over their preferred issues they will seek to gain whatever advantage is available to them. Indeed, the most clear cut examples of successful agenda-setting identified by Riker (1986) were perpetrated by the principal actors, namely the candidates in the case of Lincoln cornering Douglas, but also the pilots in the airplane club and the Senators in the Roman Senate.

But who, outside of the candidates and their opponents, is capable of affecting the campaign agenda? The second most obvious source of agenda-setting comes from the
media; as Kingdon (1981) notes “mass media may be powerful agenda-setters with a substantial impact on the determination of which issues will be seriously considered and which will not.” Yet, the true role of the media remains enigmatic, as one side of the debate would argue the media are capable, active agenda-setting gatekeepers (Cook et al. 1983; Kingdon 1981; McCombs & Shaw 1972); while the opposing side suggests the media are, in many ways, simply reporters of the campaign events who the candidates seek to manipulate for their own gain (Kenski et al. 2010; Crouse 1973).

One fact about the media is not disputed by either side of the media-agenda setting debate – the media are capable of influencing the public through increased political knowledge (Gilliam & Iyengar 2000; Iyengar et al. 1984, 1982), identifying issue positions (Hayes 2009; Andina-Diaz 2007), shifting public issue preferences and altering the salience of issues among the public (Smidt 2012; Liu et al. 2011; Hayes 2008; Iyengar & Simon 1993; Hill 1985; Erbring et al. 1980) and otherwise educating voters about the campaign (Bennett & Manheim 2006). But to what degree do they serve as active agenda-setters in a campaign?

While Kingdon’s (1981) admission of the media’s agenda-setting power is likely not the norm, communications scholars have long argued that the mass media serve a type of “gate keeping” role, where they control the overall flow of information to the public. This role includes the media’s ability to “filter” messages from candidates during the campaign to the extent that some argue the media is capable of controlling the campaign agenda (McCombs and Shaw 1972). Yet, even if we discount the idea that the media act as a unified actor seeking to manipulate the agenda of a campaign,37 evidence has been found to

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37 Dalton et al. (1998) demonstrate this exact point using media data from the 1992 presidential election. They find that the media do not present clear and singular messages about the presidential candidates.
indicate that the news media affect public knowledge and can influence the scope and topic of the debate (Iyengar et al. 1993, 1987, 1984, 1982; Gilliam & Iyengar 2000; Scheufele & Tewksbury 2007; Uscinsky 2009; Walgrave et al. 2008).

On the opposing side of the debate, many argue that, among the candidates, the media are not perceived as being capable of directing their attention; rather, they are a tool to be used by a quality campaign to drive their points home (Hayes 2010). David Axelrod, one of Obama’s senior political advisors, provides a direct insight into this point saying “That was a press spot. It was purely driven by filling a hole to try and drive some cable” (pp. 132) in response to a question about the campaign’s advertising strategy (Jamieson 2009). Motivated by a need not to get scooped by their opponents, the media have incentives to report tidbits about the campaign that might not otherwise see the light of day (Green-Pedersen & Stubager 2010; Crotty 2009; Spitzer 2009; Crouse 1973). This is dilemma for the media is best underscored by Nicole Wallace, McCain’s senior political advisor, who suggests, “The media has an impulse control problem. It cannot help itself. If cannot help itself from jumping on the seediest or the most unseemly or the most unsubstantiated rumor” (Jamieson 2009, pp. 137). Thus, one might conclude that, despite the empirical evidence that the media can influence the agenda, when faced with the fact the campaigns actively plan to receive cable news coverage the position of the media as a potential agenda-setter is backwards.

In either event, the media are a known player in the campaign environment, whether they serve as active players who actively seek to shape the campaign agenda; act as intermediaries for the candidates to affect one another or the public (Shanahan et al. 2008; Zimmerman 2004; Anastasio et al. 1999); or are simply along for the ride, reporting
whatever news comes their way, they hold the potential to affect the attention of the candidates for president.

Another actor that has spilled far less ink than the media, but that still lies at the very heart of Ansolabehere and Iyengar’s (1994) “Riding the Wave” concept is the voting public, or, phrased differently, public opinion. Indeed, the public’s issue preferences are believed to have a significant level of influence over which issues the candidates address, suggesting that shifts in public issue preferences might be followed by changes in the candidates’ agendas shortly thereafter (Yates & Whitford 2005; Hardy & Jamieson 2004). Jennings and John (2009) demonstrate this through the ability of public preferences to affect the attention of policymakers in government in the United Kingdom. Although not the same context as an American presidential election, it is not difficult to imagine candidates for office are susceptible to similar changes in public issue preferences during a campaign.

As another potential agenda-setter in presidential campaigns, Pangopoulos and Bergan (2006) examine the financial contributors to presidential campaigns and the effect they have on the activities of presidential candidates. It is almost a cliché to note that candidates are often guilty of tailoring their speeches or otherwise altering their messages to pander to their audience. For example, it was no surprise when McCain talked almost exclusively about defense policy and veterans affairs when addressing the 108th National Convention of the Veterans of Foreign Wars on August 20, 2007, or that Obama focused much more heavily on labor and economic issues when addressing the AFL-CIO in Philadelphia on April 2, 2008. Further, fundraising is known to play a critical part of presidential campaigns, with the 2008 campaigns raising more than two billion dollars total. As such, it seems only fitting to consider the primary contributors to a candidate as
potential agenda-setters, as candidates may allocate their attention, however briefly, to the issues that a particular audience wants to hear, either in response to or in direct anticipation of sizable donations.

Across all of these potential actors, from the candidates and their opponents, to the media, to the public, and to the contributors, we should remember that, while they have the potential to affect the campaign agenda or to produce shifts in candidate attention, I argue that these events should be very infrequent and inconsistent for the candidates’ top priority issues. Yet, as the salience of an issue declines for a candidate, the opportunity for successful acts of agenda-setting should increase.

An Overview of Expectations

In this Chapter I have provided an overview of the extant literature regarding the origins of candidate agendas, Issue Ownership and Issue Convergence theories of candidate attention, campaign dynamics, Punctuated Equilibrium Theory, finite attention, and the agenda-setting abilities of the media, campaign contributors, and public opinion. I have used the Dominance Principle proposed by Riker (1986) as the base foundation for building my Double Bottleneck Theory of candidate attention dynamics and agenda-setting. Specifically, I draw upon the candidates’ self-interested desire to stress issues that will benefit them, while also incorporating the additional constraints imposed by their proclivity toward engaging their opponents, i.e., Issue Convergence, and the finite nature of candidate attention to build a new, broader theory of candidate attention dynamics. I argue that the finite nature of candidate attention forces candidates to prioritize the issues of the campaign. The result of this prioritization is that they accumulate a wealth of expertise and knowledge for a small subset of issues where they allocate the majority of their
attention. Further, the added knowledge and expertise reduce the ability of outside actors, including their opponents, to significantly affect their attention to these top issues. Yet, as issues fall further down the ladder of importance for candidates, they are less familiar with the specifics of the issue and are more likely to react to external stimuli.

As a result of my Double Bottleneck Theory I propose four specific, testable hypotheses. Specifically they are as follows:

**Public Bottleneck Hypothesis:** Candidate attention is restricted by the need to present a simple message for public consumption. Thus, I expect to see candidate attention limited to a small number (three or fewer) of issues.

**Candidate Bottleneck Hypothesis:** Candidates face limitations in the way they direct their attention and this affects the way in which their attention shifts across issues over-time. As a result, I expect to see the distribution of changes in candidate attention to any given issue exhibit high levels of explosiveness (or highly leptokurtic distributions).

**Top Issue Focus Hypothesis:** Candidates will select a subset of issues and will be experts on these issues, insulating them from most outside influences, e.g., media coverage or opponent critiques. Thus, candidate attention to the top issues should be marked by extended periods of stability and will be resistant to outside pressures.

**Lower Salience Focus Hypothesis:** Issues that are not critical to the campaign are utilized on an opportunistic basis to broaden candidate appeal, but at the risk of spreading the public’s attention too thin. Thus, as the salience of an issue declines, so do the candidate’s expertise and investment, making these issues more susceptible to outside influence.

I proceed with my analyses of these hypotheses in the following chapters. I begin with a discussion of the data necessary and other empirical challenges that underlie these analyses in Chapter Three. Then, in Chapter Four I offer an evaluation of the Public and Candidate Bottleneck Hypotheses. In Chapters Five and Six I propose a model for candidate attention dynamics and agenda-setting in presidential campaigns. Chapter Five provides an examination of the 2004 campaign and Chapter Six addresses the 2008
campaign. Therefore, by the conclusion of this dissertation, I will have offered a full test of the four hypotheses that stem from my Double Bottleneck Theory in the 2004 and 2008 presidential campaigns.
Chapter Three
The Data

When considering the challenges of an empirical evaluation of campaign attention and agenda-setting, perhaps the largest oversight in existing research is the lack of data and analyses within the campaign. Even in one of the earliest pieces of agenda-setting research, Schattschneider (1960) proposes a theory of conflict expansion that is inherently dynamic. As he discusses, the very way the debate is shaped depends on a series of moves and counter-moves by the actors in the system as they seek to maximize their supporters. Similarly, Riker’s (1986) examples of heresthetic maneuvers almost always feature an intricate sequence of moves over the course of each debate, involving both actions and responses as each respective party works to shift the agenda in their favor. Given how this series of dynamic interactions is implied by these and many other works, any solid empirical evaluation of campaign attention and agenda-setting must examine attention over time.

Yet, most previous works, whether as a result of data availability or oversight, simply do not do so. As one example, Sigelman and Buell (2004) explore the trade-offs between the Issue Ownership and Issue Convergence theories of candidate attention using a sizable “collection of statements by campaigners for the two major parties in the eleven presidential campaigns” (pp.653). They use these data to examine how much overlap exists between the issues addressed by presidential candidates from 1960 through 2000.

38 More specifically, they explain; “We extracted these statements from the 10,286 news items published in the New York Times that referred explicitly to the presidential election. Collectively, the roughly 1,100,000 lines of Times coverage from which we extracted statements constituted everything that the Times published about these campaigns in its news sections from Labor Day to Election Day in each presidential election year during the last four decades of the twentieth century” (pp. 653-654).
data-point and, in turn, is evaluated cross-sectionally. I argue that this presents a clear disconnect: If agenda-setting and campaigns are both dynamic processes, how can we explore them empirically using cross-sectional data and analyses?

In Chapter Two, I presented my Double Bottleneck Theory as a new means of understanding how candidates are forced to grapple with the undeniable reality that time and attention are finite. Here, I seek not to refute the work of previous scholars like Sigelman and Buell (2004); rather, my theory builds upon existing research while incorporating the restrictions imposed on candidate attention by a fickle public and the limits of time. Yet, in order to test my theory, I argue the disconnect stated above must be reconciled through the collection and analyses of new, dynamic data.

In the next three chapters I engage in a variety of empirical tests of the Double Bottleneck Theory and Media Agenda-Setting Theories, examining the 2004 and 2008 presidential campaigns. In this Chapter, however, I begin my analyses by detailing the challenges entailed in both identifying and compiling the necessary data for a thorough empirical evaluation of presidential candidate attention. I then provide a description of the data collection process and how machine coding was applied to the data. Lastly, I detail how attention is distributed by the candidates, media, and several other actors in the 2004 and 2008 presidential campaigns.

**Shooting at a Moving Target**

In September of 2004 the Kerry campaign attempted to seize an opportunity to shift the attention of the voting public to an emerging scandal regarding the release of President Bush’s military service records. Having faced questions regarding his own military service since early May, when CBS broke a story questioning of Bush’s service records which had
been both “lost” and later found by the Pentagon, the Kerry campaign was quick to take note. This spike in attention from the Kerry campaign resulted in a series of heated exchanges between the candidates over the validity of both candidates’ military service. Eventually questions were raised regarding the authenticity of the documents upon which the CBS report was based, revealing the news agency had acted prematurely without having first corroborated their sources.39

Similar exchanges between the candidates can be documented throughout each presidential election. In 2004 there were heated exchanges between the candidates over the Swift Boat Veterans for Truth, Kerry’s vote in the Senate in opposition for funding the Iraq War, the release of the 9/11 Commission Report, the Afghani election, and the release of a video from Osama bin Laden. The 2008 race was no different, with the McCain campaign suspension, the nomination of Sarah Palin and the controversies that arose around her, Obama’s “lipstick on a pig” gaffe, accusations that Obama is “palling around with terrorists” because of his association with Bill Ayers, and, of course, the beginnings of the economic crisis and the recession of 2008. In each case, these events reveal how candidates are quick on their feet and have the ability to provide near immediate responses to external events and campaign maneuvers from their opponents.40

If these dynamics of campaigns are so evident, what is it about campaigns that make them so difficult to examine empirically? Perhaps the largest challenge stems from the fact that they are constantly moving, with candidates, media, and other actors acting, updating their strategies, and reacting almost seamlessly over the course of the campaign.

39 In this case, the shifting of attention would all be confined to the same issue area; however, the important point of note is that the campaigns were engaged in a clear back-and-forth exchange over Bush’s military service.
40 Yet, it should be noted that this type of interaction is not limited to gaffes and crises; rather, most often the daily back-and-forth between the campaigns takes place without drawing our attention.
(Dancey & Goren 2010; Aldrich 1980). This introduces a series of challenges for any data collection effort as behavior must be recorded over-time and at a fine enough level of temporal aggregation to record both the action and reaction from both sides of the campaign.

For the purposes of this project, as I detail in the following pages, I collect new, unique data that record levels of issue attention for the candidates, media, public opinion, and campaign contributors across the 2004 and 2008 presidential campaigns. These data are recorded from the first day of each election year and record attention to issues at the daily level, allowing me to record both the actions and responses of the candidates and other actors in the campaign system.

The Challenge of Candidate Attention

The modern presidential campaign is a multi-faceted, dynamic organization comprised of thousands of volunteers, campaign staffers, consultants, spokesmen. Further, in each cycle candidates spend an ever-increasing fortune on their attempts to convey their message to the public. Stated differently, a presidential campaign, in many ways, is as complex as a multinational corporation. As such, I pose the question: How does one measure the attention of a presidential campaign?

Previous scholars have employed a wide array of measures for candidate attention. Budge and Fairlie (1983) record the volume of references to various issues in the Democratic and Republican Party platforms of the elections from 1920 through 1972 in an effort to evaluate which issues are emphasized by the parties. Others have chosen to use media reports to capture candidate attention. Petrocik (1996) examines at candidate statements made through the New York Times in the 1952 through 1988 elections.
Similarly, Kaplan et al. (2006) record candidate attention through issue statements reported by Senate candidates’ home-state newspapers. Yet, arguably the best measures come from the campaigns themselves, where candidate acceptance speeches (Petrocik et al. 2003), candidate statements (Sigelman and Buell 2004), and advertising (Damore 2004, 2005; Petrocik et al. 2003; Ansolabehere and Iyengar 1994) have been used to record issue attention.

Faced with such a variety of data sources available, which is the ideal measure of candidate attention? As with so many cases, the ideal measure is difficult to identify. Whereas the party platforms collected by Budge and Fairlie (1983) might have proven sufficient in the pre-war period and into the early 1970s, the proliferation of technology and the personalization of modern campaigns has largely rendered party platforms obsolete, as many presidential candidates freely and openly deviate from the party’s policy preferences while making their campaign promises. As Glass (1985) suggests, “The president is not bound by his party’s platform or his own pre-election pledges. He is not committed to abide by the decisions of his fellow partisans in Congress” (pp. 519).

The use of candidate acceptance speeches represents a considerable improvement over the party platforms employed by Budge and Fairlie (1983), as they provide a more direct link to the issue content a candidate wishes to stress. However, this measure is still far from ideal, as announcement speeches are made at the very earliest point of the campaign when candidates are still in the process of “feeling out” their competition in both the primaries and across the aisle.

Perhaps most importantly, party platforms and candidacy announcements are insufficient measures in a more technical sense. Both measures are defined at the onset of a campaign and are not repeated events, making them, by definition, static measures. Yet,
as I describe in the preceding section, the ideal measures for analyses of campaigns must be
dynamic and measure changes that occur during the race – a condition these measures do
not meet.41

Given the increasing importance of campaign advertising, a considerable number of
studies use candidate advertising to measure attention. These data, primarily drawn from
the University of Wisconsin’s Advertising Project (WiscAds), record the content and timing
of ads aired over the course of the campaign, allowing for dynamic analyses while still
capturing the messages that are often most widely available to the public.42 Yet, while this
marks a substantial improvement, these data are limited in several ways. First, the
WiscAds Project captures every ad aired on network television in the top 75 television
markets in 2000 and then the top 100 markets from 2002 through the 2008 campaign.
While this represents a high level of coverage, with each election cycle the methods of the
campaigns have changed to incorporate new technologies, shifting their focus away from
traditional broadcast networks to cable and even the internet. As such, the WiscAds data
are limited by only measuring the advertising aired on the major broadcast networks.43
Second, the raw advertising data for the WiscAds Project comes from a private firm, the
Campaign Media Analysis Group (CMAG), and as a part of their contract they are not
allowed to distribute their presidential campaign data until after the next campaign is

41 Sigelman and Buell (2004) offer a similar critique of Budge and Fairlie (1983), Petrocik (1996), and
Petrocik et al. (2003), arguing all three studies fail to provide, “a measure of the degree of
convergence or divergence between the competing sides in the attention they devoted to various
issues” (pp. 652).
42 I note that while these data allow for dynamic analyses, these data are still often analyzed cross-
sectionally.
43 This produces a decreasing level of coverage with each election cycle, despite the inclusion of 25
more television markets after 2002.
finished.\textsuperscript{44} Therefore, the ad data for the 2008 campaign is not available until after the conclusion of the 2012 race.\textsuperscript{45} Lastly, although campaigns are highly adaptable and are capable of creating and airing new advertisements in an extremely short window (Jamieson 2009), candidates are unlikely to exhibit as much variation in their advertising as other possible venues of communication with the voting public.\textsuperscript{46}

As perhaps the most promising of the measures employed to measure candidate attention, Sigelman and Buell (2004) collect an array of more than 10,000 candidate statements from coverage published in the \textit{New York Times} between 1960 and 2000. The resulting dataset allows them to engage in a large scale examination of which issues received attention, how much attention was allocated by each candidate, and to what degree there was convergence on each issue during each campaign. However, the dynamic components of their analyses are limited, as they examine each election as a single data-point in a larger time-series of elections.\textsuperscript{47} Yet, to further complicate matters, their data, much like those used by Petrocik (1996) and Kaplan et al. (2006) are based on media reports. While media-based data are capable of capturing the dynamics of the campaign, they are still not ideal for the purpose of my analyses. As I highlight in Chapter 2, the verdict is still out regarding the agenda-setting capabilities of the media and I seek to more clearly define their role in the campaign. However, if my measure of candidate attention is

\textsuperscript{44} In discussions with Jamieson, she revealed to me that the campaigns are incredibly protective of their own advertising data. She explained that in order to have access to the Obama campaign’s advertising purchasing data the campaign required she sign a 10 year non-disclosure agreement to maintain the data’s secrecy. Thus, the WiscAds data on a four-year delay are arguably the best advertising dataset available.

\textsuperscript{45} Given the current date this is not a problem; however, during the data collection stage of this project, these data were unavailable. I will examine the relationship between advertising attention and candidate speech attention in a future research.

\textsuperscript{46} This point raises an empirical question, which, as I explain in footnote 45, will be the focus of future research.

\textsuperscript{47} Presumably their measure of convergence is compiled taking some of the dynamics of the campaign into account.
drawn from media sources, I have, by design, created an artificial relationship between media coverage and candidate attention. Therefore, any evaluation of the agenda-setting in a campaign that includes the media cannot use these data.

If I cannot rely on existing data, it is necessary to collect new data. But, as I explain above, these data must meet several criteria. First, the data must be dynamic, recording candidate attention and shifts that occur both within and over the course of the campaign. Second, as my analyses seek to provide a clarification of the media’s role in the race, I cannot rely on media-based data similar to those used by Sigelman and Buell (2004), Petrocik (1996), or Kaplan et al. (2006). Lastly, I require a measure of attention that is both timely and directly captures which issues the candidates are addressing, not simply what their advertising team or campaign staff feel are important.

Given these criteria, what is the best way to measure candidate attention? Despite being perhaps the oldest method of campaigning, the giving of stump speeches still remains one of the most direct, pivotal, and consequently time-consuming activity of a presidential campaign. Therefore, I argue, what better way is there to measure candidate attention than by monitoring the speeches the candidates give themselves?

Yet another question is: Which elections should be examined? Sigelman and Buell (2004) offer analyses of the 1960 through 2000 campaigns. But is it necessary to study forty-years of campaigns? In their analyses, as each election is viewed as a single, cross-sectional data point, the inclusion of so many elections helps increase their number of observations to 10. However, as I am interested in examining the dynamics within the campaign, I do not face the same small-n problem. Further, the collection of dynamic data, as detailed in the following section, is a formidable task, such that the analysis of more than a few elections would be prohibitively expensive and time-consuming.
For these reasons, I opt to limit my analyses to the 2004 and 2008 campaigns. These two races offer the opportunity to examine four different candidates in two very different electoral contexts, with 2004 featuring an incumbent Republican president running for re-election during a period of war and the 2008 campaign highlighted by two senators competing in the first truly open-seat presidential election since Dwight Eisenhower’s successful bid in 1952.

**Measuring the Candidates**

The first challenge presented by my decision to use candidate speeches came in the location of consistent, reliable archives of candidate speeches. Thankfully, starting with the 2000 presidential election, candidates have been quick to embrace the internet as a viable way to reach the voting public. As a result, candidates often provide full transcripts of their speeches on their campaign websites. Using this as a starting point, I gathered every campaign speech on the candidates’ respective websites available through the Campaign Website Archive at the Library of Congress for the 2004 and 2008 campaigns.

Yet, candidates often omit the repeat presentation of stump speeches from their websites, reserving space on their online presence for new material. Further, Barack Obama’s website was not as forthcoming as the other candidates’ websites, only offering a

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48 I define a presidential election as being an “open-seat race” if neither of the major candidates are the incumbent president or vice-president seeking re-election. For instance, the 2000 race features the incumbent vice-president, Al Gore, seeking the presidency on the Democratic ticket. Similarly, the 1996 and 2004 races both had incumbent presidents running for re-election. As such, none of these races are considered truly open-seat, as one candidate directly represents the incumbent administration in some capacity.

49 Future analyses will include the 2012 campaign. Data collection has already begun.

50 More specifically, I collected the speeches using archives of the candidates’ websites available through the Library of Congress’ (LOC) Campaign Archives. Some candidate sites were accessible remotely via the internet; however, due to copyright claims and restrictions, access to several websites is restricted to researchers physically present in the LOC. Therefore, two separate trips were made to Washington for the purpose of collecting candidate speeches.
very limited selection of speeches on pre-designated topics. As such, the speeches available on the candidates’ websites were insufficient on their own and needed to be supplemented from other sources. To do this I used three additional sources: the Federal News Service, States News Service, and the American Presidency Project at the University of California Santa-Barbara. Table 3.1 details the breakdown of the speeches, where they were collected from, and how many speeches were drawn from each source.

As we can see from Table 3.1, the results of my efforts are a collection of speeches including more than 1,000 speeches in 2004 and more than 650 speeches in 2008. The largest disparity in the number of speeches comes in 2004, where my search yielded more than twice as many speeches for President Bush as for Senator Kerry. This is surprising, as I was unable to use any speeches provided by Senator Obama’s website for the 2008 campaign. When comparing between McCain and Obama, the two candidates still have comparable numbers of speeches despite my reliance on the supplemental data sources.

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51 Given that the topics are pre-selected, these speeches were excluded from my analyses, as they would artificially define Senator Obama’s attention.
52 While the Federal News Service and States News Services are technically media-sources, in both cases data were only drawn when a full transcript of the speech was provided and all added content was excluded. Further, these are government owned and operated media sources with the expressed purpose of reporting on government activity, thus, representing a completely separate segment of media coverage than the one with the potential to serve as agenda-setters. Lastly, these are relatively obscure sources that are seldom viewed by the voting public, minimizing their potential ability to confound the existing relationships between candidate, media, public, and any other actor’s attention.
53 The number of speeches in 2008 is lower than 2004 because Obama’s website did not archive his speeches. As a result, I had to rely entirely on the supplemental data sources for his campaign. However, those alternative sources still provided approximately 300 speeches for him.
Table 3.1 – Breakdown of Candidate Speeches by Source

<table>
<thead>
<tr>
<th>Year</th>
<th>Candidate</th>
<th>Source</th>
<th># of Speeches</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>President Bush</td>
<td>Candidate Website (<a href="http://www.georgewbush.com">www.georgewbush.com</a>)</td>
<td>300</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lexis-Nexis</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>512</td>
</tr>
<tr>
<td></td>
<td>Senator Kerry</td>
<td>Candidate Website (<a href="http://www.johnkerry.com">www.johnkerry.com</a>)</td>
<td>189</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lexis-Nexis</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>215</td>
</tr>
<tr>
<td>2008</td>
<td>Senator McCain</td>
<td>Candidate Website (<a href="http://www.johnmccain.com">www.johnmccain.com</a>)</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lexis-Nexis</td>
<td>185</td>
</tr>
<tr>
<td></td>
<td></td>
<td>American Presidency Project</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>441</td>
</tr>
<tr>
<td></td>
<td>Senator Obama</td>
<td>Candidate Website (<a href="http://www.barackobama.com">www.barackobama.com</a>)</td>
<td>0*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lexis-Nexis</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td></td>
<td>American Presidency Project</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>308</td>
</tr>
</tbody>
</table>

Note: Speeches were recorded from January 1 of each respective election year through Election Day. Candidate websites were accessed via the Library of Congress’ Presidential Campaign Website Archive. Lexis-Nexis speeches were all those returned from searches of the presidential candidates, vice-presidential candidates, and their spouses on the Federal News Services and States News Services. American Presidency Project speeches were collected from the American Presidency Project at the University of California, Santa Barbara (http://www.presidency.ucsb.edu/) with the exclusion of interviews and debates. * Senator Obama’s website was not used for data collection as it did not contain any archives of speeches.

Yet, my end goal is to measure which issues receive the candidates’ attention on any given day and speeches are typically quite lengthy and contain mentions of numerous issues. This raises a dilemma regarding how I would code the speeches. Do I code them for their most prominent issue content? What about the other issues that receive mentions but do not headline the speech? Despite the fact that a speech might be focused on the conflict in Iraq, I argue that even a passing remark to immigration reform or student loans constitutes candidate attention. Therefore, I subdivided the speeches into sentences, allowing for a more fine-grained degree of measurement.54

54 Given the commonalities in formatting for the speeches, the parsing of speech-sentences was done using a Perl script written by a professional programmer contracted to assist on the project. After
With the speeches divided into candidate speech-sentences, I then set about coding for content.\textsuperscript{55} This was a multi-stage process where the sentences were first examined to determine whether or not they contained issue content. In cases where the speech-sentence contained cursory remarks with no specific issue focus, they were coded as having no issue content. In cases where a specific issue was mentioned, referenced, or could otherwise be identified, the sentence was coded as having issue content. For example, one sentence from a speech given by President Bush in 2004 read, “When Dick Cheney and I came to Washington, we found a military that was under-funded and under-appreciated.” In this case there is a clear reference to military funding, indicating the sentence has issue content. Conversely, in another speech when Bush said, “When I was coming up -- in Midland, Texas, I want you to know -- there you go -- which is where Laura is today, helping her Mom move, and she sends her love -- but we thought oceans could protect us from harm's way;” as there is no clear issue focus, the sentence is coded as not possessing any issue content. Table 3.2 offers a more complete itemization of the speech-sentences and the amount of policy versus non-policy content for each candidate in both elections.

As Table 3.2 illustrates, the parsing of the speeches resulted in more than 140,000 candidate speech-sentences in 2004 and roughly 100,000 candidate speech-sentences in 2008. The ratio of policy to non-policy content in the speech-sentences is comparable for all of the candidates with the exception of Kerry, who displays a considerably higher concentration of issue content. Most importantly, I note that these data offer a large-\(N\) thorough review, the parsing process was found to produce fewer than one percent of the sentences incorrectly. All artifacts generated by the script were then discarded.\textsuperscript{55} The actual process of completing this policy/non-policy coding was completed using a combination of hand annotation with undergraduate researchers and supervised machine learning automated text classification. Undergraduate coders were required to complete a detailed training process over the course of two weeks involving examples, training exercises, and accuracy tests. Researchers were not allowed to work on real data coding until reaching a coding accuracy of more than 90\%. Details of the machine automated coding process are detailed later in the chapter.
measure of candidate attention recorded at the daily level throughout both the 2004 and 2008 campaigns, allowing for dynamic analyses within each campaign.

Table 3.2 – Summary of Candidate Attention Dataset

<table>
<thead>
<tr>
<th>Year</th>
<th>Candidate</th>
<th>Sentences</th>
<th>Issue Sentences</th>
<th>Non-Issue Sentences</th>
<th>% Issue Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>President Bush</td>
<td>123,892</td>
<td>56,979</td>
<td>66,913</td>
<td>45.99%</td>
</tr>
<tr>
<td></td>
<td>Senator Kerry</td>
<td>21,515</td>
<td>15,120</td>
<td>6,395</td>
<td>70.28%</td>
</tr>
<tr>
<td>2008</td>
<td>Senator McCain</td>
<td>48,517</td>
<td>24,429</td>
<td>24,088</td>
<td>50.35%</td>
</tr>
<tr>
<td></td>
<td>Senator Obama</td>
<td>50,098</td>
<td>20,832</td>
<td>29,266</td>
<td>41.58%</td>
</tr>
</tbody>
</table>

Note: Speeches were recorded from January 1 of each respective election year through Election Day. Text was subdivided using Perl coding scripts (which can be provided upon request to the author).

After coding for the presence of policy content, as my interest is on the substantive issue content of the campaign, I then subset the data to only include sentences containing policy attention. These sentences were then coded according to the Policy Agendas Project’s (PAP) topic coding scheme’s 21 major issue areas detailed more completely in Appendix A. In keeping with the process set forth by the PAP, each sentence was assigned only one issue code to record its primary emphasis. In cases where more than one issue receives attention in a sentence, it is coded for the issue that receives the larger share of attention. The actual coding process for these data, similar to the policy coding, was completed through the assistance of both undergraduate researchers and automated text classification.

The result of this stage in the coding process is a count of how many speech-sentences candidates allocated to an issue on any given day. Yet, this is still an incomplete dataset, as counts of candidate speech-sentences for each issue neglect the potential limitations on candidates’ respective agenda spaces. Therefore, I transform the daily

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56 Note that only 20 of the 21 major issue areas were used, as all sentences that would’ve received a code 99 for miscellaneous were previously coded as not having any substantive issue content.

57 Typically added issues were only found when candidates would state a list. In any event, the issue that received the preponderance of attention was the code applied to the sentence. If there was equal attention divided across two, or more, issues in a sentence, priority was given to the issue stated first.
sentence counts into percentages of total attention by dividing the count of sentences for issue $i$ at time $t$ by the total number of policy oriented sentences at time $t$ and multiplying by 100. Finally, to account for the limited responsiveness of the speech-writing process, the candidates’ hesitance to change course, and an inflated number of zeros in the data, I convert each series of candidate attention into a seven-day moving average.

As a result of these final data transformations I have a complete record of how much candidate attention is allocated to any issue on a given day during the 2004 and 2008 presidential campaigns. This allows for me to use daily candidate percentages of total issue attention as my primary unit of analysis in the coming chapter. Figures 3.1 and 3.2 display the candidates’ respective distributions of attention in both races.

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58 I note that most of the zeros in the data result from days in which the candidates give zero speeches as opposed to simple drop-offs in attention to a given issue.
59 This moving average essentially allows me to aggregate up to the weekly level while maintaining a daily unit of analysis. This is calculated by averaging across times $t-3$ through $t+3$.
60 Remembering, of course, that this is attention measured by candidate speech-sentences.
As Figure 3.1 reveals, the 2004 election centered on the issue of defense, with President Bush allocating 34% of his total attention to the issue and Senator Kerry following suit with 34.55% of his attention. This comes as no surprise, as Goble and Holm (2009), Norpoth and Sidman (2007), Weisberg (2007), and Weisberg and Christenson (2007) all document how the ongoing wars in Iraq and Afghanistan and America’s post-9/11 concern with the threat of terrorism played important roles in the campaign. The other vital issues of the campaign were macroeconomics, health,61 the operation of the federal government,62 education, and foreign affairs. None of the remaining 14 issue areas receive more than five percent of either candidate’s total attention over the course of the campaign.

Interestingly, despite the significant discrepancy in the number of candidate speech-sentences for each candidate noted in Table 3.2, there is a striking similarity between the two candidates’ respective distributions of attention. The fact both candidates selected the same two issues to be their primary points of emphasis could speak to their engagement in a meaningful deliberative debate or it might simply point out that presidential campaigns often hone in on a reduced subset of issues. Figure 3.2 offers some clarity here, presenting the distributions of attention for Senators McCain and Obama in the 2008 campaign.

In contrast to the 2004 campaign, Figure 3.2 reveals the 2008 race had a more widely defined agenda. The debate between McCain and Obama is far more diverse with macroeconomics, defense, federal government operations, and energy all receiving more than 10% of the total attention from at least one candidate. The issues of health, foreign affairs, education, and domestic commerce were not far behind, with each issue receiving at least 5% of a candidate’s total attention.

61 Health and healthcare related issues.
62 This captures the typical banter between branches of government but also any campaign promises about efforts to alleviate gridlock or govern in a more bipartisan manner.
Interestingly, despite the higher degree of congruency across candidates in terms of the raw data collection the discrepancies in the attention each candidate allocates to specific issues were much larger. In 2004, the difference in attention by the candidates on the top issue of defense was approximately 1.5 percentage-points. In contrast, macroeconomics, the number one issue in 2008, receives roughly 20% of McCain’s attention while Obama directs almost 24% of his attention, a full four percentage-point difference. This gap in emphasis is even more pronounced for attention to defense in 2008, with more than 10 percentage-points separating the competitors.

It is, as yet, unclear whether the differences between the candidates' respective distributions of issue attention in 2008 are indicative of a shift in the type of debate, increased efforts by each candidate to set the agenda within the context of an open-seat race, or some other factors. I reserve this exploration for Chapters 5 and 6; however, I note that both campaigns exhibit diverse levels of issue attention to a number of issues, a
promising sign for those who believe a quality deliberative debate between the candidates is good for the health of American democracy. Further, at this cross-sectional, descriptive level, there is evidence suggesting both theories of Issue Convergence and Issue Ownership are plausible in the 2004 and 2008 campaigns, underscoring the need for further examination.

**Measuring the Media**

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th># of Stories</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td><em>New York Times</em> Front Page</td>
<td>2,606</td>
</tr>
<tr>
<td></td>
<td><em>New York Times</em> Campaign Coverage</td>
<td>5,078</td>
</tr>
<tr>
<td>2008</td>
<td><em>New York Times</em> Front Page</td>
<td>2,166</td>
</tr>
<tr>
<td></td>
<td><em>New York Times</em> Campaign Coverage</td>
<td>3,955</td>
</tr>
</tbody>
</table>

Note: Stories were collected from January 1 of each respective election year through Election Day. The Front Page dataset contains all stories reported on the front page of the *New York Times* collected via Lexis-Nexis following the method defined by Boydstun (2008). The Campaign Coverage dataset contains all stories reported in the first section of the *New York Times* that contain one of the candidates’ names and the word “campaign.” This strategy was used primarily to avoid inflated coverage of President Bush in 2004 by excluding stories regarding his activities as the incumbent president. Search results were examined thoroughly and all erroneous stories were discarded.

Thankfully, as my measure of candidate attention does not rely on media-reports for the raw source data, the collection of media data are comparatively straight-forward.63 To produce a daily gauge of media attention to issues during the 2004 and 2008 campaigns, I use two measures of media attention – the Front Page and Campaign Coverage. The Front Page coverage is designed to capture the most important events and news of the day, which, in many cases, extends well beyond the confines of the campaign. Conversely, the Campaign Coverage is tracks the specific coverage of the presidential campaign by the

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63 While I do draw several speech transcripts from the Federal News Service and States News Service, neither of these media sources are considered mainstream news sources or fit the traditional definitions applied to “the media.” Further, I only use full speech transcripts made available by these sources rather than relying on some journalist-defined coverage of the speeches.

63
media, as these are the media that are directly interacting with the candidates over the course of the race.

The Front Page data are drawn from Boydstun’s (2008) *New York Times* (NYT) front page dataset that contains every story reported on the front page of the NYT from 1996 through 2006. These data are ideal because they not only capture the mainstream news agenda, but they are directly comparable with my measures of candidate attention as she classifies each story according to the PAP topic codes. Yet, Boydstun’s (2008) dataset does not provide coverage for both elections. Therefore, I replicated her data collection process to supplement the existing data with the front page stories from 2008.

As it is unreasonable to expect both the front page and the candidates to be perfectly attentive to one another, I compile a second measure using of the NYT’s campaign coverage in the first section of the paper. These data were gathered from Lexis-Nexis and were thoroughly screened for non-campaign related stories. Following this screening, they were then coded according to the PAP major issue areas to match the measures of the other actors’ attention using a combination of undergraduate researchers and automated text classification. Once this process was complete, it was necessary to adjust for the inflated count of stories coded for the federal government operations issue area which includes all discussions of elections. To address this issue, all stories that received a code from this issue area were

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64 Boydstun (2008) and the PAP have additional issue codes to measure media coverage of natural disasters, fires, and other specialized media topics that normally fall beyond the boundaries of the PAP topic coding scheme. As these codes are not comparable to those available for candidate attention, they were classified as code 99 for miscellaneous and are not included in the ensuing analyses in Chapters 4 through 6 as miscellaneous attention is considered non-policy content for candidates.

65 It is not implausible that they pay some attention to one another, given that the presidential campaign is often the biggest news of the day. Rather, it is unrealistic to assume the candidates are capable of driving all the coverage on the front page or that every story on the front page will be of any significance to the campaign.

66 The specific search terms included the candidates’ names and the word “campaign.” The reason for the inclusion of the word “campaign” was to reduce the amount of coverage President Bush received in 2004 as a function of his activities as the incumbent president.
examined a second time by a human coder. In cases where the story is focused on discussing the race without mentions of specific issue content, i.e., horse-race coverage, the code was left unchanged. However, in instances where stories have an emphasis on a specific issue area but would discuss that issue’s relation to the campaign, the code is modified to record the issue rather than being left to the more general election coverage code.

![Figure 3.3 - Distribution of Media Attention in 2004](image)

Table 3.3 offers a breakdown of my two measures of media attention. As the Table shows, my data contain almost 5,000 stories of front page coverage (2,606 in 2004 and 2,167 in 2008) and nearly 10,000 stories of campaign coverage (5,080 in 2004 and 3,955 in 2008). Similar to the candidate attention data, these series were also converted to percentages for
the entire series.\textsuperscript{67} As such, Figures 3.3 and 3.4 display the cross-sectional distributions of media attention in each of the 2004 and 2008 campaigns.

Figure 3.3 reveals how heavily 2004 was dominated by the ongoing conflicts in Iraq and Afghanistan. Not only was defense policy the number one issue in the debate between the two candidates, but it was the largest single issue in the front page coverage and a close second in the campaign coverage. Federal government operations, the issue code that captures all election specific coverage, unsurprisingly places second in the list of media attention during 2004. This high level of attention is evident even after my efforts to differentiate between issue-specific and non-specific election coverage. Third on the list is foreign affairs, which is likely the result of the various non-military coverage coming out of the Afghanistan and Iraq conflicts.\textsuperscript{68}

Perhaps the most intriguing difference between the distributions of media and candidate attention in 2004 stems from the disparate amounts of attention directed to the economy and other macroeconomic issues. As shown in Figure 3.1, both candidates dedicated more than 10 percent of their total attention to the issue, making it second on their list of priorities. Yet, when looking at media attention, macroeconomics comes in at fourth on the list of total attention, with roughly eight percent of the campaign coverage dedicated to the topic and not even two percent of the front page.

Figure 3.4 reports the distribution of media attention during the 2008 presidential campaign, uncovering coverage that is both more lop-sided but also more equal across measures than the 2004 race. Specifically, media attention appears to reach higher levels

\textsuperscript{67} However, as media attention is less inertial, there is no need to adjust the media coverage into a moving average.

\textsuperscript{68} Examples of this coverage would include the construction of a new school in Basra or the giving of funds to the provisional government in Afghanistan for reconstruction purposes. In each event, although a story about something resulting from the war, as the topic material is not about defense or military action, it is classified as foreign affairs.
for federal government operations in 2008 than any issue area in 2004; yet, the remaining issue areas each receive much more comparable levels of attention, as opposed to only three big issues defining the race.

The notably high levels of media attention to federal government operations in 2008 reflect several realities of how the 2008 campaign played out. First, there was a considerably stronger emphasis on reporting polling which was available for public consumption on an almost daily basis. These data allowed the media, in particular the campaign coverage, to spend considerably more time detailing the candidates and their jockeying for position in the eyes of the voting public. Second, as noted by Kenski et al. (2010), much of the issue emphasis of the 2008 campaign was on the functionality of the federal government and efforts to reform it, how the candidates would break with party lines, and the need for bipartisanship to promote policy.
After federal government operations, Figure 3.4 illustrates how the levels of media attention are much more uniformly distributed across the issues of defense, domestic commerce, macroeconomics, and even more typically obscure issues like science and technology and civil rights. In each issue area at least one of the measures of media attention allocates roughly five percent of their total attention to the issue. Perhaps most interestingly, media attention does not exhibit as dramatic of a reaction to the economic crisis events as the candidates. In fact, despite the economy’s domination of the final months of the election, macroeconomics only ranks as the fifth most important issue for the media and receives nearly equal amounts of attention in the front page (5.55 percent) and campaign coverage (5.87 percent).\footnote{Yet, we must be cautious not to draw conclusions about how attention to the economy might’ve been distributed over the course of the election, as the results presented in Figure 3.4 are cross-sectional; however, it is surprising that macroeconomics would become the most prominent issue of the campaign for the candidates while only ranking fifth for the media.}

Based on the data from the 2004 and 2008 elections presented in the preceding pages, one fact becomes clear – the candidates and media view different issues as being important in each election. This is reflected by the disjunctions that become evident when comparing the distributions of media attention and candidate attention in each respective race. It is worth noting that both the candidates and media often identify similar issues as being worthy of receiving high levels of attention, as was the case for the wars in Afghanistan and Iraq and other defense policy in 2004. However, as indicated by the media’s significantly lower prioritization of macroeconomics in 2008, the media and candidates can identify different issues to hold their attention and frequently diverge beyond the top one or two issues.
Coding and the Rise of the Machines

Over the course of the past 10 to 15 years the continued expansion of the internet has proven incredibly fortuitous for social scientists. Quantitative research has prospered largely as a result of the increasing availability of primary source documents and other quality data sources. These new data, however, have not come easy and in the case of text documents they introduce an entirely new dilemma for researchers. In order to conduct quantitative analyses on text they must first be coded. For large corpuses of text this coding can prove quite costly, both in terms of time allotted and funds required. However, radical advances in the availability and affordability of computing power and data storage have helped to produce a viable solution to the coding dilemma via automated text analysis. To this end a variety of options for automated text classification have been developed and utilized within political science.

Given the textual data I collected for both the candidates and media described above, I was presented with a daunting task to code hundreds of thousands of candidate speech sentences and thousands of newspaper stories from both the front page and campaign coverage. The first challenge was to identify an appropriate issue coding scheme for my data. I was presented with two options: 1) developing my own coding system, or 2) using the Policy Agendas Project coding scheme. Given the success of the PAP in coding various different forms of government activity and attention across 18 different contexts.

70 Thankfully my dissertation afforded me both time and funding, as this project was the recipient of a National Science Foundation Dissertation Improvement Grant (SES: 1024166) and an RGSO Dissertation Support Grant from Pennsylvania State University.
71 A more complete overview of automated text classification in political science can be found in Monroe and Schrodt (2009).
72 The Policy Agendas Project major issue codes are detailed in Appendix A.
73 The PAP topic codes with some minor adaptations is being successfully applied to data in Australia, Belgium, Canada, Denmark, the European Union, France, Germany, Israel, Italy, the Netherlands, New Zealand, Portugal, Spain, Sweden, Switzerland, the United Kingdom, the United
when combined with the availability of data and coding procedures, the logical choice was to adopt the PAP scheme.

The next challenge was to use the PAP scheme to produce a series of high-quality, highly-accurate, consistent datasets for the analysis of candidate attention. To do this I utilized multiple coding methods: hand-coding, supervised machine learning, and visual code verification.

The first option for coding such a large corpus of text is to use multiple people to perform hand-coding. This was the first step in my coding process and involved the assistance of three undergraduate research assistants.\(^7^4\) But, in order to achieve a high level of accuracy in coding, the undergraduate coders are subject to intensive training with the coding scheme over a course of three weeks. Each coder completed several training subsets of pre-coded data until they consistently coded data at least 90% correctly.\(^7^5\) After completing these quality control tests the undergraduate coders were given sections of newspaper articles drawn from the front page and campaign coverage datasets.

Initial coding progressed in this manner for a period of eight months resulting in the completion of the New York Times front page dataset, a 40 percent share of the campaign coverage dataset, and 20 percent of each candidate’s respective speech data. However, this still left a large share of the coding incomplete, with approximately 5,500 newspaper stories from the New York Times campaign coverage dataset and almost 200,000 candidate speech-sentences. In order to complete the coding process within a reasonable time-frame, it became necessary to utilize methods beyond manual annotation.

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\(^7^4\) Undergraduate research assistants/coders were compensated for their time on the project.

\(^7^5\) Training datasets were drawn from previously coded sections of media coverage drawn from the Policy Agendas Project’s New York Times dataset.
As noted by Monroe and Schrodt (2009), it is possible to employ computer automated methods of text classification to code large corpuses of virgin text. The use of automated text classification is well established in a variety of contexts in political science using several different methodologies ranging from classifying legislative speech texts and press releases via unsupervised word clustering (Grimmer 2010; Hopkins & King 2010; Monroe et al. 2008), to event-data generation from media reports (Schrodt 2006; Schrodt & Gerner 2004), to supervised-machine learning methods for verifying the classification of proposed bills (Hillard et al. 2007).

To complete my data collection I draw on the work of Hillard et al. (2007) where they employed several supervised leaning algorithms to verify coding accuracy as part of the Congressional Bills Project. Supervised machine learning is a process where a researcher supplies a section of previously coded text for the machine to use as training data from which it will apply an algorithm to “learn” which features of the text apply to each designated code. This process is useful as it allows the researcher to use these algorithms to then classify large corpuses of previously uncoded text using what the computer “learned” from the coded data, frequently producing codes that are equally, if not more, accurate to any manual coders.

Yet, additional steps beyond the initial training are also taken in order to achieve the highest level of accuracy. In much the same way that manual annotation seeks to achieve high levels of inter-coder reliability to ensure coding accuracy, there are several algorithms available for supervised machine-learning. With this in mind, multiple coding algorithms were applied simultaneously and only those sentences or articles that received

---

76 Virgin text refers to text that has not been coded previously. This includes both human and machine coding.
77 Specifically, I used three algorithms: maximum entropy, support vector machine, and lingpipe.
the same code from both algorithms were accepted as being coded successfully. For those
observations that did not receive the same code, the code for the maximum entropy
algorithm was applied as it was shown to have the highest prediction accuracy of the three
algorithms during the training process. However, as the accuracy of the coding when using
only one algorithm classified records is lower, all of these records were fully verified at a
later point by a human coder.

The result of this multi-stage process was the classification of the remaining
candidate speech-sentences and newspaper articles in a dramatically reduced time-frame
while maintaining a high level of reliability and accuracy in the data. The use of
automated text classification not only allowed for the completion of the coding process in an
abbreviated time period, but it also offered an increase in code consistency while also
providing a means of verification for previously hand coded records.

Watching the Money and the Opinions of a Voting Public

So who else might have the potential for affecting candidate attention? The two
most obvious sources as the candidates themselves and the media they use to communicate
their messages to the voting public, but are those the only players in the game? One
additional actor to consider is implied by the candidates’ desire to use the media to their
benefit – the public. As I detail in Chapter 2, if candidates truly are interested in winning
election then they should be attentive to the issues that are deemed important by the
public. But this raises yet another empirical question: What would be a suitable measure of
public issue preferences that also meets the demands imposed by a fast-paced, dynamic
campaign?
Conveniently, it is not necessary to devise new data for the public’s issue priorities as Gallup already asks an established question dedicated to identifying what issue the public identifies as the most important problem facing the nation. Further, these Most Important Problem (MIP) data have been compiled and classified using the Policy Agendas Project topic codes as a part of the project. However, the PAP has only collected and coded these for the 2004 election. Therefore, using the PAP codebook instructions, I repeated their data collection process for 2008, gathering 12 monthly Gallup polls and then classifying the public’s issue preferences into the 21 major topic codes of the PAP.\textsuperscript{78} Yet, these data, still recorded at the monthly level, were incompatible with my daily measures of candidate and media attention. As both Carmines and Stimson (1989) and Erikson et al. (2002) suggest, public opinion on most issues moves slowly. As such, I assume public opinion will not exhibit dramatic daily shifts in issue preferences much in the same way as opinion toward the death penalty or gay marriage. This assumption offers a way to address my problem of aggregation, allowing me to interpolate the public’s preferences at the weekly level to fill in the missing values between surveys. Then, to reduce the data to the daily level the weekly points were further smoothed using a seven-day moving average. The result of these steps is a daily record of the public’s issue preferences that is more directly comparable to my measures of candidate and media attention.\textsuperscript{79} The resulting public opinion data are detailed in Table 3.4.\textsuperscript{80}

\textsuperscript{78} The polls were collected from the Roper Center Archives available via iPoll. Following PAP procedures, the responses were coded to each of the major codes and the question marginals were then combined to provide the distribution of public preferences for that given month. Given the open-ended nature of the MIP question, respondents could provide multiple answers, resulting in the marginals totaling more than 100 percent. Weighting was applied following the same template as the PAP to resolve this issue.

\textsuperscript{79} I recognize that the interpolation steps involved in reducing the aggregation of the public opinion data to the daily level impose a dynamic structure on the data. However, this is not a problem as
Beyond the public and media, the most likely source of outside influence on candidate attention comes from campaign contributors. Anecdotal accounts of campaigns often speak of how candidates tailor their messages to their audiences, directing additional attention to labor issues when speaking in front of a labor union or civil rights issues when addressing the NAACP. This desire to please their audience extends to campaign finance, where candidates are offered direct financial incentives for attention to specific issues via campaign contributions. But how can this relationship be measured empirically?

To capture the financial temptations candidates face from their contributors to address different issues, I look to the campaign contribution filing reports that are required by campaign finance law to be submitted to the Federal Election Commission (FEC) available through the Center for Responsive Politics (CRP). These reports capture every contribution of more than $200 to a presidential campaign and are categorized into 442 industry codes by the CRP. I then reclassified these industry codes into the 21 major and 225 minor topic codes of the PAP, allowing each contribution report to be directly comparable to the other actor datasets. As listed in Table 3.4, this results in the coding of more than 440,000 contribution reports across both the 2004 and 2008 elections.

\[\text{public opinion is believed to be highly inertial, as a result, the smoothing of the data that results from my aggregation process will not be excluding any variation.}\]

\[\text{80 In the case of public opinion I opt not to present a distribution of attention simply because the public are not believed to be one of the primary agenda-setters, serving largely in a reactionary role as I explain in Chapter 2.}\]

\[\text{81 The code conversions were reviewed with the Policy Agendas Project supervisors to ensure coding consistency with the other projects, maximizing the comparability of these contribution data with other PAP datasets.}\]
Table 3.4 – Breakdown of Other Actor Datasets

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th># of Obs/Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Gallup Most Important Problem</td>
<td>12 monthly observations from the Policy Agendas Project interpolated into 48 weekly data points. Then averaged to create 307 days of public issue preferences.</td>
</tr>
<tr>
<td>2008</td>
<td>Gallup Most Important Problem</td>
<td>12 monthly observations coded following the Policy Agendas Project protocol and interpolated into 45 weekly data points. Then averaged to create 309 days of public issue preferences.</td>
</tr>
<tr>
<td>2004</td>
<td>President Bush # of Contributions</td>
<td>222,187 separate contributions reported</td>
</tr>
<tr>
<td>2004</td>
<td>President Bush Total Contributions</td>
<td>$247,120,732 in contributions recorded</td>
</tr>
<tr>
<td>2004</td>
<td>Senator Kerry # of Contributions</td>
<td>225,237 separate contributions reported</td>
</tr>
<tr>
<td>2004</td>
<td>Senator Kerry Total Contributions</td>
<td>$313,310,311 in contributions recorded</td>
</tr>
<tr>
<td>2008</td>
<td>Senator McCain # of Contributions</td>
<td>241,107 separate contributions reported</td>
</tr>
<tr>
<td>2008</td>
<td>Senator McCain Total Contributions</td>
<td>$410,208,144 in contributions recorded</td>
</tr>
<tr>
<td>2008</td>
<td>Senator Obama # of Contributions</td>
<td>698,269 separate contributions reported</td>
</tr>
<tr>
<td>2008</td>
<td>Senator Obama Total Contributions</td>
<td>$631,644,584 in contributions recorded</td>
</tr>
</tbody>
</table>

Note: All datasets are collected from January 1 of each respective election year through Election Day. Public Opinion datasets were collected either from the Policy Agendas Project (www.policyagendas.org) or from iPoll's collection of Gallup's "Most Important Problem" survey question. Values were coded using the survey summary results and weighted to tally to 100%. Campaign Contributions were collected through the Center for Responsive Politics (www.opensecrets.org). Their industry coding scheme was converted to best match the Policy Agendas subtopic coding system and were then aggregated to the major topic code level for these analyses. Additional information on all datasets can be provided upon request to the author.

These data present one further complication, as each contribution report is unlikely to have an equal impact. As one could easily expect, a contribution for the maximum of $2,500 from someone in a defense industry would likely be weighed much more heavily than a $250 contribution from someone in the transportation industry. Yet, this problem is easily addressed, as each filing report contains a record of the size of the contribution, allowing me to weight each contribution by the amount donated to the campaign. As such, I sum the dollar amounts of contributions in each of the major issue areas for any given day to produce two new datasets of campaign contributions that record which issue areas are
contributing to the campaigns, weighted by the size of the total donations, at a daily level. 

As indicated by Table 3.4, these new data record over one billion dollars in total contributions across both elections.

A Dataset of Attention

In this chapter I offer a detailed account of the data collection process I conducted in my efforts to empirically evaluate the dynamics of candidate attention and the broader agenda-setting roles of candidates, the media, the public, and campaign contributors in the 2004 and 2008 presidential campaigns. The compilation of these data, as can be inferred by the reader, marked a significant undertaking that included the location, collection, and coding of almost 250,000 candidate speech-sentences, spanning more than 1,400 campaign speeches; approximately 15,000 newspaper stories, looking across both the front page and campaign coverage of the New York Times; 24 separate Gallup opinion polls; and more than one million campaign contribution filing reports, covering more than $1.5 billion in campaign funds. But what do all of these data offer?

After each stage of the data collection was completed, the data were then combined into one of two datasets measuring attention across the various actors at a daily level throughout the campaign. The resulting datasets represent the most detailed, thorough measures of attention in presidential campaigns compiled to-date, recording 307 days of attention in the 2004 campaign and 309 days of attention in 2008. These data mark the

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82 I note that these data did not require any smoothing or interpolation as they were already recorded at a fine enough level of aggregation to allow for daily analyses.
83 In the case of campaign contributions I once again opt not to present a distribution of attention because the contributors lack the necessary cohesion or organization to serve as active agenda-setters, as I describe in Chapter 2.
starting point for my analysis of my Double Bottleneck Theory and relevant hypotheses in the following three chapters.
Chapter Four  
Examining Diversity and Volatility in Candidate Attention

In Chapter Two, I introduce the Double Bottleneck Theory (DBT) to build upon the existing theories of campaign agenda-setting and provide some clarity in the conflict between candidates, their opponents, and the media to set the agenda in modern presidential campaigns. DBT also provides a more complete portrait of the dynamics behind the campaign agenda while incorporating the various limitations candidates face when deciding how to distribute their attention. But DBT requires at least one of its two bottleneck assumptions to be true in order to offer any added insight into campaign agenda-setting. Specifically the two bottleneck assumptions state: 1) the public’s ability to process campaign information is limited, restricting candidate attention; and, 2) candidates are subject to cognitive limitations that affect how they allocate their attention. Although the two bottlenecks are quite different, they both have the same implications – candidate attention is both finite and restricted.

In this chapter I evaluate the validity of DBT’s two bottleneck assumptions in the 2004 and 2008 presidential campaigns. I begin with the Public Bottleneck Hypothesis which emphasizes the difficulty candidates face when trying to “sell” themselves to the voting public. When examined in light of the public’s inability or disinterest in processing political information, candidates must confine their attention to a small number of issues to simplify their message. By only emphasizing a reduced subset of issues and only offering few policy details, candidates capitalize on the public’s willingness to consume, what Carmines and Stimson (1989) call, easy issues. To do this I utilize a measure of attention diversity, or the “scope” of the candidates’ agendas, to see whether candidate attention is highly focused or widely dispersed across an array of issues.
Second, I examine the Candidate Bottleneck Hypothesis which argues candidates face restrictions on their attention that impair their ability to address multiple issues simultaneously. These limits come in many forms ranging from the need to feature the candidate in the majority of campaign activities, funneling the campaign down to a serial processing entity; to feedback loops produced by the responses of their opponents, the public, or the media generated by the candidate; to a simple lack of interest or expertise on a particular issue by a candidate. Regardless of the source, as cognitive limitations and disproportionate information processing play important roles in Punctuated Equilibrium Theory, I follow the example set by Jones and Baumgartner (2005) to examine the distributions of changes in candidate attention across four (top two and two mid-tier) issues in both races to establish whether candidate attention is restricted.84

The Public Bottleneck

Both Issue Convergence and Issue Ownership theories propose the principle determinants of candidate attention to any given issue are public favorability ratings, or more pointedly, the levels of candidate and opponent favorability on that issue. For instance, if President Bush has strong ratings for defense and foreign policy he should focus his attention to capitalize on those issues. Thus, if we apply Issue Convergence theory, we would expect Kerry to actively engage Bush in a debate over defense and foreign policy. Issue Ownership theory suggests the contrary, such that Kerry should focus in even more

84 With each component of these analyses, I offer a full description of the methodologies in use and how to interpret the results. Although there is no statistical modeling in this chapter, these largely descriptive methods have been established within the relevant political science literature as being appropriate means to test for disproportionate information processing as a result of cognitive limitations.
tightly on a domestic palette of issues while largely ignoring Bush’s successes following September 11th and the high points of the wars in Afghanistan and Iraq. More importantly, neither theory offers an explanation for how either candidate will handle an issue in which neither is favored by the public. Simply put, why don’t candidates spend any time discussing corn subsidies, updating the interstate highway system, or funding for NASA? Or, more generally, why do we not observe a more diverse debate where candidates spread their attention across every issue where they are favored?

Waldman and Jamieson (2003) offer some insight into this peculiarity finding, “each presidential campaign revolves around no more than three issues” (p. 147). They suggest that campaigns attempt to increase the salience of issues via priming, thus allowing candidates to stress their own strengths and minimize their weaknesses (Druckman et al. 2004; Waldman and Jamieson 2003; Iyengar and Kinder 1987). But why only three issues? I argue the existing theories of candidate attention fail to incorporate the desire of campaigns to reduce the agenda space to such a small number of issues. They leave us wondering why we do not see agriculture policy or transportation policy in the debate, when the answer is quite simple – the public restricts their attention.

It almost goes without saying that levels of public knowledge regarding politics are low or self-inflated (Ehrlinger et al. 2008; Dunning et al. 2003; Kruger et al. 1999; Delli Carpini & Keeter 1996; Page & Shapiro 1992); but, more important, as political psychologists have demonstrated, the ability of the public to process political information is equally inadequate. As Zaller (1992) details, the average citizen does not make voting decisions based upon an encyclopedic knowledge of issue positions; rather, they rely on heuristics to recall what information they do have or, in many cases, simply decide based on what they can remember. As a result, the public can assure candidate attention is seldom
ever allocated to fringe issues. If the voting public will choose their candidate based on what they remember, is it a better strategy for candidates to hammer on a few issues where they are heavily favored or stretch out across the spectrum of issues in an attempt to win public favor on all of them?

The public bottleneck also follows from Carmines and Stimson’s (1989) distinction between “easy” and “hard” issues. Whereas the candidates likely have the expertise to delve into policy specifics, they seldom do so because the public is unlikely to understand the nuances of each policy. Therefore, candidates have incentives to limit their discussion to broader, simpler issues like raising/lowering taxes or increasing defense spending to maximize both their potential audience and the effect of their statements.

The product of the public’s limited knowledge, heuristic processing, and need for “easy” issues is that candidates are inclined to focus in on a small subset of issues and through repetition ensure that those issues will be remembered on Election Day. This has specific implications for how candidates will distribute their attention:

*Public Bottleneck Hypothesis:* Candidate attention is restricted by the need to present a simple message for public consumption. Thus, I expect to see candidate attention limited to a small number (three or fewer) of issues.

**Measuring the Scope of Attention**

How does one record whether candidate attention is focused on only a few issues? One possibility would be to simply sift through candidate speeches and count how many issues were addressed on a given day. Yet, this measure is not ideal as it only records whether an issue is addressed or not, losing any information regarding how much attention an issue receives relative to the other issues or the whole. One improvement would be to count not only whether the issues were addressed, but also how many sentences were
allocated to each issue. This measure allows for comparisons across issues; but, it does not indicate if attention is restricted to only three or five issues.

As illustrated by Figures 3.3 through 3.6, candidate attention to even the most prominent issues fluctuates over the course of the campaign, quite radically in some cases. This means that while there might be several “top” issues in a campaign, on any given day those issues may not receive the most attention. Thus, to capture attention shifts across issues a quality measure would need to be transformed into a share of total attention and then summed across issues to see if they reach a threshold of total attention. Yet, even this measure is not ideal. Thankfully, a suitable metric already exists – Shannon’s $H$ Entropy.

The need to measure the “diversity” or scope of a concept is not new to agenda-setting research or other disciplines for that matter. While the specific meaning of diversity/scope differs across contexts, Shannon’s $H$ entropy can be tied back to the fields of thermodynamics, where it was used to measure the diffusion of heat across a plane (Boydstun et al. 2012; Bevan & Baumgartner 2008; Ben-Naim 2007; Shannon and Weaver 1949; Shannon 1948), and communication theory, where it measures the amount of distortion in a signal sent on a channel with noise or other interference (Albright 2011; Grendar 2006; Misra et al. 2005; Gomatam & Karr 2003; Domingo-Ferrer & Torra 2001a, 2001b; Willenborg & de Waal 2001; Shannon 1948). Within the social sciences entropy has been established as a credible measure utilized in a variety of contexts as Boydstun et al. (2012) describe:

“Shannon’s $H$ has been used to study such topics as institutional agenda-setting (Baumgartner et al. 2000), comparative policy attention (Jennings et al 2011), policy engagement by organized interests (Halpin and Thomas 2012), shifts in agenda volatility (Talbert and Potoski 2002), Congressional committee jurisdiction (Sheingate 2006), and information complexity (Wolfe 2008)” (pg 14).
Beyond these instances, entropy has also been employed by scholars interested in levels of conformity or similarity and their effects on voting behavior both by the public (Coleman 2004) and legislators in the United States Senate (Jakulin et al. 2009).

How does one calculate this measure of the scope of attention? As Boydstun et al. (2012) explain, “Shannon’s $H$ is calculated by multiplying the proportion of the agenda that each issue (or other unit) receives by the natural log of that proportion, then taking the negative sum of those products” (pg. 15). This is represented in the formula below:

$$\text{Shannon's } H = -\sum_{i=1}^{n} p(x_i) \cdot \ln p(x_i)$$

where $x_i$ is any issue, $p(x_i)$ is the proportion of total attention that issue receives, and $\ln p(x_i)$ is the natural log of that proportion.\(^{85}\)

The resulting measure records the spread of attention across all issues. Higher values represent more equal or diffuse attention across the issues.\(^{86}\) The lower bound for Shannon’s $H$ is at zero and the maximum value depends on the total number of possible issues, increasing by its natural log. Thus, Shannon’s $H$ would have a maximum value of 1.61 if there were only five issues ($\ln(5)=1.61$) or 4.61 if there were one-hundred possible issues ($\ln(100)=4.61$). Further, it is possible to normalize Shannon’s $H$ in a manner that bounds it between zero and one; however, this adjustment is only required when comparing across items that are comprised by different numbers of total issues. As explained in

\(^{85}\) Note that as the natural log of zero is unidentified, a very small value (typically 0.000001 or something similar) is substituted in instances where the proportion would equal zero to allow a value to be calculated.

\(^{86}\) One added strength of Shannon’s H Entropy over other measures like the Herfindahl Index or Inverse Herfindahl Index is that Shannon’s $H$ accounts for the total number of issues available, such that as the number of issues increases, so does the maximum value for the measure. Thus, it becomes possible to differentiate between when there are only five or ten issues are in play, as opposed to fifty or one-hundred.
Chapter Three, all of my measures of attention are reduced to 20 of the 21 major issue codes\textsuperscript{87} of the Policy Agendas Project; therefore, I opt not to normalize my measures of Shannon’s $H$ to make it easier to differentiate between how many issues are being addressed.\textsuperscript{88}

**A Focused Campaign?**

Because Shannon’s $H$ values vary according to the total number of issues available, Table 4.1 displays a series of reference values to assist in identifying the number of issues receiving attention from the candidates during the 2004 and 2008 campaigns. For rows where attention is centered on a specified number of issues the distribution is pre-set with 95% of attention allocated to the designated number of issues and the remaining 5% uniformly distributed across all remaining issues. For example, “Attention Centered on Three Issues” features a cumulative total of 95% of attention equally divided across three issues (31.67% per issue) and the remaining 5% is equally divided across the other 17 issue areas (0.29% per issue). Table 4.1 also offers additional reference values for more diverse, realistic distributions of attention across issues. These values use various two-tiered distributions that feature high levels of attention to a specified subset of issues, a base-line level of attention divided across four other issues, and minimal attention for the remaining issues. Thus, for rows marked “tiered 70-30,” a total of 70% of attention is divided equally across the specified number of issues, with the remaining 30% of attention divided equally across another four issues and the remaining issues receiving the absolute minimum

\textsuperscript{87} Code 99 – Miscellaneous is not included as items that received that code were classified as non-issue content.

\textsuperscript{88} As the values can expand beyond one, the added distance makes it easier to discern whether attention is focused on two, three, four, or more issues in the same fashion it is easier to see the difference between 10 and 20 as compared to one and two.
attention possible.\textsuperscript{89} This process is repeated again with a 60-40 ratio following the same procedures.\textsuperscript{90}

<table>
<thead>
<tr>
<th>Attention Type</th>
<th>Reference Point/Distribution</th>
<th>Entropy Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Minimum</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Attention Centered on One Issue</td>
<td>0.346</td>
</tr>
<tr>
<td></td>
<td>Attention Centered on Three Issues</td>
<td>1.384</td>
</tr>
<tr>
<td></td>
<td>Attention Centered on Five Issues</td>
<td>1.863</td>
</tr>
<tr>
<td></td>
<td>Attention Centered on Ten Issues</td>
<td>2.501</td>
</tr>
<tr>
<td></td>
<td>Attention is Uniformly Distributed Across All Issues</td>
<td>2.996</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>2.996</td>
</tr>
<tr>
<td>Tiered 70-30</td>
<td>Two-Tiered Attention Centered on Three Issues</td>
<td>1.713</td>
</tr>
<tr>
<td></td>
<td>Two-Tiered Attention Centered on Five Issues</td>
<td>2.071</td>
</tr>
<tr>
<td></td>
<td>Two-Tiered Attention Centered on Ten Issues</td>
<td>2.555</td>
</tr>
<tr>
<td>Tiered 60-40</td>
<td>Two-Tiered Attention Centered on Three Issues</td>
<td>1.888</td>
</tr>
<tr>
<td></td>
<td>Two-Tiered Attention Centered on Five Issues</td>
<td>2.194</td>
</tr>
<tr>
<td></td>
<td>Two-Tiered Attention Centered on Ten Issues</td>
<td>2.610</td>
</tr>
</tbody>
</table>

Note: For non-normalized Shannon’s $H$ entropy, the maximum value is calculated as the natural log of the number of possible categories/issues, in this case, $\ln(20)$. Twenty issue areas are used for each reference value calculation as there are 20 possible issues (as designated by the 21 major topic areas from the Policy Agendas Project with the exclusion of code 99 - miscellaneous) in the candidate data.

As Table 4.1 illustrates, the spread of attention is clearly discernible using Shannon’s $H$ Entropy. We can see that if candidate attention follows Waldman and Jamieson’s (2003) claim of three issues, in an ideal scenario the candidate’s entropy value should be close to 1.384, with smaller values indicating even more highly focused campaigns. Similarly, if we use the two-tiered distributions as a baseline, we see a candidate’s entropy value will be between 1.7 and 1.9, giving those distributions a similar

\textsuperscript{89} Remember that the estimation process for Shannon’s H Entropy prevents the use of absolute zero. Therefore, I assign values of 0.00001 for these issues.

\textsuperscript{90} The result would be 20.00% of attention to the three designated issues and 10.00% to the four second tier issues for “Tiered Attention Centered on Three Issues.”
score to the more focused five issue agenda.\textsuperscript{91} Yet, in each case we observe how larger entropy values will be reported for more diffuse attention.

Table 4.2 – Candidate Attention Diversity Summary Statistics

<table>
<thead>
<tr>
<th>Year</th>
<th>Candidate</th>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Bush</td>
<td>Mean</td>
<td>1.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Std. Dev.)</td>
<td>(0.88)</td>
</tr>
<tr>
<td></td>
<td>Kerry</td>
<td>Mean</td>
<td>0.48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Std. Dev.)</td>
<td>(0.75)</td>
</tr>
<tr>
<td>2008</td>
<td>McCain</td>
<td>Mean</td>
<td>0.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Std. Dev.)</td>
<td>(0.75)</td>
</tr>
<tr>
<td></td>
<td>Obama</td>
<td>Mean</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Std. Dev.)</td>
<td>(0.80)</td>
</tr>
</tbody>
</table>

Note: N = 307 for 2004 and 309 for 2008. Values reported are drawn from unsmoothed Shannon’s $H$ values. Smoothed entropy values report the same values.

Table 4.2 reports the mean entropy values and their standard deviations for each candidate in both elections. When examined in light of the reference values from Table 1, the results indicate that every candidate appears to have a highly focused agenda. The entropy values indicate that the spread of attention for each candidate lies between one and three issues, in many cases with even lower values than the ideal 95% focus reference categories.

The 2004 election appears to be an election of extremes, as President Bush exhibits the most diverse attention and Senator Kerry has the most narrowly focused scope. The likely cause behind Bush’s diffuse agenda is his service as the incumbent president which would lead him to address a variety of topics beyond those that are pertinent to the campaign. Meanwhile, Kerry appears to have tried to capitalize on this opportunity by

\textsuperscript{91} This conclusion is based on several additional entropy calculations using different levels of attention spread. Comparable entropy values are possible if the overwhelming majority of attention is allocated to a single issue with several secondary issues, but that would suggest an even more focused agenda than I do here, offering even greater support for the public bottleneck than I propose here.
honoring in on a very narrow subset of issues more than any of the other candidates included in these analyses.

In the case of 2008, I find that the open seat in the White House has both Senator McCain and Senator Obama spreading their attention across an almost identical number of issues, in both cases reporting values indicating a focus on somewhere between one and three issues. Even when considered in light of the two-tiered reference values, I find McCain’s and Obama’s attention is still extremely focused, such that the overwhelming majority of their total attention is directed to only one or two issues on average over the course of the campaign.

Yet, we should remember that campaigns are dynamic and attention shifts over-time, giving way to the possibility that candidate entropy will do the same. Thankfully Shannon’s $H$ need not be a static measure. Figure 4.1 shows the candidates’ scopes of issue attention vary over the course of the 2004 campaign. I find Bush maintained a higher level of attention diversity over the entirety of the campaign, with the exception of brief stints in late July and early September. More importantly, the candidates’ scopes of attention vary significantly to values that would suggest they are addressing three, and in a few instances, as many as five issues when using the ideally centered reference values. These peaks in attention diversity, when using the two-tiered reference values, suggest candidate attention is likely spread across four issues during these times.92

92 I come to the conclusion that attention spreads across four issues through a comparison of the ideally centered reference values and the more diffuse, two-tiered reference values. As entropy values increase when attention is spread across more issues, it is increasingly unlikely that a more diffuse issue agenda would still yield a score this low without being highly focused on a narrow set of three or four issues.
Figure 4.1 - Comparing Levels of Candidate Attention Diversity in 2004

Note: Solid line represents Bush's entropy. Dashed line represents Kerry's entropy. All reported entropy values were smoothed using a seven day moving average.
The most diffuse attention at any point in the 2004 campaign is on August 12, when Bush’s entropy peaked at 1.974 indicating that he was addressing five or six issues.\(^93\) This jump in the scope of his agenda could have been in response to a variety of diverse events ranging from his nomination of Florida Representative Porter J. Goss as the new director of the Central Intelligence Agency;\(^94\) to New Jersey Governor Jim McGreevey’s resignation announcement;\(^95\) to continued fighting with Shiite Cleric Muqtada al-Sadr’s forces in Iraq;\(^96\) or Venezuelan President Hugo Chávez defeating a recall vote.\(^97\)\(^98\) However, it can be noted that a precipitous drop in Bush’s entropy follows almost immediately as his attention focuses in on defense issues in response to the intensifying conflict in Iraq.

Figure 4.2 displays the entropy values for McCain and Obama over the course of the 2008 campaign. The two candidates’ respective scopes are much closer to one another than the 2004 race, where Bush’s attention was stretched more thinly across the issues than Kerry’s. Further, these results indicate 2008 was much more focused than its predecessor, but there was a gradual dispersion of attention as both candidates’ entropy values increase starting in early August and running through Election Day. A comparison of the values before and after August 1, 2008, yields that Obama’s average entropy doubled while McCain’s average entropy nearly tripled. This increasing trend eventually produces the highest observed entropy value of the campaign with McCain at 1.987 which equates to his attention being divided across approximately five issues looking across all three reference categories.

\(^93\) It can also be assumed that the remaining share of his attention was divided across more issues.  
\(^96\) [http://news.bbc.co.uk/2/hi/middle_east/3557446.stm](http://news.bbc.co.uk/2/hi/middle_east/3557446.stm)  
\(^97\) [http://news.bbc.co.uk/2/hi/americas/3569012.stm](http://news.bbc.co.uk/2/hi/americas/3569012.stm)  
\(^98\) Note that all items on this list are drawn from the days surrounding August 12, as the entropy values were smoothed using a seven-day moving average.

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Note: Solid line represents McCain’s entropy. Dashed line represents Obama’s entropy. All reported entropy values were smoothed using a seven day moving average.
Yet, while the largest event of the 2008 election was easily the economic crisis, those events did not enter into the campaign until the middle of September, leaving much of the increase in the candidates’ respective scopes of attention unexplained.\footnote{The data indicate sizable increases in Obama’s average attention to the economy, healthcare, education, energy, domestic commerce, and government operations, with a decrease in his attention to defense. For McCain similar increases appear for his average attention to the economy, energy, domestic commerce, defense, and federal government operations, with no sizable decreases.} A deeper examination of the candidates’ levels of attention to the 20 major issue areas reveals no clear, discernible pattern to explain which issues surrendered their shares of attention or which garnered more. Both candidates, unsurprisingly exhibit higher levels of attention to issues regarding the economy and domestic commerce following the crisis, but these increases were also accompanied by increases in attention to education, energy policy, and healthcare. Thus, while the 2008 campaign appears to be even more focused than its predecessor, the increase in attention diversity over the final months tells a different story.

The idiosyncrasies of each campaign aside, the underlying evidence presented for both campaigns suggests the candidates’ issue agendas are restricted to a small subset of issues. For considerable portions of both campaigns the candidates’ entropy values suggest that not only do the candidates address the three issues identified by Waldman and Jamieson (2003), but they appear to frequently narrow their focus even more to one or two issues. But this is where Shannon’s $H$ Entropy reaches its limit. Despite being an ideal measure for the scope of candidate attention, it does not provide any insight into which issues are being addressed or the degree to which the candidates’ issue agendas overlap. Thus, further exploration is warranted. Nevertheless, my findings suggest that candidates’ issue agendas are very narrowly defined over the course of the campaign, offering support for the Public Bottleneck Hypothesis.
**The Candidate Bottleneck**

Double Bottleneck Theory argues there are two major bottlenecks that restrict candidate attention; one is imposed by the public and the other by the limitations on the candidates themselves. The Public Bottleneck is explored in the preceding pages and finds empirical support through the narrowly focused agendas of the candidates in both the 2004 and 2008 presidential campaigns. But what of the second, candidate-centric bottleneck?

The Candidate Bottleneck suggests that candidates have a finite amount of attention to allocate, restricting both which issues they address and how their attention shifts from one issue to another over-time. The reasoning behind this bottleneck comes in several forms. One possibility draws upon the concept of Bounded Rationality which suggests political actors, in this case presidential candidates, are only capable of processing a set number of issues at any given point of time – essentially reducing them to serial processors of information (Jones 2001). This is further solidified by the spokesman role candidates are required to play in their campaigns, with their time and attention continuously required to give stump speeches, appear in commercials, or participate in interviews. As a result, the number of issues candidates are able to address is significantly reduced how their attention shifts from issue to issue resembles the patterns of disproportionate information processing demonstrated by Jones and Baumgartner (2005).

But what does finite attention mean in reality? For instance, suppose the majority of John McCain’s attention is divided among defense, economics, and energy issues; but he also wants to address issues pertaining to immigration as well. Yet, despite this desire, he does not engage in a discussion of immigration policy. Why not? For one, there simply might not be enough hours in the day to address his three core issues and to provide a meaningful treatment to immigration; thus, he opts not to direct his attention to the issue.
Another possibility is that he simply does not possess enough knowledge or expertise to adequately engage the issue. This latter option is not as likely with higher profile issues like immigration, but could easily be the case for public housing policy, transportation issues, public lands management, funding for supporting the sciences and technology, or even foreign trade. Under this scenario McCain decides not to allocate attention to immigration issues because he simply doesn’t have the time or is otherwise unwilling to expend the resources to gain the proficiency to make informed statements on those issues that the public would be able to understand.

But the Candidate Bottleneck Hypothesis leads us even further. If candidates face restrictions in how they process and allocate information, this has implications for the dynamics of how their attention shifts over the course of a campaign. In the event that McCain does decide to address immigration policy, the zero-sum nature of attention dictates he will likely have to divert his attention away from one of his core issues. But how does this shift in attention take place?

Jones and Baumgartner (2005) speak to this question by highlighting three major self-reinforcing processes that produce dramatic punctuations in attention – sieves, cascades, and friction. Among these processes, if there was ever a place to observe

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100 I also note that each of the issues I enumerate here are what Carmines and Stimson (1989) would call “hard” issues. Thus, the decisions to neglect these areas may also come from the limitations on the candidates imposed by the public bottleneck.

101 Lest we forget that it is one thing to understand a concept; but to know it well enough to teach someone else is a different matter entirely.

102 Sieves are instances where the constraints of the system force the actors involved into serial processing, whereby they must evaluate options one-at-a-time, thus presenting the appearance of maintaining the status quo. Once an appropriate solution to the problem is identified, the resulting change will be dramatic (Boydston 2008; Jones and Baumgartner 2005).

103 Cascades are characterized by positive feedback loops wherein a particular event spurs a response that reinforces the original event and produces an output similar to the original event, but larger in scale. Once begun, cascades often follow a domino-style series of events that balloon in size well beyond the original event. However, cascades are difficult to spark, meaning that they too are indicated by periods of inactivity followed by significant punctuations.
cascades, or any type of feedback loop for that matter, it is in a political campaign.\textsuperscript{105} Candidates send out messages\textsuperscript{106} every day with the expressed goal of precipitating a response, regardless of whether it is positive or negative. For example, if McCain really does want to address immigration policy, he could give a speech or make a press release on the issue. This then should produce feedback in the form of increased media coverage, a response by Obama, a change in the focus of interviews, or increased contributions from parties that share his views on the issue. In the event there is little or no feedback, he can simply abandon the issue and return to his core message; but in the event that his action produces any of these reactions, he has an incentive to direct even more attention to the issue to direct the focus of the campaign in his favor.\textsuperscript{107} The reality is that modern presidential campaigns operate under the microscope of a 24/7 news cycle and increasingly sophisticated opposition and, as a result, we are likely to observe feedback loops in candidate attention that produce lengthy periods of stability in attention to issues followed by dramatic shifts, or punctuations, in the event they decide to shift their focus. Therefore, I once again propose the Candidate Bottleneck Hypothesis from Chapter Two.

\textit{Candidate Bottleneck Hypothesis:} Candidates face limitations in the way they direct their attention and this affects the way in which their attention shifts across issues over-time. As a result, I expect to see the distribution of changes in candidate attention to any given issue exhibit high levels of explosiveness (or highly leptokurtic distributions).

\textsuperscript{104} Friction refers to cases where there is an institutional threshold of some sort that prevents small, incremental change. Therefore, issues will remain unchanged for extended periods of time until the threshold is crossed, at which point any shift is explosive.

\textsuperscript{105} Feedback loops are commonly observed in instances of bandwagoning around candidates or policies (Baumgartner and Jones 1993).

\textsuperscript{106} Whether these messages come in the form of press releases, advertisements, speeches, or interviews is irrelevant, the goal remains the same, to draw attention.

\textsuperscript{107} This is the underlying goal of any agenda-setting effort after all.
A Primer on Punctuations

How does one empirically verify whether candidates’ shifts in attention are subject to feedback loops? To gain traction in this area, I defer to the agenda-setting literature’s discussion of cascade processes. Cascades have been documented in a number of widely disparate scenarios; as Boydstun (2012) notes,

“Cascades have been documented in numerous other domains, including social fads (Bikhchandani, Hirshleifer, and Welch 1992), overcoming collective action problems (Granovetter 1978), human herd behavior (Shiller 1995), residential segregation (Granovetter and Soong 1988; Schelling 1972), economic trends (Shiller 2000; Sornette 2003), restaurant patronage (Banerjee 1992; Becker 1991), presidential primaries (Bartels 1988), and the success of the QWERTY keyboard (David 1985)” (p. 170).

So how do we discern if candidate attention is following a feedback loop? As I explain above, cascades result in the maintenance of the status quo for extended periods of time followed by significant punctuations. Therefore, a quality approach would be to examine both the changes in attention over-time and the distribution of those changes in attention. The most widely accepted distributional measure in the agenda-setting literature to capture this type of explosiveness is kurtosis, where high values indicate a distribution with a narrow central peak and abnormally high numbers of extreme values.

While it is possible to calculate this measure for my distributions of changes in candidate attention, kurtosis scores can be misleading when applied to small samples as they become highly sensitive to extreme values (Hosking 1998). In order to correct for this I calculate L-kurtosis scores. By utilizing the l-moments method of calculating distributional descriptive statistics L-kurtosis becomes scaled between 0 and 1 and is less susceptible to influence by outliers (Bruenig & Jones 2010; Wolfe et al. 2009; Hosking 1998; Groneveld 1998). Here, high values indicate higher levels of volatility (i.e. there are more punctuations in attention illustrated by more extreme values in the distribution) and low
values suggest more stability (i.e. there are more observations in equilibrium, as there are fewer extreme changes in the distribution). One advantage to L-kurtosis is that it is scaled between zero and one, with more volatile distributions denoted by values closer to one. But to help keep L-kurtosis in perspective, I note that a normal distribution will produce an L-kurtosis value of 0.123. Thus, any L-kurtosis values above 0.123 indicate a leptokurtic distribution with a narrow central peak, reduced “shoulders”, and, perhaps most importantly, an abnormally high incidence of extreme values. Conversely, any L-kurtosis values below 0.123 suggest a platykurtic distribution defined by a flat central peak and unusually thick shoulders with dramatically fewer outliers.

The Self-Reinforcing Candidates?

Figures 4.3 and 4.4 present the distributions of changes in candidate attention for all four candidates across all issues in the 2004 and 2008 campaigns. Changes in attention are calculated by first differencing the percentages of attention allocated to an issue at any
given point in time. For example, if Obama allocates 60 percent of his attention to the economy on September 18 and 85 percent of his attention to the issue on September 19, the resulting change value is a 15.108

We see in both figures that there are substantial spikes at the center of each distribution, representing the immense number of days in which an issue does not see any significant change in the attention it receives from any of the candidates.109, 110 For each candidate we also observe high levels of volatility in how their attention shifts, with L-kurtosis values from each candidate indicating highly leptokurtic distributions of change.

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108 Values are allowed to assume both positive and negative values as there is no reason to believe there will be a difference in positive or negative shifts in attention. Further, taking the absolute value simply would produce a one-sided distribution with the same characteristics (central peak at or near zero, reduced shoulders, increased outliers).

109 Note that the number of zero-change observations can exceed the total number of days in the campaign as these distributions are looking across all issues, meaning there are effectively twenty times as many observations as if I were examining one issue at a time (20*307 = 6,140 in 2004 and 20*309 = 6,180 in 2008).

110 While the central peaks of the distributions of changes across all issues are inflated by the large number of issues that do not receive any attention, looking across issues is the most suitable approach at this stage in the analysis. Excluding issues that fail receive any attention reduces the L-kurtosis for these distributions; however, as the ensuing analyses, I find that even the most important issues are described by leptokurtic distributions.
To the extent that there are noticeable differences between the candidates, Kerry and McCain have more leptokurtic distributions than their opponents, in each case with L-kurtosis values around 0.800; however, these differences are minimal.

Figure 4.5: Distributions of Changes in Candidate Attention to Defense in 2004

Figure 4.6 - Distributions of Changes in Candidate Attention to Macroeconomics in 2004
While the overall distributions of changes suggest candidate attention is subject to some form of disproportionate information processing, the more telling stories come from the individual issues, where evidence indicating punctuations in attention offer a better portrait of how candidate attention changes over-time. Figures 4.5 and 4.6 present the distributions of changes in attention to the top two issues in 2004, defense and economics. Although the distributions depicted in Figure 4.3 indicate both Bush’s and Kerry’s attention were highly volatile, Figures 4.5 and 4.6 tell a much different story regarding Bush, with an almost normal L-kurtosis value for defense (0.193) and a much less extreme value for the economy (0.280). For Kerry, shifts in his attention to both issues are radical, with L-kurtosis scores of 0.531 for defense and 0.500 for economics.

Figures 4.7 and 4.8 report the distributions of changes in candidate attention to the two mid-tier issues identified in Chapter Three – education and foreign affairs. Similar to the top two issues, both issues are marked by high L-kurtosis values for both candidates. Yet, once again we see that Bush’s L-kurtosis scores, 0.528 for education and 0.470 for
foreign affairs, are closer to the normal distribution than Kerry’s, 0.660 for education and 0.702 for foreign affairs. These results suggest that Kerry’s attention shifts much more dramatically with extended periods of stability marked by extreme punctuations in his attention to issues. Further, if we view these results in conjunction with Figures 4.5 and 4.6, we are led to the conclusion that these explosive changes likely extend across all issues of consequence\textsuperscript{111} in the 2004 campaign.\textsuperscript{112}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig4.8.png}
\caption{Distributions of Changes in Candidate Attention to Foreign Affairs in 2004}
\end{figure}

Figures 4.9 and 4.10 report the distributions of changes in candidate attention to the top two issues in 2008 – economics and defense. Similar to 2004, these two issues are

\textsuperscript{111} This point is reinforced by the fact that the entropy scores suggest no more than five issues comprise the candidates’ agendas at any given point in the campaign. If the top two and fourth and fifth issues all exhibit this explosiveness, only the third ranked issue is excluded from these analyses. However, I would also argue the same behavior would be apparent for all issues of the campaign, not just the top five, as these distributions of changes represent the underlying attention dynamics of candidates.

\textsuperscript{112} While one could argue the differences between the candidates’ respective distributions of changes in attention are a function of the disparity in the total number of sentences recorded for each candidate, I would re-direct our attention to Figure 3.1 which illustrates how the two candidates exhibit nearly identical distributions of attention across the population of issues despite the discrepancy in the total number of sentences. This suggests the data are recording the same behavior, meaning any differences in how candidates shift their attention are not a product of measurement error.
marked by leptokurtic distributions of changes for both candidates across both issues.

However, the L-kurtosis scores reveal more extreme levels of explosiveness when compared to the prior election, with an average L-kurtosis of 0.476 across the four distributions as opposed to the average L-kurtosis of 0.376 from 2004. It is possible this higher level of punctuation in attention comes from the fact that the campaign did not feature an incumbent candidate running for re-election, leading to a more open discussion that is not centered as much on one candidate’s prior performance in office.

In Figures 4.11 and 4.12 we see the same distributions presented for the two mid-tier issues of 2008, energy and health. For a fourth time, we are presented with L-kurtosis scores that reflect distributions of change that are far more leptokurtic than the normal distribution. As with the top two issues in 2008, Obama has the more normal L-kurtosis scores, suggesting his attention to these issues was not as volatile as McCain. Indeed a visual appraisal of the figures reveals Obama’s distributions with much more distinct, visible shoulders than his opponent on all four issues. Yet, regardless of which candidate,
issue, or election, in each case we see continued evidence that candidate attention is marked by stability and punctuation.\textsuperscript{113}

![Figure 4.10 - Distributions of Changes in Candidate Attention to Defense in 2008](image)

While the distributions of changes in attention shown in Figures 4.3 through 4.12 demonstrate how shifts in attention exhibit periods of stability and punctuation; what do these changes look like in substantive terms? Figures 4.13 and 4.14 present candidate attention to the top two issues over the course of the 2004 and 2008 campaigns. While the series all appear highly volatile, when their standard deviations are considered, shifts of five or ten points in the case of defense or shifts of ten or twenty points in the case of defense are completely normal. However, as we can see there are numerous shifts in each issue where candidate attention increases or decreases by five or six standard deviations.

\textsuperscript{113} I again direct our attention to the number of sentences recorded for each candidate. Whereas the 2004 campaign featured approximately 160,000 sentences (120,000 for Bush and 40,000 for Kerry), the 2008 race features roughly 100,000 sentences (50,000 for each candidate) distributed more evenly across the two candidates.
Figure 4.13 - Candidate Attention to the Top Two Issues in 2004

Macroeconomics

Mean Bush Attn: 9.45%     Std. Dev: 5.30
Mean Kerry Attn: 6.46%     Std. Dev: 5.96

Defense

Mean Bush Attn: 22.85%     Std. Dev: 10.31
Mean Kerry Attn: 8.52%     Std. Dev: 9.03

Note: Solid lines represent President Bush’s attention. Dashed lines represent Senator Kerry’s attention.
Figure 4.14 - Candidate Attention to the Top Two Issues in 2008

**Macroeconomics**

- Mean McCain Attn: 7.97%  Std. Dev: 10.75
- Mean Obama Attn: 13.35%  Std. Dev: 12.35

**Defense**

- Mean McCain Attn: 8.53   Std. Dev: 8.81
In the case of 2004, we can easily identify both periods of stability, such as Bush and Kerry’s attention to the economy from mid-May into June and Kerry’s attention to defense from mid-June through late July; and punctuation, such as the jumps in attention to the economy by both candidates in March or October and spikes in attention to defense in March, June, and August. These periods are even more pronounced for the 2008 campaign with both issues experiencing relative stability for the majority of the race with punctuations taking place in late July and mid-September for the economy and March, late May, mid-July, and late August for defense.

![Figure 4.11 - Distributions of Changes in Candidate Attention to Energy in 2008](image-url)
Figures 4.15 and 4.16 report candidate attention to the two mid-tier issues over-time in both campaigns. When compared to the top two issues, periods of stability and punctuation in candidate attention are even more pronounced for the mid-level issues. Interestingly, Figure 4.15 reveals that, on average, neither education nor foreign affairs received much attention from Kerry. Yet, Kerry’s attention still follows the same patterns of stability and extreme change for both issues, with spikes in attention to education coming in May and July and in late April for foreign affairs. As Figure 4.16 illustrates, the issue of energy is an exemplary case of punctuations in attention, with radical changes in attention in late March and late July for McCain and throughout June, July, and September for Obama.
Figure 4.15 - Candidate Attention to Two 'Mid-Tier' Issues in 2004

Note: Solid lines represent President Bush's attention. Dashed lines represent Senator Kerry's attention.
Figure 4.16 - Candidate Attention to Two 'Mid-Tier' Issues in 2008

Energy

Mean McCain Attn: 4.75%     Std. Dev: 7.08
Mean Obama Attn: 3.20%     Std. Dev: 5.53

Health

Mean McCain Attn: 2.20%     Std. Dev: 5.70
Mean Obama Attn: 3.86%     Std. Dev: 3.83
A Tale of Two Bottlenecks

In this chapter I have examined both the Public and Candidate Bottlenecks that serve as the underlying foundation for DBT. I began with an analysis of the scope of candidate attention. The analyses indicate candidates restrict their attention to a very small subset of issues, often only one or two, for large portions of the campaign. I argue this restriction of candidate attention is the product of the public’s inability to consume political information which forces candidates to confine their attention to a manageable number of issues that the public can absorb. The results of my analyses offer support for the Public Bottleneck Hypothesis, and thus offer initial support for DBT’s first necessary condition.

A second set of analyses centers on the distributions of changes in candidate attention across the top two and two mid-tier issues in each campaign. The results reveal that candidate attention, regardless of which issue is being examined, is defined by periods of stability and extreme change. The resulting L-kurtosis values for each distribution consistently indicate a high level of volatility in how candidate attention shifts from issue to issue similar to the disproportionate information processing documented by Jones and Baumgartner (2005). These patterns of candidate dynamics are further confirmed through a visual analysis of candidate attention to each issue over-time. This explosiveness in candidate attention change offers support to the Candidate Bottleneck Hypothesis and lends credence to the finite nature of candidate attention.
Perhaps more importantly, the results of these analyses offer evidence for both bottlenecks of candidate attention proposed by DBT. In this chapter, I demonstrate how candidate attention is clearly limited, whether as a function of the public or their own limitations, which has implications for how agenda-setting processes play out over the course of a campaign. Now that the necessary conditions of DBT have been supported, the next challenge is to explore how agenda-setting takes place over the course of the campaign.
On August 4, 2004, Senator John Kerry’s bid to take the White House took a substantial blow. One of his principle claims was that his time spent as a swift boat captain in the Vietnam War prepared him to be a qualified Commander-in-Chief that would be able to better handle the ongoing wars in Iraq and Afghanistan. This claim seemed to hold some sway over voters, convincing many that he might be a better leader than President Bush, but on that August day the Swift Boat Veterans for Truth (SBVT), an independent 527 group, aired their first national ad entitled “Any Questions?” In a line of ads that would follow the group continuously impugned Kerry’s credibility, war record, combat decorations, and even scrutinized his participation in anti-war protests after he had returned to the states (Norpoth and Sidman 2007; Weisberg 2007). As a result, whatever progress Kerry may have made against his opponent on the issue of defense was completely nullified. Further, the ads afforded Bush a rare luxury in presidential campaigns, the flexibility to disengage the debate on an issue to stress a different point. As Kerry’s primary claim on the issue of defense was now in question, Bush was able to direct attention to Kerry’s allegedly fickle voting record, painting him as a man without resolve or principle – a “flip-flopper.” But to what extent were both the SBVT and Bush successful? The simple fact that “swiftboating” and “flip-flopper” have become recognized terms in the jargon of campaign politics serves to demonstrate the effectiveness of their arguments. Yet, the story I offer above centers on the actions of an outside group and the way in which it affected both the agenda and outcome of the 2004 presidential campaign, something that

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114 [www.swiftvets.com](http://www.swiftvets.com)
lies outside of current theories of candidate attention. But is this normal? Do campaigns often fall prey to outside parties? To that end, what other external actors are able to exert influence over candidate attention in a campaign?

In Chapter Four, I offer evidence in support of the Double Bottleneck Theory’s two assumed bottlenecks that restrict candidate attention as a result of the public’s inability to process information and the finite nature of candidate attention. My findings suggest that candidates restrict the scope of their agenda to somewhere between one and three issues on average. In addition, I offer testimony suggesting candidate attention is marked by the same types of punctuations that suggest finite attention and disproportionate information processing, further suggesting that the finite nature of attention must be considered when attempting to explain the agenda-setting processes of presidential campaigns.

In this chapter I take the next step in my evaluation of DBT by modeling the agenda-setting processes that occur during the 2004 campaign. As highlighted in Chapter Two, DBT offers several expectations regarding not only whether outside actors are able to affect candidate attention, but also which of those actors should be the most successful in their efforts. To achieve this goal, I examine the combined datasets comprised of attention from the candidates (and their opponents), the media, the public, and campaign contributions and model candidate attention using vector autoregression to relax assumptions about the causal ordering of influence that is ambiguous in the existing theory. My findings suggest the respective patterns of candidate attention follow the expectations set forth by the Double Bottleneck Theory. More specifically, candidate attention to the top issues in 2004 appear largely insulated from outside influence with significant effects appearing, but not in any consistent pattern. Surprisingly, this insulation on the top issues is strong enough to prevent the candidates from exerting any
consistent influence over the attention of their opponent. Yet, as the overall salience of the issue declines, the attention of the candidates and other actors become much more malleable and susceptible to influence from outside forces.

**Reviewing Double Bottleneck Theory**

In a survey conducted from September 21 – 24, 2004, Time/SRBI indicated that President Bush and Senator Kerry were both viewed equally by the public in how they would handle the economy. Survey responses indicated each candidate was favored by 44 percent of the public. At this point, it would seem issues related to the economy were up-for-grabs. Yet, another survey released by Time/SRBI on October 15, revealed that public opinion on the issue had shifted, with the numbers showing Kerry was favored to handle the economy moving forward with a 49 to 43 percent margin. The same survey also indicates Bush was favored 51 to 40 with regard to how he would handle the war on terrorism and 50 to 40 for the situation in Iraq.

These surveys suggest the public held a clear view of which candidate was more qualified to handle both the domestic issues and foreign affairs and; to this end, both Issue Convergence and Issue Ownership theories would suggest the candidates should allocate their attention accordingly, with Kerry favoring the economy and Bush directing his attention to defense related issues such as terrorism or Iraq. Yet, a survey conducted by the same firm not even a month earlier reveals the two candidates were both favored by the public for how they would handle the economy. This raises questions regarding how the

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Issue Convergence and Ownership theories would suggest the candidates allocate their attention in response to this highly salient,\textsuperscript{117} undecided\textsuperscript{118} issue.

As I explain in Chapter Two, the literature regarding the strategic decision-making process behind candidate attention allocation is divided by two competing theories: Issue Ownership and Issue Convergence. Issue Ownership theory posits candidates do not engage one another in fruitful debate; rather, they appear to “talk past” one another in their use of advertisements (Damore 2004; Petrocik et al. 2003; Ansolabahere and Iyengar 1994) and acceptance speeches (Petrocik et al. 2003) across a variety of issues (Holian 2004).\textsuperscript{119} Conversely, Issue Convergence theory suggests candidates will actively engage one another over the largest issues of the day, refusing to cede shares of the debate to their opponent.

While these theories have sparked a debate regarding the behavior of candidates, my Double Bottleneck Theory of candidate attention setting incorporates the limitations placed on candidate attention by the public and the reality of finite attention to present some expectations for how candidates will allocate their attention in light of those restrictions. More pointedly, I argue these restrictions force candidates to select a set of core issues that will receive the lion’s share of their attention and will be used to define their candidacies. As a result, candidates are willing to go to war over these issues and will likely engage their opponents on them whenever necessary. Yet, as candidates possess expertise on these issues and spend a significant share of their time on them, they are less

\textsuperscript{117} I would argue the issue is highly salient as it was identified by no fewer than 25% of all respondents as being the “most important problem” according to the Gallup MIP dataset in either September or October 2004.
\textsuperscript{118} The issue is considered undecided because both candidates were viewed as equally favorable.
\textsuperscript{119} For a more complete description of the issue ownership literature see Sigelman and Buell (2004) or Damore (2004, 2005).
susceptible to outside influence, ironically transforming the issues they’re most likely to debate into the ones where they’re least likely to be affected by outside pressure.

I further argue the zero-sum nature of attention requires that any shift toward alternative issues would require a decline of attention to their core issues. Thus, if President Bush wants to emphasize energy policy or immigration issues, he may do so, but to the detriment of his attention to defense or economics. As a result, candidates will largely ignore the remaining available lower-salience issues unless prompted by some external stimuli, increasing the likelihood we observe outside influence. Thus, DBT offers expectations for both how attention changes over-time and the ability of outside actors to influence their attention. Specifically,

**Top Issue Focus Hypothesis:** Candidates will select a subset of issues and will be experts on these issues, insulating them from most outside influences, e.g., media coverage or opponent critiques. Thus, candidate attention to the top issues should be marked by extended periods of stability and will be resistant to outside pressures.\(^{120}\)

**Lower Salience Focus Hypothesis:** Issues that are not critical to the campaign are utilized on an opportunistic basis to broaden candidate appeal, but at the risk of spreading the public’s attention too thin. Thus, as the salience of an issue declines, so do the candidate’s expertise and investment, making these issues more susceptible to outside influence.\(^{121}\)

### A Model of Campaign Agenda-Setting

It is a difficult task to gain traction on any sort of agenda-setting process that takes place during a presidential campaign. As both Bachrach and Baratz (1962) and Riker (1986) suggest, and as later illustrated by Baumgartner et al. (2009), agenda-setting

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\(^{120}\) Remember, the fact that these issues are already receiving a high level of attention add to the candidates’ versatility on these issues, suggesting it would take a large scale spike in external pressure to produce a significant shift in attention.

\(^{121}\) These include the “hard” issues that candidates typically do not address either due to a lack of interest or the public’s inability to understand the nuances of the issue. Because these issues receive little to no attention from the candidates on a daily basis, they will be the most susceptible to outside influence and the most likely to exhibit radical shifts in attention.
maneuvers can come in many forms, including overt attempts to change policy and less obvious attempts to shift the attention of other actors into line with the principle actor’s interests. The reality of the situation, however, is that even more obvious efforts by political actors to influence the attention of their competitors present several empirical challenges ranging from the need to have finely-tuned dynamic data that measures the agenda, to identifying causal orderings during model estimation, to addressing the endogeneity that exists amongst the variables, to modeling the entire system of influence to allow for effects to play out through multiple paths. For instance, if President Bush is only moderately attentive to education issues and Senator Kerry increases his attention to the issue by 25 percent; do we observe a reaction from Bush in direct response to Kerry’s action? Or does Bush wait to see whether and how Kerry’s shift toward education plays out in the media and public before he makes an appropriate counter-move? To this extent, Kingdon (1984) may have been right to suggest a “garbage-can” model of agenda-setting, as the prospects of parsing out these dynamics is less than appealing.

It is my aim here to generate a statistical model of the dynamic relationships between the candidates and the media while incorporating measures to control for shifts in public opinion and campaign contributions as they vie for the candidates’ attention to various issues during the 2004 and 2008 campaigns. In order to do this, I estimate the amount of attention an issue receives from a candidate at any given point in time as a function of the candidate’s previous attention to the issue, in addition to the attention that issue receives from the other actors in question. If I were to state this model using the standard, familiar regression format, the model for 2004 would read as follows:
\[ B_{it} = \beta B_{it-x} + \beta K_{it-x} + \beta CC_{it-x} + \beta FP_{it-x} + \beta BC_{it-x} + \beta KC_{it-x} + \beta P_{it-x} + \varepsilon \]

where \( B_{it} \) is the percent of Bush’s attention to issue \( i \) at time \( t \), \( K \) is the percent of Kerry’s attention to issue \( i \) lagged \( x \) periods, \( FP \) is the percent of The New York Times’ front page allocated to issue \( i \) lagged \( x \) periods, \( CC \) is the percent of The New York Times’ campaign coverage allocated to issue \( i \) lagged \( x \) periods, \( P \) is the percent of public opinion allocated to issue \( i \) lagged \( x \) periods, \( BC \) is the percentage of Bush’s contributions that came from issue \( i \) lagged \( x \) periods, and \( KC \) is the percentage of Kerry’s contributions that came from issue \( i \) lagged \( x \) periods.\(^{122}\)

This appears to be a perfectly sensible model of candidate attention; however, problems remain. There is a considerable degree of ambiguity in the theory that prevents me from identifying both the temporal ordering of the variables in question and the appropriate lag-structure for the model. In reality, the hypotheses stated above suggest different causal orderings for the model. From a technical standpoint it goes without saying that this presents serious problems for estimation as my variables of interest are all endogenous. To address this I estimate the model proposed above using vector autoregression (VAR).\(^{123}\)

VAR models provide several advantages for these analyses. First, VAR is the simultaneous estimation of a system of regression equations with contemporaneous and lagged values of all the system variables considered on the “right-hand side” (RHS).\(^{124}\) This system can be estimated consistently with Ordinary Least Squares regression, but due to the contemporaneous and lagged values on the RHS, identifying assumptions have to be made in order to trace out the effects of things we care about. This allows me to both address problems of endogeneity while being less demanding on my theory to distinguish

\(^{122}\) As the model notation suggests these levels of attention are examined over-time, with the inclusion of lagged values of both the dependent and independent variables.

\(^{123}\) The result of numerous lag-length tests found the optimal model lag structure to include two days. Thus, the model was estimated with variables lagged both one and two days as a part of the model specification.

\(^{124}\) Minus the contemporaneous value of the variable on the left of the given equations
the “correct” causal ordering of the variables (Lütkephol 2005). Second, it affords me two different means of analysis – Granger Causality tests and impulse response functions. The differences between these two types of analysis lie in the proposed causal ordering of influence. Through the use of Granger Causality tests, I am able to relieve any assumptions regarding the order of influence to discern whether one variable is a significant predictor of another (Freeman 1983).\textsuperscript{125} Impulse response functions (IRFs) offer a different approach, by allowing me to propose a specific causal ordering of influence\textsuperscript{126} and then shock the system to observe how the effects of that shock ripple out across the system (Freeman et al. 1989, Williams 1990).

Yet, the use of IRFs introduces a slight dilemma, as they can be estimated for all possible shocks and responses, producing a set of 49 simulations. This is not an intractable number of simulations to evaluate; however, there are 49 simulations for each causal ordering, meaning that an approach not guided by theory would require the estimation of more than 240,000 simulations for only one issue area.\textsuperscript{127} Further, if this process were to be repeated across all 20 issue areas, the resulting analyses would require almost five

\textsuperscript{125} Granger Causality tests perform exactly the task described and nothing more. The result of Granger tests are a set of chi-squared tests that examine whether one variable at time t-1 is a significant variable of another variable at time t. This process is reported for all possible combinations including whether a variable is a significant predictor of itself. For example, I receive a significant Granger statistic for the NYT front page leading Bush’s attention to defense in Table 5.1. This can be interpreted as saying that the NYT front page Granger causes Bush’s attention, but in a more literal sense, what it means is that, all assumptions removed, NYT front page attention is a significant predictor of Bush’s attention.

\textsuperscript{126} By “a specific causal ordering of influence” I mean that I am able to specify how I expect effects to play out. For example, in the first graph in Figure 5.1, I impose the ordering that Bush’s attention to defense immediately precedes Kerry’s attention to the issue followed by the media, public, and campaign contributors. This ordering can be changed however I please, in each case with the first in line being the variable/actor receiving the shock and the next in line being the party of interest being “led.” In reality I am specifying different Chleski decompositions for each proposed ordering.

\textsuperscript{127} There are 49 simulations per causal ordering. Given that there are seven variables included in the model, there are a total of 5,040 possible causal orderings for each issue area. Thus, 49 simulations times 5,040 orderings produces 246,960 simulations per issue area.
While it would be potentially telling to perform a full analyses of all approximately five million simulations, such an endeavor would not offer any real theoretical contribution and is tantamount to data mining. Thankfully, this dilemma can be resolved through the use of theory, as I can simulate the most likely causal orderings. This can be seen in both Freeman et al (1989) and Williams (1990), where they limit their simulations in accordance with their theories and offer only 12 and 19 IRF simulations respectively, despite having the ability to produce significantly more.

In Chapter Two, I set the foundation for solving this problem by highlighting the three actors that have the potential to serve as consistent agenda-setters – the candidates, their opponents, and the campaign coverage. The candidates’ ability to drive how they allocate their attention across issues is self-evident. The ability of opponents to affect a candidate’s distribution of attention is also well established in both the Issue Ownership and Issue Convergence hypotheses. More specifically, while the hypotheses posit that the candidates will engage in disparate behavior, both argue that candidate attention will be dictated, at least partially, by their opponents – either avoiding or converging on the issues their opponents opt to address.

However, the consistent agenda-setting role of the campaign coverage is comparatively less clear, as the media’s role in the campaign is less defined in the literature and surrounding theories. As I highlight in Chapter Two, the media serve as the primary conduit between the candidates and the voting public, such that without media coverage, campaign speeches would not reach beyond their immediate audiences and would

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128 246,960 simulations times 20 issue areas would result in 4.939,200 IRFs.
129 Note that I emphasize that the agenda-setting ability must be consistent. It is possible for all actors included in my model to affect candidate attention, but to be considered an active agenda-setter, the potential for more frequent influence is required.
130 Note that the media are almost always completely excluded from the Issue Ownership and Issue Convergence debate.
essentially regress to the whistle-stop tours of the early 1900s. But why is the campaign coverage considered to be the only consistent media agenda-setter? This reasoning stems from the purpose behind each type of coverage. The front page news is centered on large-scale events and is bound by journalistic norms to report the biggest stories on any given day. As such, the front page often might report on the campaign, but also covers natural disasters or other events with little political relevance. Comparatively, the campaign coverage in the first section of the New York Times offers some overlap with the front page when the campaign rises to the top, but otherwise captures the more nuanced coverage of the debate between the candidates. Given that the candidates actively seek to shape how they are presented by the media, it seems only natural to assume they are attentive to, and, in turn, potentially susceptible to the campaign coverage.

While the three actors identified above are active agenda-setters, for the purposes of my analyses, I argue that the remaining four actors – the front page news, the candidates’ respective contributors, and the public do not play as active of a role in setting the campaign agenda. As I state previously, the front page has the potential for election coverage, but is often directed to topics that have little or no bearing on the campaign. The limited role of both the public and campaign contributors stem from their limited visibility in the system. In each case these actors’ attention is not as easily observed by the candidates or the media, and, while fundraising and polls are big news, questions are often raised regarding the methodologies used to record them.\footnote{As documented by Erikson et al. (2002), public opinion is also very gradual in how it shifts over-time. Despite the fact that a presidential campaign is a very dynamic process, there is little reason to suspect that public preferences regarding the importance of issues will shift any more quickly or dramatically than under normal circumstances.}

As there are only three actors believed to be consistent agenda-setters, I am able to reduce the number of causal orderings from more than 5,000 to only six. The remaining
four actors are given a fixed ordering with the front page first, campaign contributors taking the second and third places, and the public being last. Therefore, the causal orderings I estimate are:

Table 5.1 – Causal Orderings for 2004 IRF Simulations

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
<th>Fifth</th>
<th>Sixth</th>
<th>Seventh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush</td>
<td>Kerry</td>
<td>NYT CC</td>
<td>Front Page</td>
<td>B. Cont.</td>
<td>K. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>Kerry</td>
<td>Bush</td>
<td>NYT CC</td>
<td>Front Page</td>
<td>B. Cont.</td>
<td>K. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>Bush</td>
<td>NYT CC</td>
<td>Kerry</td>
<td>Front Page</td>
<td>B. Cont.</td>
<td>K. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>Kerry</td>
<td>NYT CC</td>
<td>Bush</td>
<td>Front Page</td>
<td>B. Cont.</td>
<td>K. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>NYT CC</td>
<td>Bush</td>
<td>Kerry</td>
<td>Front Page</td>
<td>B. Cont.</td>
<td>K. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>NYT CC</td>
<td>Kerry</td>
<td>Bush</td>
<td>Front Page</td>
<td>B. Cont.</td>
<td>K. Cont.</td>
<td>Public</td>
</tr>
</tbody>
</table>

Note: NYT CC refers to the campaign coverage. B. Cont. and K. Cont. refer to Bush’s Contributors and Kerry’s Contributors respectively.

The Variables

**The Candidates:** For the candidates use the speech data described in Chapter Three. However, as my end goal is to measure the level of candidate attention to a specific set of issues as a function of their total attention on any given day I transform the daily sentence counts into percentages of total attention. Finally, to account for the limited responsiveness of the speech-writing process, the candidates’ hesitance to change course, and the inflated number of zeros in the data, I convert each series of candidate attention into a seven-day moving average. The resulting eight series measure candidate attention to defense, macroeconomics, education, and foreign affairs for 307 days of the 2004 campaign.

**The Media:** The New York Times (NYT) front page and campaign coverage datasets are comparable to the candidate speech data in that they already measure attention to the same set of issues over the same time period. As I once again seek to measure attention to

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132 This is done by simply dividing the count of sentences for issue i at time t by the total number of policy oriented sentences at time t and multiplying by 100.

133 This moving average essentially allows me to aggregate up to the weekly level while maintaining a daily unit of analysis. This is calculated by averaging across times t-3 through t+3.
a given issue as a function of the total attention, I also convert the media measures to percentages for the entire series.\textsuperscript{134}

\textit{Campaign Contributors: } In addition to the candidates and the media, candidate attention is potentially susceptible to influence from other actors, namely the public and campaign contributors (Kenski et al. 2010). While they are not the primary focus of DBT, in order to estimate a complete, accurate model of candidate attention I need to account for levels of public attention and campaign contributions. As detailed in Chapter Three, I use the topic coded Federal Election Commission filing reports and convert them into percentages of the total financial contributions on any given day, weighting each report by the size of the contribution to account for the added importance of large contributions.

\textit{Public Opinion: } To measure public opinion I use the Gallup “Most Important Problem” data detailed in Chapter Three. These data are already percentages of total attention to each of the major issue areas so no further transformations are necessary.

\textbf{Who is Pulling the Strings?}

So what does my model reveal about the agenda-setting processes that play out over the course of the campaign? Table 5.2 presents the results of the Granger Causality tests for the top two issues in 2004 – defense and macroeconomics. In accordance with DBT, I find that for the top issues, there is little evidence that candidate attention is significantly predicted by any of the other actors’ series of attention. Out of the 24 possible scenarios in which a variable could be a significant predictor of candidate attention, there are only three instances where the statistic achieves significance, of which, two of those three effects are marginal (p<0.10). The only significant predictor of candidate attention is the NYT’s front

\textsuperscript{134} However, there was no need to adjust the media coverage into a moving average for the media data.
Table 5.2 – Granger Causality Tests for the Top Two Issues in 2004

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Defense</th>
<th>Macroeconomics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush leading Kerry</td>
<td>3.26</td>
<td>3.26</td>
</tr>
<tr>
<td>Bush leading the Front Page</td>
<td>2.52</td>
<td>0.22</td>
</tr>
<tr>
<td>Bush leading Campaign Coverage</td>
<td>1.08</td>
<td>0.64</td>
</tr>
<tr>
<td>Bush leading Bush’s Contributors</td>
<td>1.41</td>
<td>2.78</td>
</tr>
<tr>
<td>Bush leading Kerry’s Contributors</td>
<td>0.16</td>
<td>0.32</td>
</tr>
<tr>
<td>Bush leading Public Opinion</td>
<td>0.03</td>
<td>1.72</td>
</tr>
<tr>
<td>Kerry leading Bush</td>
<td>2.77</td>
<td>2.30</td>
</tr>
<tr>
<td>Kerry leading the Front Page</td>
<td>3.35</td>
<td>1.88</td>
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<td>Kerry leading Campaign Coverage</td>
<td>4.01</td>
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<tr>
<td>Kerry leading Bush’s Contributors</td>
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<td>0.06</td>
</tr>
<tr>
<td>Kerry leading Kerry’s Contributors</td>
<td>0.67</td>
<td>2.82</td>
</tr>
<tr>
<td>Kerry leading Public Opinion</td>
<td>0.61</td>
<td>1.38</td>
</tr>
<tr>
<td>Front Page leading Bush</td>
<td>6.44**</td>
<td>0.78</td>
</tr>
<tr>
<td>Front Page leading Kerry</td>
<td>2.14</td>
<td>1.39</td>
</tr>
<tr>
<td>Front Page leading Campaign Coverage</td>
<td>1.02</td>
<td>4.11</td>
</tr>
<tr>
<td>Front Page leading Bush’s Contributors</td>
<td>9.79***</td>
<td>0.69</td>
</tr>
<tr>
<td>Front Page leading Kerry’s Contributors</td>
<td>1.60</td>
<td>2.21</td>
</tr>
<tr>
<td>Front Page leading Public Opinion</td>
<td>3.46</td>
<td>1.31</td>
</tr>
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<td>0.25</td>
<td>2.93</td>
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<tr>
<td>Campaign Coverage leading Kerry</td>
<td>2.35</td>
<td>0.23</td>
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<td>1.44</td>
</tr>
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<td>1.56</td>
<td>1.11</td>
</tr>
<tr>
<td>Campaign Coverage leading Public Opinion</td>
<td>0.11</td>
<td>9.46***</td>
</tr>
<tr>
<td>Bush’s Contributors leading Bush</td>
<td>0.79</td>
<td>5.57*</td>
</tr>
<tr>
<td>Bush’s Contributors leading Kerry</td>
<td>0.51</td>
<td>0.08</td>
</tr>
<tr>
<td>Bush’s Contributors leading Front Page</td>
<td>7.00**</td>
<td>0.79</td>
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<tr>
<td>Bush’s Contributors leading Camp. Coverage</td>
<td>0.69</td>
<td>1.33</td>
</tr>
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<td>Bush’s Contributors leading Kerry’s Cont.</td>
<td>0.13</td>
<td>0.95</td>
</tr>
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<td>Bush’s Contributors leading Public Opinion</td>
<td>2.50</td>
<td>1.22</td>
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<tr>
<td>Kerry’s Contributors leading Bush</td>
<td>3.54</td>
<td>0.85</td>
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<tr>
<td>Kerry’s Contributors leading Kerry</td>
<td>0.56</td>
<td>0.02</td>
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<tr>
<td>Kerry’s Contributors leading Front Page</td>
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<td>0.53</td>
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<tr>
<td>Kerry’s Contributors leading Camp. Coverage</td>
<td>0.61</td>
<td>0.31</td>
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<tr>
<td>Kerry’s Contributors leading Bush’s Cont.</td>
<td>0.44</td>
<td>0.70</td>
</tr>
<tr>
<td>Kerry’s Contributors leading Public Opinion</td>
<td>1.53</td>
<td>2.83</td>
</tr>
<tr>
<td>Public Opinion leading Bush</td>
<td>0.19</td>
<td>0.94</td>
</tr>
<tr>
<td>Public Opinion leading Kerry</td>
<td>5.09*</td>
<td>0.22</td>
</tr>
<tr>
<td>Public Opinion leading Front Page</td>
<td>0.69</td>
<td>0.44</td>
</tr>
<tr>
<td>Public Opinion leading Campaign Coverage</td>
<td>0.73</td>
<td>1.92</td>
</tr>
<tr>
<td>Public Opinion leading Bush’s Contributors</td>
<td>0.01</td>
<td>1.70</td>
</tr>
<tr>
<td>Public Opinion leading Kerry’s Contributors</td>
<td>0.18</td>
<td>0.70</td>
</tr>
</tbody>
</table>

Note: * p<0.10; ** p<0.05; *** p<0.01. Values reported are chi-squared statistics. Significant coefficients represent Granger-causality. N = 307 for all issue areas.
page coverage of defense which is found to Granger-cause President Bush’s attention to the issue. Although DBT posits that the candidates will be largely insulated from outside influence for the top issues of the campaign, this result comes as no surprise given the ongoing conflicts in Iraq and Afghanistan that dominated the front page so frequently during the campaign. This is even more understandable when we recognize Bush’s duties as the incumbent president, which may increase the odds he would be affected by news regarding the conflicts. Yet, this is not to suggest the media are true agenda-setters in this case, as both the front page news and campaign coverage are not significant predictors of candidate attention in any other instance.135 Interestingly, I note that the candidates’ respective levels of attention to each of the top two issues do not Granger-cause the attention of their opponent.

Looking at the two mid-tier issues, contrary to expectations, I do not see any more activity in the Granger tests. As Table 5.3 reveals, there are once again only three significant predictors of candidate attention with only one reaching the 0.05 threshold. Specifically, Bush’s campaign contributors are found to Granger-cause his attention to foreign affairs. Yet, unlike with the top two issues, I find marginal evidence that the candidates are engaging one another, as Bush’s attention to education is a marginally significant predictor of Kerry’s attention.

These results offer moderate support for DBT, as both candidates are not consistently significantly predicted by any of the other variables. Yet, this support is mitigated by the fact that even lower salience issues do not show any outside influence on the candidates. Additionally, the 2004 election is not devoid of interactions between the actors, as a variety of other significant effects are found. For the top two issues, the front

135 This point is even further reinforced by the NYT’s campaign coverage failing to achieve significance for either candidate on both issues.
<table>
<thead>
<tr>
<th>Relationship</th>
<th>Education</th>
<th>Foreign Affairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush leading Kerry</td>
<td>5.79*</td>
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</tr>
<tr>
<td>Bush leading the Front Page</td>
<td>3.77</td>
<td>1.51</td>
</tr>
<tr>
<td>Bush leading Campaign Coverage</td>
<td>0.40</td>
<td>6.13**</td>
</tr>
<tr>
<td>Bush leading Bush’s Contributors</td>
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<td>0.78</td>
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</tr>
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<tr>
<td>Kerry leading Bush’s Contributors</td>
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</tr>
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<td>0.45</td>
</tr>
<tr>
<td>Kerry leading Public Opinion</td>
<td>2.39</td>
<td>1.69</td>
</tr>
<tr>
<td>Front Page leading Bush</td>
<td>1.43</td>
<td>0.91</td>
</tr>
<tr>
<td>Front Page leading Kerry</td>
<td>0.13</td>
<td>1.27</td>
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<td>Front Page leading Campaign Coverage</td>
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<td>1.93</td>
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<td>3.09</td>
</tr>
<tr>
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<td>1.15</td>
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<td>Bush’s Contributors leading Bush</td>
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<td>Bush’s Contributors leading Front Page</td>
<td>1.68</td>
<td>6.06**</td>
</tr>
<tr>
<td>Bush’s Contributors leading Camp. Coverage</td>
<td>3.49</td>
<td>2.13</td>
</tr>
<tr>
<td>Bush’s Contributors leading Kerry’s Cont.</td>
<td>4.96*</td>
<td>0.36</td>
</tr>
<tr>
<td>Bush’s Contributors leading Public Opinion</td>
<td>15.97***</td>
<td>5.82*</td>
</tr>
<tr>
<td>Kerry’s Contributors leading Bush</td>
<td>5.57*</td>
<td>1.02</td>
</tr>
<tr>
<td>Kerry’s Contributors leading Kerry</td>
<td>3.46</td>
<td>1.07</td>
</tr>
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<td>Kerry’s Contributors leading Front Page</td>
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<td>Kerry’s Contributors leading Camp. Coverage</td>
<td>0.04</td>
<td>1.53</td>
</tr>
<tr>
<td>Kerry’s Contributors leading Bush’s Cont.</td>
<td>17.59***</td>
<td>0.70</td>
</tr>
<tr>
<td>Kerry’s Contributors leading Public Opinion</td>
<td>2.83</td>
<td>12.52***</td>
</tr>
<tr>
<td>Public Opinion leading Bush</td>
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<td>2.26</td>
</tr>
<tr>
<td>Public Opinion leading Kerry</td>
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</tr>
<tr>
<td>Public Opinion leading Front Page</td>
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<td>0.53</td>
</tr>
<tr>
<td>Public Opinion leading Campaign Coverage</td>
<td>0.29</td>
<td>1.62</td>
</tr>
<tr>
<td>Public Opinion leading Bush’s Contributors</td>
<td>1.95</td>
<td>0.52</td>
</tr>
<tr>
<td>Public Opinion leading Kerry’s Contributors</td>
<td>0.25</td>
<td>1.72</td>
</tr>
</tbody>
</table>

Note: * p<0.10; ** p<0.05; *** p<0.01. Values reported are chi-squared statistics. Significant coefficients represent Granger-causality. N = 307 for all issue areas.
page and Bush’s contributions are found to have a reciprocal relationship for defense, the campaign coverage is a significant predictor of public opinion, Bush’s contributors marginally Granger-cause Bush’s attention to macroeconomics, and public opinion is a marginally significant predictor of Kerry’s attention to the issue. For the two mid-tier issues, Bush appears to be the most consistent predictor of other actors’ attention with significant statistics reported for Kerry’s attention to education, the campaign coverage of foreign affairs, and public opinion toward foreign affairs. I also find significant Granger causality between the front page’s coverage of foreign affairs and public opinion, the campaign coverage of foreign affairs and Bush’s contributions, and a variety of pairings between both candidates’ contributions and other actors across both issues.

Thus, across the four issues of macroeconomics, defense, education, and foreign affairs, when I relax all assumptions about the causal ordering of the data, I find that the system is much simpler than one might expect. Despite numerous opportunities, candidate attention is only Granger-caused six times, four of which to only a marginal degree. Further, among the remaining actor pairings, there are still relatively few significant relationships. Yet, this is not to suggest influence does not occur, only that very few direct predictive relationships appear in the data.

**Shocks and Ripples across the Campaign**

One of the features of VAR is that I can impose causal orderings of the variables and then simulate how the system responds to different shocks via the impulse response functions. In this case, I use the six orderings for the actors stated above and shock one actor’s series of attention to the issue one standard deviation and then observe the

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136 When a variable “Granger causes” something, it simply means the variable comes first in the temporal ordering and is a significant predictor of the event/variable of interest.
cumulative effects that permeate throughout the system over seven days. This is doubly beneficial as I can evaluate whether shocks that might not be significant directly or on their own can achieve significance indirectly through the system, providing an approximation for how campaigns operate in reality. For example, if Kerry were to make a statement regarding energy policy, it might not immediately result in a significant change in Bush’s attention to the issue. In fact, it might not produce an immediate change in attention to any of the actors in the system; however, it could gain momentum over-time (much like the feedback loops discussed in Chapter Four) and eventually result in a significant change in Bush’s, or another actor’s, attention.

Figure 5.1 - IRF Simulations for Attention to Defense
Causal Ordering: Bush - Kerry - Campaign Coverage

(a) Bush's Contributors, (b) Kerry's Contributors, (c) Pres. Bush, (d) Front Page, (e) Sen. Kerry, (f) Campaign Coverage, (g) Public Opinion
Figure 5.1 presents the results of the IRF simulations for attention to defense using the first causal ordering I specified in Table 5.1. Contrary to the results of the Granger tests, the IRFs show even fewer significant interactions between the candidates (denoted by C and E in the figure) and the other actors. The significant effects on the diagonal indicate the effect on a candidate following a shock to their own attention, showing the inertial nature of attention. In looking at the Figure, the wealth of non-significant simulations once again suggests the actors’ respective patterns of attention to defense are seemingly unrelated to one another, supporting DBT, but potentially offering a troubling commentary on the debate of the 2004 election.

Figure 5.2 presents the IRF simulations for attention to defense using the second causal ordering, switching the order of Kerry and Bush. Shocks are once again applied to all seven variables and are observed across all seven variables. Using this causal ordering I now observe slightly more pronounced effects on the diagonal and a marginal effect of a shock in the campaign coverage on the front page. Yet, the most telling result here is, once again, the lack of significant effects throughout the simulations.

It would be possible to present the full collection of all six causal orderings for each issue in the same graphical manner; however, given the large number of non-significant effects, I choose to summarize the IRF simulations in Tables 5.4 through 5.7. In each table the values reported are the number of significant simulated effects given each respective shock. Thus, I again present a 7x7 matrix of simulations in each table but each cell has a maximum of six possible significant effects.

---

137 For the candidates this effect is even more pronounced as a function of the dynamic structure imposed when I smoothed the data into a seven-day moving average.
Figure 5.2 - IRF Simulations for Attention to Defense
Causal Ordering: Kerry - Bush - Campaign Coverage

Table 5.4 – Number of Significant Effects across IRF Simulations for Defense

<table>
<thead>
<tr>
<th>Shock</th>
<th>Bush</th>
<th>Kerry</th>
<th>FP</th>
<th>CC</th>
<th>B. Cont</th>
<th>K. Cont</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Kerry</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>FP</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CC</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B. Cont</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>K. Cont</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Public</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Values reported measure the number of significant effects reported through simulations of the six causal orderings discussed earlier in the chapter. Each cell has a maximum possible value of six. Effects are considered significant if they exhibit a significant effect (error bounds exclude 0 at some point in the first 7 days) in IRFs. FP denotes New York Times front page, CC denotes New York Times campaign coverage, B. Cont denotes Bush’s Contributors, K. Cont denotes Kerry’s Contributors.
Table 5.5 – Number of Significant Effects across IRF Simulations for Macroeconomics

<table>
<thead>
<tr>
<th>Shock</th>
<th>Bush</th>
<th>Kerry</th>
<th>FP</th>
<th>CC</th>
<th>B. Cont</th>
<th>K. Cont</th>
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<td>2</td>
<td>2</td>
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<td>0</td>
</tr>
<tr>
<td>Kerry</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FP</td>
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<td>1</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CC</td>
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<td>1</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B. Cont</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>K. Cont</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Public</td>
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<td>0</td>
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<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Values reported measure the number of significant effects reported through simulations of the six causal orderings discussed earlier in the chapter. Each cell has a maximum possible value of six. Effects are considered significant if they exhibit a significant effect (error bounds exclude 0 at some point in the first 7 days) in IRFs. FP denotes New York Times front page, CC denotes New York Times campaign coverage, B. Cont denotes Bush’s Contributors, K. Cont denotes Kerry’s Contributors.

In Table 5.4, I present the IRF simulations across all six causal orderings for defense, including the two offered graphically in Figures 5.1 and 5.2. Again, we see significant effects along the diagonal of the matrix; however, I note that cases that appeared not to achieve significance in the Figures manage to do so here. For example, the effect of a shock to Bush’s Contributors on Bush’s Contributors did not appear significant in the graphical results, but the error bounds do exclude zero. More importantly, I find evidence of five significant effects on Bush’s attention and four significant effects on Kerry’s attention.\(^{138}\) Yet, the results appear to support the findings of the Granger tests, as the only shock to produce a significant effect in more than one causal ordering is the front page

\(^{138}\) One might ask how we can have a significant Granger result and not a significant IRF (or vice-versa). This is a product of multiple factors. First we should remember that the Granger tests examine to see whether a lagged value of one variable is a direct significant predictor of a contemporaneous variable. This is useful as it provides a sense of how the data operate and the relationships we should expect to see play out in the IRFs. However, when one variable Granger causes another it does not necessitate that it will have significant IRF. Rather, IRFs incorporate a variety of additional information when estimating, ranging from the different causal orderings imposed by the researcher to allowing the system to translate effects both directly and indirectly. Thus, a Granger test reveals whether X directly predicts Y; but the IRF evaluates whether a shift in X will affect Y, regardless of whether it operates directly or indirectly. Further, IRFs incorporate prior and contemporaneous values of the dependent variable in question, meaning that high levels of inertia (or autocorrelation) in attention could wash out any relationship revealed in the Granger test.
on Bush’s attention. The remaining significant effects for the candidates occur only once, suggesting they may be an artifact of a particular causal ordering more than any real, sustained influence over the candidates’ attention.

Looking beyond the candidates, it appears the primary means of media influence comes via the front page, not the expected campaign coverage, as shocks produced significant responses in Bush’s attention, the campaign coverage, and among Bush’s contributors. Despite this fact, the campaign coverage appears to have had a more notable, consistent effect on Bush’s contributors, as shocks produced significant responses in all six causal orderings. Unsurprisingly, the campaign contributions for both candidates and public opinion failed to have any consistent, or even repeated, effects on the simulations.

Table 5.6 – Number of Significant Effects across IRF Simulations for Education

<table>
<thead>
<tr>
<th>Shock</th>
<th>Bush</th>
<th>Kerry</th>
<th>FP</th>
<th>CC</th>
<th>B. Cont</th>
<th>K. Cont</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush</td>
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<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Kerry</td>
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<tr>
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</tr>
<tr>
<td>CC</td>
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<td>1</td>
<td>6</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>B. Cont</td>
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<td>0</td>
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<tr>
<td>K. Cont</td>
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<td>0</td>
<td>6</td>
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<td>0</td>
</tr>
<tr>
<td>Public</td>
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<td>0</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Values reported measure the number of significant effects reported through simulations of the six causal orderings discussed earlier in the chapter. Each cell has a maximum possible value of six. Effects are considered significant if they exhibit a significant effect (error bounds exclude 0 at some point in the first 7 days) in IRFs. FP denotes New York Times front page, CC denotes New York Times campaign coverage, B. Cont denotes Bush’s Contributors, K. Cont denotes Kerry’s Contributors.

Table 5.5 reports the results of the IRF simulations for attention to macroeconomics across all six causal orderings. Unlike Table 5.4, we see a more consistent, convincing set of significant effects on candidate attention with a shock in Bush’s attention to the issue producing a significant response by Kerry in half of the causal orderings. Further, Bush’s
influence on the issue appears to reach beyond his opponent, with significant effects in more than one causal ordering for the front page, campaign coverage, and his contributors. In comparison, Kerry does not have a repeated impact on Bush’s attention; but he is able to affect the front page, campaign coverage, and Bush’s contributors.

With regard to the other actors’ influence on the issue of macroeconomics, I find considerably less evidence to suggest the media are agenda-setters, as shocks to both the front page and campaign coverage produce fewer repeated responses than for attention to defense. Yet, to the extent the media have an impact, the front page once again appears to be the stronger of the two media measures. Similar to defense, the contributors and public are largely unable to exert any significant influence over the other actors.

Table 5.7 – Number of Significant Effects across IRF Simulations for Foreign Affairs

<table>
<thead>
<tr>
<th>Shock</th>
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<th>Kerry</th>
<th>FP</th>
<th>CC</th>
<th>B. Cont</th>
<th>K. Cont</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Bush</td>
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<td>1</td>
<td>0</td>
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<tr>
<td>Kerry</td>
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<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>FP</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CC</td>
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<td>1</td>
<td>1</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B. Cont</td>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>K. Cont</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Public</td>
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<td>1</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Values reported measure the number of significant effects reported through simulations of the six causal orderings discussed earlier in the chapter. Each cell has a maximum possible value of six. Effects are considered significant if they exhibit a significant effect (error bounds exclude 0 at some point in the first 7 days) in IRFs. FP denotes New York Times front page, CC denotes New York Times campaign coverage, B. Cont denotes Bush’s Contributors, K. Cont denotes Kerry’s Contributors.

Turning my attention to the lower salience issues, the results of the IRF simulations for education and foreign affairs are presented in Tables 5.6 and 5.7 respectively. For education the candidates seem strangely resistant to outside influence, exhibiting even fewer significant responses than for the top two issues of the campaign. However, the
opposite can be said for foreign affairs, where both candidates exhibit at least one significant response to shocks from every other actor. In the case Bush’s attention, shocks to Kerry, the front page, and public opinion all produce repeated effects.

Media effects seem to experience the same idiosyncrasies as the candidates for education, as both the front page and campaign coverage are largely unable to produce repeated effects. The only exceptions to this statement seem to suggest, once again, that the front page is the more influential of the two media sources, with significant responses occurring for both the campaign coverage and Kerry’s contributors across two causal orderings. Counter to the simulations for education, attention to foreign affairs seems to be more susceptible to media influence, with shocks to the front page influence over Bush’s attention and the campaign coverage, while the campaign coverage does the same for Bush’s contributors.

As suggested by DBT, when these analyses have progressed to issues of lesser salience, the ability of the campaign contributors and public to affect other actors has improved. For education, a shock to Bush’s contributors produces a significant response by Kerry’s contributors in all six causal orderings. Similarly, shocks to public opinion result in significant responses for Bush’s contributions for education and Bush’s attention, front page coverage, campaign coverage, and Kerry’s contributions for foreign affairs.

Discussion

Having examined the interactions of the various actors involved in the 2004 presidential campaign, what can we now say about campaign agenda-setting? Through the combination of Granger-tests and impulse response function simulations I find partial evidence for the Double Bottleneck Theory of candidate attention in the 2004 presidential
campaign. More specifically, I find strong support for the Top Issue Focus hypothesis, as the candidates display a striking resistance to outside influence on the top two issues of the campaign, defense and macroeconomics. To the extent that anyone beyond the candidates themselves are found to drive attention to these issues, it is sporadic. The one exception to this seems to be the effect of the front page news on President Bush, which may well be a function of his required duties as the incumbent commander-in-chief. As such, a sudden spike in front page stories regarding troop safety or combat in Iraq or Afghanistan would necessitate a response from him as part of his duties as president.

The issue where candidates were most resistant to outside influence was education, in which both candidates only had eight significant responses in the IRF simulations. This is counter to the expectation of the Lower Salience Focus hypothesis, as an issue rated lower in importance by the candidates should result in them being more susceptible to outside influence. Yet, candidate attention to foreign affairs offers support for the hypothesis, as the candidates are more responsive to spikes in attention by the other actors than any other issue.

Interestingly, shocks to candidate attention do not produce responses from their opponents in over half of the simulations. This is further indicated by the lack of significant results between the candidates in the Granger tests. Without an examination of more elections I am hesitant to derive a solid conclusion from these results; however, they seem to suggest that the candidates are not as attentive to their opponents as we might believe, often exhibiting a comparable number of significant responses to shifts in the front page coverage as to their rivals.

The role of the media remains undefined, as the campaign coverage presumably should have the strongest effect on candidate attention; yet, for the 2004 campaign, the
media’s influence over the other actors, not just the candidates, is strongest in response to the front page coverage. This is consistent with the narrative of the 2004 campaign being one dominated by the two ongoing conflicts overseas. The two wars managed not only to push defense policy into the campaign as the most important issue, but they also drove much of the news cycle, relegating much of the normal campaign attention to the back-seat.
Chapter Six
Change We Can Believe In?:
Agenda-Setting in 2008

In Chapter One, I highlight Senator McCain’s failed attempt to direct attention to his status as an elder statesman by suspending his campaign in response to the emerging economic crisis of 2008. Yet, this is hardly the single defining moment of the campaign or the only attempt by a candidate to affect the campaign agenda. Indeed, the 2008 campaign was also marked by McCain’s direction of attention to Obama’s association with Bill Ayers, a suspected domestic terrorist; Obama’s membership in the controversial church of Reverend Jeremiah Wright; Obama’s portrayal of McCain as being an out-of-touch elite who is unsure of how many houses he owns, much less as someone who believes the economy is still fundamentally sound following the start of the recession; and the Obama campaign’s direction of attention to Alaska Governor Sarah Palin’s failure to understand the basics of foreign policy, including her assertion that she was responsible for foreign policy during her time as governor, as Alaska technically borders Russia.

In the preceding two chapters I offer an empirical evaluation of the underlying assumption that candidate attention is limited by one of the two bottlenecks identified by the Double Bottleneck Theory. Further, I present a complex model of candidate attention nestled within the dynamics of the presidential campaign to offer a test of the Top Issue Focus and Lower Salience Focus hypotheses that extend from DBT to explain the amount of agenda-setting we should expect to observe during the 2004 presidential campaign. In each case I find evidence supporting DBT and my expectations that a lack of agenda-setting is the norm in presidential campaigns and the example in 1992 is, indeed, an outlier.
In this chapter I extend my analyses to include the 2008 presidential campaign. With a very different election context, the 2008 race featured Senators John McCain (R – Arizona) and Barack Obama (D – Illinois) engaging in battle over the top executive office in the country. Further, as the 2008 election was significantly influenced by the economic crisis that began in September, I am able to explore how such a large external stimulus affects candidate attention. Drawing on my data measuring candidate, media, public, and campaign contributor attention, I analyze candidate attention over the course of the campaign using the same basic model proposed in Chapter Five. My findings once again suggest that the candidates’ respective patterns of attention are in line with the expectations set forth by DBT. More specifically, for the top issues of the campaign, significant outside influence is limited and inconsistent; however, as the salience of the issue declines, the frequency of outside influence increases. However, when compared to the results of the 2004 campaign, significant effects are observed in higher numbers, even for the top issues where McCain is a significant predictor of Obama’s attention.

Finally an Open Seat

The 2008 campaign was a historic one. Not only did it contain McCain’s brief campaign suspension mentioned in Chapter One, but it marked the first nomination, and eventual victory, of a major party candidate from a racial minority. Further, the race included numerous other firsts, including the first selection of a woman candidate, Sarah Palin, for vice-president since Walter Mondale selected Geraldine Ferraro in 1984. The 2008 campaign also marked the first time two sitting Senators faced off for the nation’s top executive office. Yet, perhaps most important of all, the 2008 campaign was the first time that neither party nominated the seated president, seated vice-president, or former vice-
One of the challenges of an incumbent president running for re-election is their administration’s record while in office. Their failures to make good on campaign promises, in conjunction with any policy missteps, often take center stage as their opponent will frequently highlight those failures in an effort to justify the need to change leaders. In contrast, in an open seat election, neither candidate is faced with the burden of defending a prior record of service in the White House. Indeed, neither Senator McCain nor Senator Obama could boast any experience serving in an executive office, working both to their benefit and detriment simultaneously.

But what does an open seat election mean with regard to presidential campaign agenda-setting and candidate attention dynamics? Running as an incumbent candidate for re-election carries significant advantages with regard to name recognition, fund raising, and experience; however, from an agenda-setting perspective, incumbent candidates are at a sizable disadvantage, as their voting records and other indicators of their performance in office are easily visible and offer easy avenues of criticism from their opponents. Yet, in the 2008 presidential campaign, despite Obama’s attempts to portray McCain as being a surrogate for the unpopular incumbent George W. Bush, each candidate was not encumbered with an existing record of performance in the executive office. As a result, the potential for agenda-setting is even greater in the 2008 campaign than during the race in 2004.

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138 See Richard Nixon in 1968. He was a former vice-president who had served under Eisenhower from 1952-1960. As such, he was not an incumbent vice-president after the Kennedy and Johnson administrations; however, he was still a former vice-president who had run for “re-election” in 1960.
Looking back at Figures 3.1 and 3.2, the distributions of candidate attention are markedly different between the 2004 and 2008 campaigns. The 2004 campaign features Bush and Kerry allocating nearly identical levels of attention to the same subset of major issues throughout the campaign.¹⁴⁰ In contrast, the 2008 campaign is characterized by several issues that receive large shares of attention but with a wide degree of variation in how much each candidate addresses the issues. To better illustrate this point, the top two issues of 2008 are the same as in 2004, macroeconomics and defense. Yet, where the two candidates’ respective total levels of attention allocated to each issue were very similar in 2004, with only 0.51 percentage-points difference for defense and 4.01 percentage-points

¹⁴⁰ There are two points to note here. First, as Figures 4.1 and 4.13 illustrate, this convergence of attention only holds in a static context. Once the dynamics of the campaign are incorporated, levels of attention from each respective candidate to the top issues of 2004 are frequently divergent, indeed only correlating at 0.11 for defense but more moderately at 0.42 for the economy. Second, a possible reason for the convergence between the two candidates is the negative tenor of the campaign. As the 2004 campaign is thought of as being one of the most negative presidential campaigns in recent history, the use of negative campaigning would, by design, force a type of issue convergence between the candidates, as each would be inclined to respond to the critiques of his opponent.
difference for macroeconomics; in 2008, these issues receive markedly larger differences in attention from each candidate, with 4.09 percentage-points for macroeconomics and 10.79 percentage-points for defense.

Indeed, this trend of divergent levels of attention to issues in the 2008 campaign extends into lower-salience issues like energy (difference of 4.20 percentage points), federal government operations (difference of 4.25 percentage-points), and education (difference of 4.96 percentage-points). As such, these initial data suggest the 2008 campaign featured two candidates faced with an open election, a largely undefined campaign agenda, and a strong desire to direct attention to their favored issues. Further, this divergence in the candidates’ respective distributions of attention suggests that the candidates do not possess a shared set of preferred issues. This disconnect between the candidates, in conjunction with the electoral context should increase the frequency, and potentially success, of agenda-setting efforts from both candidates.
A Little Repetition Goes a Long Way

Skowroneck (2008) suggests that presidential scholars should be wary of the context of each president when attempting to explain their behavior. Given that the presidency is easily the most individualized office in the federal government, it stands to reason that it will be more difficult to formulate broad, wide-ranging theories for presidential behavior. Yet, despite the clear differences in electoral context I outline above, the questions that motivate these analyses do not differ from 2004. Much like the Issue Ownership and Issue Avoidance theories, I have no reason to believe the logic underlying the operation of campaigns or the dynamics of candidate attention would alter dramatically between the 2004 and 2008 races. My Double Bottleneck Theory of candidate attention dynamics is designed to explain how agenda-setting efforts of the candidates and other outside actors are able to affect the attention of the two major political candidates in modern presidential campaigns. Given I do not make any assumptions regarding the electoral context or individual traits of the candidates it should hold across each election as its basic criteria, candidate attention is finite, does not vary from one race to another.

As the Top Issue Focus, Lower Salience Focus, Media Agenda-Setter, and Media Reporter hypotheses are not modified in any way for the 2008 election, I opt to pursue the same course of analysis as in Chapter Five, beginning with an examination of the Granger Causality Tests followed by Impulse Response Functions and cumulative effects across both tests for the top two issues and two mid-tier issues of the campaign. I address the changes in the candidates and the causal orderings of the variables as detailed in Table 6.1.

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141 Admittedly, technology advanced considerably between the two and the campaigns adopted tactics suited to those mediums; however, these advances were not unique to either candidate and were available for either to use. Therefore, I would argue that the underlying dynamics behind the campaign should not differ ways that are significant enough to warrant a new approach to my analyses.
Table 6.1 – Causal Orderings for 2008 IRF Simulations

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
<th>Fifth</th>
<th>Sixth</th>
<th>Seventh</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCain</td>
<td>Obama</td>
<td>NYT CC</td>
<td>Front Page</td>
<td>M. Cont.</td>
<td>O. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>Obama</td>
<td>McCain</td>
<td>NYT CC</td>
<td>Front Page</td>
<td>M. Cont.</td>
<td>O. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>McCain</td>
<td>NYT CC</td>
<td>Obama</td>
<td>Front Page</td>
<td>M. Cont.</td>
<td>O. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>NYT CC</td>
<td>McCain</td>
<td>Obama</td>
<td>Front Page</td>
<td>M. Cont.</td>
<td>O. Cont.</td>
<td>Public</td>
</tr>
<tr>
<td>NYT CC</td>
<td>Obama</td>
<td>McCain</td>
<td>Front Page</td>
<td>M. Cont.</td>
<td>O. Cont.</td>
<td>Public</td>
</tr>
</tbody>
</table>

Note: NYT CC refers to the campaign coverage. M. Cont. and O. Cont. refer to McCain’s Contributors and Obama’s Contributors respectively.

Change We Can Believe In?

Given the similarities in expectations and methodologies between the two races addressed in the preceding pages, it makes sense to follow the same course through my analyses of 2008. Therefore, Table 6.2 reports the Granger-causality tests for the top two issues of the campaign, macroeconomics and defense.

The first, most prominent result in Table 6.2 comes in the very first row, where I find McCain’s attention to each of the top issues is a significant predictor of Obama’s attention to the issues. While one might say this result is unsurprising, Obama’s attentiveness to McCain’s attention is not reciprocated in the data, as Obama’s attention does not significantly Granger-cause McCain’s attention. Yet, DBT speaks to the frequency of outside influence on candidate attention, not just whether one candidate would be able to affect the other. In this case, out of the 24 possible scenarios where a variable could be a significant predictor of candidate attention, there are seven instances where the statistic achieves significance, three of which are at the marginal (p<0.10) level. This marks a more than 100 percent increase from the 2004 election where only three Granger tests indicated
### Table 6.2 – Granger Causality Tests for the Top Two Issues in 2008

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Macroeconomics</th>
<th>Defense</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCain leading Obama</td>
<td>13.50***</td>
<td>7.23**</td>
</tr>
<tr>
<td>McCain leading the Front Page</td>
<td>2.96</td>
<td>3.36</td>
</tr>
<tr>
<td>McCain leading Campaign Coverage</td>
<td>1.51</td>
<td>6.53**</td>
</tr>
<tr>
<td>McCain leading McCain’s Contributors</td>
<td>0.09</td>
<td>11.55***</td>
</tr>
<tr>
<td>McCain leading Obama’s Contributors</td>
<td>0.15</td>
<td>0.09</td>
</tr>
<tr>
<td>McCain leading Public Opinion</td>
<td>7.48**</td>
<td>4.61</td>
</tr>
<tr>
<td>Obama leading McCain</td>
<td>0.55</td>
<td>0.31</td>
</tr>
<tr>
<td>Obama leading the Front Page</td>
<td>0.50</td>
<td>0.65</td>
</tr>
<tr>
<td>Obama leading Campaign Coverage</td>
<td>7.77**</td>
<td>1.40</td>
</tr>
<tr>
<td>Obama leading McCain’s Contributors</td>
<td>9.48***</td>
<td>15.86***</td>
</tr>
<tr>
<td>Obama leading Obama’s Contributors</td>
<td>0.08</td>
<td>0.37</td>
</tr>
<tr>
<td>Obama leading Public Opinion</td>
<td>2.58</td>
<td>3.44</td>
</tr>
<tr>
<td>Front Page leading McCain</td>
<td>2.70</td>
<td>5.77*</td>
</tr>
<tr>
<td>Front Page leading Obama</td>
<td>4.81*</td>
<td>0.10</td>
</tr>
<tr>
<td>Front Page leading Campaign Coverage</td>
<td>1.59</td>
<td>1.56</td>
</tr>
<tr>
<td>Front Page leading McCain’s Contributors</td>
<td>2.17</td>
<td>4.88*</td>
</tr>
<tr>
<td>Front Page leading Obama’s Contributors</td>
<td>1.14</td>
<td>3.06</td>
</tr>
<tr>
<td>Front Page leading Public Opinion</td>
<td>3.22</td>
<td>0.85</td>
</tr>
<tr>
<td>Campaign Coverage leading McCain</td>
<td>1.93</td>
<td>0.33</td>
</tr>
<tr>
<td>Campaign Coverage leading Obama</td>
<td>3.31</td>
<td>7.63**</td>
</tr>
<tr>
<td>Campaign Coverage leading Front Page</td>
<td>0.28</td>
<td>5.43*</td>
</tr>
<tr>
<td>Campaign Coverage leading McCain’s Cont.</td>
<td>8.97**</td>
<td>0.47</td>
</tr>
<tr>
<td>Campaign Coverage leading Obama’s Cont.</td>
<td>0.68</td>
<td>4.32</td>
</tr>
<tr>
<td>Campaign Coverage leading Public Opinion</td>
<td>0.37</td>
<td>1.40</td>
</tr>
<tr>
<td>McCain’s Contributors leading McCain</td>
<td>1.34</td>
<td>0.72</td>
</tr>
<tr>
<td>McCain’s Contributors leading Obama</td>
<td>0.43</td>
<td>8.12**</td>
</tr>
<tr>
<td>McCain’s Contributors leading Front Page</td>
<td>1.32</td>
<td>3.99</td>
</tr>
<tr>
<td>McCain’s Contributors leading Camp. Coverage</td>
<td>0.93</td>
<td>7.63**</td>
</tr>
<tr>
<td>McCain’s Contributors leading Obama’s Cont.</td>
<td>0.06</td>
<td>1.42</td>
</tr>
<tr>
<td>McCain’s Contributors leading Public Opinion</td>
<td>1.02</td>
<td>4.59</td>
</tr>
<tr>
<td>Obama’s Contributors leading McCain</td>
<td>0.93</td>
<td>0.25</td>
</tr>
<tr>
<td>Obama’s Contributors leading Obama</td>
<td>2.72</td>
<td>0.24</td>
</tr>
<tr>
<td>Obama’s Contributors leading Front Page</td>
<td>2.40</td>
<td>1.10</td>
</tr>
<tr>
<td>Obama’s Contributors leading Camp. Coverage</td>
<td>2.68</td>
<td>0.23</td>
</tr>
<tr>
<td>Obama’s Contributors leading McCain’s Cont.</td>
<td>1.15</td>
<td>0.63</td>
</tr>
<tr>
<td>Obama’s Contributors leading Public Opinion</td>
<td>1.04</td>
<td>4.49</td>
</tr>
<tr>
<td>Public Opinion leading McCain</td>
<td>1.48</td>
<td>4.73*</td>
</tr>
<tr>
<td>Public Opinion leading Obama</td>
<td>3.70</td>
<td>1.96</td>
</tr>
<tr>
<td>Public Opinion leading Front Page</td>
<td>6.95**</td>
<td>0.55</td>
</tr>
<tr>
<td>Public Opinion leading Campaign Coverage</td>
<td>0.02</td>
<td>0.80</td>
</tr>
<tr>
<td>Public Opinion leading McCain’s Contributors</td>
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<td>0.45</td>
</tr>
<tr>
<td>Public Opinion leading Obama’s Contributors</td>
<td>0.58</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Note: * p<0.10; ** p<0.05; *** p<0.01. Values reported are chi-squared statistics. Significant coefficients represent Granger-causality. N = 309 for all issue areas.
significant effects. More so, I find Obama to be more susceptible to outside influence, as five of the seven significant results indicate that he was affected by the attention of other actors. The two significant predictors of McCain’s attention are the *New York Times’* Front Page and Public Opinion, with both statistics only achieving marginal significance, further solidifying the fact Obama’s attention was more susceptible to influence in 2008.

Table 6.3 offers the results of the Granger-causality tests for two mid-tier issues in the 2008 campaign, energy and health. The Lower Salience Focus hypothesis posits that there should be an increased number of significant predictors of candidate attention when compared with the top two issues displayed in Table 6.2. Whereas I find seven significant predictors for the top two issues, there are only six significant statistics for the mid-tier issues. This would suggest that, contrary to my expectations, the candidates are less responsive to external stimuli for these two lower salience issues; however, once marginal significance is taken into account the count shifts to indicate that there are slightly more predictors for the lower importance issue, with four statistics achieving conventional (0.05) significance for the top issues but five for the mid-tier issues.

Yet, perhaps a more interesting result offered in Table 6.3 comes from the number and strength of the effects the campaign coverage appears to have over the candidates. Three out of the four possible statistics are highly significant (0.01), suggesting that the campaign coverage of energy and health related issues has a strong potential to affect candidate attention. This is most prominent for energy, where both candidates are significantly Granger-caused by the campaign coverage. In comparison to any effects that
Table 6.3 – Granger Causality Tests for Two ‘Mid-Tier’ Issues in 2008

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Energy</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCain leading Obama</td>
<td>12.22***</td>
<td>0.51</td>
</tr>
<tr>
<td>McCain leading the Front Page</td>
<td>1.53</td>
<td>0.32</td>
</tr>
<tr>
<td>McCain leading Campaign Coverage</td>
<td>7.04**</td>
<td>7.34**</td>
</tr>
<tr>
<td>McCain leading McCain’s Contributors</td>
<td>0.80</td>
<td>0.50</td>
</tr>
<tr>
<td>McCain leading Obama’s Contributors</td>
<td>4.34</td>
<td>3.12</td>
</tr>
<tr>
<td>McCain leading Public Opinion</td>
<td>7.02**</td>
<td>0.39</td>
</tr>
<tr>
<td>Obama leading McCain</td>
<td>1.85</td>
<td>0.49</td>
</tr>
<tr>
<td>Obama leading the Front Page</td>
<td>3.87</td>
<td>0.64</td>
</tr>
<tr>
<td>Obama leading Campaign Coverage</td>
<td>2.01</td>
<td>2.11</td>
</tr>
<tr>
<td>Obama leading McCain’s Contributors</td>
<td>1.19</td>
<td>3.75</td>
</tr>
<tr>
<td>Obama leading Obama’s Contributors</td>
<td>0.52</td>
<td>4.54</td>
</tr>
<tr>
<td>Obama leading Public Opinion</td>
<td>1.93</td>
<td>2.81</td>
</tr>
<tr>
<td>Front Page leading McCain</td>
<td>2.48</td>
<td>0.88</td>
</tr>
<tr>
<td>Front Page leading Obama</td>
<td>2.10</td>
<td>0.92</td>
</tr>
<tr>
<td>Front Page leading Campaign Coverage</td>
<td>1.26</td>
<td>0.75</td>
</tr>
<tr>
<td>Front Page leading McCain’s Contributors</td>
<td>9.27**</td>
<td>5.08*</td>
</tr>
<tr>
<td>Front Page leading Obama’s Contributors</td>
<td>0.09</td>
<td>9.04**</td>
</tr>
<tr>
<td>Front Page leading Public Opinion</td>
<td>1.20</td>
<td>0.08</td>
</tr>
<tr>
<td>Campaign Coverage leading McCain</td>
<td>10.65***</td>
<td>14.49***</td>
</tr>
<tr>
<td>Campaign Coverage leading Obama</td>
<td>17.15***</td>
<td>0.25</td>
</tr>
<tr>
<td>Campaign Coverage leading Front Page</td>
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<td>0.07</td>
</tr>
<tr>
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<td>0.80</td>
</tr>
<tr>
<td>Campaign Coverage leading Obama’s Cont.</td>
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<td>1.12</td>
</tr>
<tr>
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<td>2.41</td>
</tr>
<tr>
<td>McCain’s Contributors leading McCain</td>
<td>0.68</td>
<td>1.27</td>
</tr>
<tr>
<td>McCain’s Contributors leading Obama</td>
<td>1.01</td>
<td>3.60</td>
</tr>
<tr>
<td>McCain’s Contributors leading Front Page</td>
<td>1.09</td>
<td>1.67</td>
</tr>
<tr>
<td>McCain’s Contributors leading Camp. Coverage</td>
<td>2.09</td>
<td>0.10</td>
</tr>
<tr>
<td>McCain’s Contributors leading Obama’s Cont.</td>
<td>5.34*</td>
<td>1.27</td>
</tr>
<tr>
<td>McCain’s Contributors leading Public Opinion</td>
<td>1.79</td>
<td>1.85</td>
</tr>
<tr>
<td>Obama’s Contributors leading McCain</td>
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<td>0.62</td>
</tr>
<tr>
<td>Obama’s Contributors leading Obama</td>
<td>0.70</td>
<td>5.25*</td>
</tr>
<tr>
<td>Obama’s Contributors leading Front Page</td>
<td>3.82</td>
<td>3.90</td>
</tr>
<tr>
<td>Obama’s Contributors leading Camp. Coverage</td>
<td>1.03</td>
<td>12.04***</td>
</tr>
<tr>
<td>Obama’s Contributors leading McCain’s Cont.</td>
<td>3.50</td>
<td>1.94</td>
</tr>
<tr>
<td>Obama’s Contributors leading Public Opinion</td>
<td>1.22</td>
<td>5.58*</td>
</tr>
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<td>Public Opinion leading McCain</td>
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<td>0.16</td>
</tr>
<tr>
<td>Public Opinion leading Obama</td>
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<td>14.87***</td>
</tr>
<tr>
<td>Public Opinion leading Front Page</td>
<td>0.60</td>
<td>1.06</td>
</tr>
<tr>
<td>Public Opinion leading Campaign Coverage</td>
<td>2.69</td>
<td>3.02</td>
</tr>
<tr>
<td>Public Opinion leading McCain’s Contributors</td>
<td>3.03</td>
<td>1.96</td>
</tr>
<tr>
<td>Public Opinion leading Obama’s Contributors</td>
<td>0.62</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Note: * p<0.10; ** p<0.05; *** p<0.01. Values reported are chi-squared statistics. Significant coefficients represent Granger-causality. N = 309 for all issue areas.
Looking across all four issues, these results offer marginal support for DBT and the hypotheses implied by it. The top two issues of the campaign, macroeconomics and defense, exhibit a high degree of insulation from external stimuli, as only seven of the 24 possible actor-issue pairings are found to be significant, of which three are at only the marginal (0.10) level. For issues related to energy and health policy, I find an increased number of cases where a shift one actor’s attention Granger-causes shifts in candidate attention. Specifically, there are five significant predictors of candidate attention. Although this does not offer the type of notable increase in openness to outside influence that the Lower Salience Focus hypothesis might suggest, the fact that there were an increased number of significant predictors in conjunction with their source, the campaign coverage, offer some support to DBT.

**Shocks and Ripples Part Two**

Just as was the case with the analyses of the 2004 campaign, the Granger-causality tests only offer part of the story with regard to the results of the VAR models. Again following the template I set forth in Chapter Five, I proceed by examining the Impulse Response Functions (IRFs) that correspond with the causal orderings proposed in Table 6.1. In each case I once again “shock” the attention of a particular actor on a given issue, then observe the way the other actors alter their attention in response.

Figure 6.1 offers a graphical representation of the IRFs for attention to macroeconomics using the causal ordering listed in the first row of Table 6.1. The first point of note is the overwhelming lack of significant effects across almost all of the possible shocks. Even when looking at the diagonal elements, I find a lack of significant responses
for both candidates’ contributors and the public. McCain appears to respond to shocks in Obama’s and his own attention to the issue. Obama exhibits a mirrored pattern of responses, reacting only to shifts in McCain’s and his own attention. Beyond this direct interaction between the candidates, neither McCain nor Obama exhibit a significant response to stimuli from the media, the public, or their contributors. In a similar vein, shocks to the other actors are largely inconsequential, with the only significant responses appearing on the diagonal for the front page and campaign coverage.

Figure 6.1 - IRF Simulations for Attention to Macroeconomics:
Causal Ordering: McCain - Obama - Campaign Coverage

(a) Sen. McCain, (b) McCain’s Contributions, (c) Sen. Obama, (d) Obama’s Contributions, (e) Front Page, (f) Campaign coverage, (g) Public Opinion

142 Recall that the diagonal elements of the IRF matrix are the effects of a shock in attention from an actor to itself. In other words, the upper-left most IRF simulation reports how McCain’s attention would shift in response to a shock in McCain’s attention. Given that the VAR diagnostics identified two lags to be the appropriate structure to include in the model, significant effects in the diagonal are unsurprising.
Yet, it is important to consider these results are for only one of six causal orderings applied to the issue. Using a slightly different causal ordering, Figure 6.2 offers a slightly different set of simulated results. Having changed the ordering, we now observe some additional significant responses to shocks in attention. There are now seven responses in the matrix that achieve significance. Specifically, McCain responds to shocks in both his own and Obama’s attention while Obama does not reciprocate, only exhibiting a marked response following a shock in his own attention. Yet, Obama’s influence in this causal ordering extends beyond the immediate debate between the candidates, as a shock to Obama’s attention also yields a significant response in the campaign coverage of the issue.

**Figure 6.2 - IRF Simulations for Attention to Macroeconomics**

Causal Ordering: Obama - McCain - Campaign Coverage

(a) (b) (c) (d) (e) (f) (g)

(a) Sen. McCain, (b) McCain’s Contributions, (c) Sen. Obama, (d) Obama’s Contributions, (e) Front Page, (f) Campaign Coverage, (g) Public Opinion
Just as in Chapter Five, there are far too many IRF simulations to address in an individual fashion. Indeed, with six causal orderings even an examination of the top two issues and two mid-tier issues would yield a total of more than 1,100 IRFs to be examined. To streamline the process, I once again compiled tables that summarize the number of significant effects across the IRFs for all six different causal orderings for attention to the four issue areas of interest – macroeconomics, defense, energy, and health. These results are presented in Tables 6.4 through 6.7 with each cell reporting the number of significant simulated effects given each respective shock. Thus, each table offers a 7x7 matrix of simulations in each table but each cell has a maximum of six possible significant effects.

<table>
<thead>
<tr>
<th>Shock</th>
<th>McCain</th>
<th>Obama</th>
<th>FP</th>
<th>CC</th>
<th>M. Cont</th>
<th>O. Cont</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCain</td>
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<td>3</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Obama</td>
<td>2</td>
<td>6</td>
<td>3</td>
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</tr>
<tr>
<td>FP</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>CC</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>M. Cont</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>O. Cont</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>2</td>
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<td>6</td>
</tr>
</tbody>
</table>

Note: Values reported measure the number of significant effects reported through simulations of the six causal orderings discussed earlier in the chapter. Each cell has a maximum possible value of six. Effects are considered significant if they exhibit a significant effect (error bounds exclude 0 at some point in the first 7 days) in IRFs. FP denotes New York Times front page, CC denotes New York Times campaign coverage, M. Cont denotes McCain’s Contributors, O. Cont denotes Obama’s Contributors.

In Table 6.4, I present the IRF simulations across all six causal orderings for macroeconomics, including the two offered graphically in Figures 6.1 and 6.2. Similar to the figures, we once again observe a large number of significant effects in the diagonal with each cell reporting the maximum number of significant responses across all the causal
More telling, however, are the numbers of significant effects revealed in the surrounding cells, namely, the six significant effects on McCain’s attention and the seven effects on Obama’s attention. In line with the Granger-causality tests, I once again find Obama to be the more responsive candidate, as shocks to McCain’s attention produce marked reactions from Obama in half of the causal orderings, one more than McCain’s responses to shocks from Obama. When compared with the 2004 campaign, the candidates are relatively more open to outside influence on the top issue; however, they again demonstrate a high level of insulation to influence on the top issue of the campaign.

Table 6.5 – Number of Significant Effects across IRF Simulations for Defense

<table>
<thead>
<tr>
<th>Shock</th>
<th>McCain</th>
<th>Obama</th>
<th>FP</th>
<th>CC</th>
<th>M. Cont</th>
<th>O. Cont</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCain</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Obama</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>FP</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CC</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>M. Cont</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>O. Cont</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Public</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Values reported measure the number of significant effects reported through simulations of the six causal orderings discussed earlier in the chapter. Each cell has a maximum possible value of six. Effects are considered significant if they exhibit a significant effect (error bounds exclude 0 at some point in the first 7 days) in IRFs. FP denotes *New York Times* front page, CC denotes *New York Times* campaign coverage, M. Cont denotes McCain’s Contributors, O. Cont denotes Obama’s Contributors.

Turning our attention to the second largest issue of the campaign, Table 6.5 reveals that candidate attention to defense exhibits considerably more numerous and consistent

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143 This is an intriguing finding given that the graphical presentation of the data made it appear as though shocks to the candidates’ respective contributors or public opinion did not produce any significant responses, even in their own patterns of attention. However, as these tables were compiled using the raw estimated effects and their confidence intervals, I discover that the actors’ responses are, in fact, significant, despite their appearance in Figures 6.1 and 6.2. Likely, the magnitude of these estimated effects are very small; however, as the confidence intervals are also very small, significance is still achieved.
outside influence. For this issue we see Obama and McCain juxtaposed, with McCain now playing the highly reactive role with 15 significant effects in response to shocks to the other actors. Among those responses, the most consistent outside influence stems from McCain’s contributions, where his response achieves significance in five of the six possible causal orderings. Obama’s attention comes in a close second with four significant effects on McCain’s attention. Yet, Obama is still more susceptible to outside forces for the issue than he was for macroeconomics, exhibiting 13 significant responses. Notably, shocks to McCain’s campaign contributors in the area of defense once again yield five significant responses from Obama. In comparison, shocks to Obama’s contributions fail to exert any influence over the attention of any of the other actors.

Table 6.6 – Number of Significant Effects across IRF Simulations for Energy

<table>
<thead>
<tr>
<th>Shock</th>
<th>McCain</th>
<th>Obama</th>
<th>FP</th>
<th>CC</th>
<th>M. Cont</th>
<th>O. Cont</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCain</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Obama</td>
<td>4</td>
<td>6</td>
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<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>FP</td>
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<td>4</td>
<td>6</td>
<td>2</td>
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<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CC</td>
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<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>M. Cont</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>O. Cont</td>
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<td>1</td>
<td>2</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Public</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Values reported measure the number of significant effects reported through simulations of the six causal orderings discussed earlier in the chapter. Each cell has a maximum possible value of six. Effects are considered significant if they exhibit a significant effect (error bounds exclude 0 at some point in the first 7 days) in IRFs. FP denotes *New York Times* front page, CC denotes *New York Times* campaign coverage, M. Cont denotes McCain’s Contributors, O. Cont denotes Obama’s Contributors.

Table 6.6 reports the cumulative IRF simulations of the VAR models for attention to energy. Whereas DBT suggests that outside influence will be more prevalent and consistent for issues of lower salience, in comparison to defense, outside influence on candidate attention occurs at roughly the same rate. McCain’s attention shifts markedly in
response to shocks to Obama's attention, the front page, Obama's contributions, and public opinion for the issue. Among these effects, shocks to Obama, Obama's contributions and the front page all occur with moderate consistency, occurring in four of the six possible causal orderings. Obama also appears to react with a comparable frequency, showing significant responses to 11 of the 42 possible shocks. Stated otherwise, Obama’s attention to energy is significantly affected by roughly one out of every four possible shocks with the most consistent influence coming from changes in McCain’s and the front page’s attention to the issue.

Table 6.7 – Number of Significant Effects across IRF Simulations for Health

<table>
<thead>
<tr>
<th>Shock</th>
<th>McCain</th>
<th>Obama</th>
<th>FP</th>
<th>CC</th>
<th>M. Cont</th>
<th>O. Cont</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCain</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Obama</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>FP</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CC</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>6</td>
<td>0</td>
<td>0</td>
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<tr>
<td>M. Cont</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>O. Cont</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
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<td>6</td>
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<tr>
<td>Public</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Values reported measure the number of significant effects reported through simulations of the six causal orderings discussed earlier in the chapter. Each cell has a maximum possible value of six. Effects are considered significant if they exhibit a significant effect (error bounds exclude 0 at some point in the first 7 days) in IRFs. FP denotes New York Times front page, CC denotes New York Times campaign coverage, M. Cont denotes McCain’s Contributors, O. Cont denotes Obama’s Contributors.

Table 6.7 reports the IRF simulation results for the issue of health. As the issue with the lowest salience of the four examined here, the Lower Salience Focus hypothesis suggests that this issue should have the most frequent and consistent levels of outside influence on candidate attention. However, I find candidate attention to health related issues to be a highly insulated, second only to macroeconomics, the top issue of the campaign. Each candidate displays a considerable resistance to outside influence, with
both McCain and Obama each exhibiting eight significant effects. Among those eight marked reactions, none of the sources are consistent for McCain, with shocks to Obama, the front page, and Obama’s contributions only producing sizable responses in one-third of the causal orderings. For Obama the outside influence is slightly more consistent, with shifts in McCain’s attention and Obama’s contributions producing responses from Obama in three of the six possible orderings.

Whereas DBT offers the clearest expectations with regard to the candidates, as indicated by my prominent placement of the campaign coverage in the causal orderings, the media have a considerable potential to play an agenda-setting role. The Granger-causality tests offer some evidence in support of this with the campaign coverage being found as a significant predictor of candidate attention to the two lower salience issues. Yet, media influence on candidate attention is far more sporadic for the top issues. Turning my attention to the IRFs, I once again find mixed support for the agenda-setting abilities of the media. For each of the four issues examined there are at least a few significant effects from media coverage on candidate attention; however, the effects indicate a considerable level of inconsistency in the candidates’ reactions to spikes in media coverage. Further, the strongest source of media influence does not come from where I expect. With the exception of defense policy, the front page coverage is a stronger predictor of candidate attention and produces more significant effects than the coverage of the presidential campaign.

Discussion

The 2008 presidential campaign was a historic election, marking both the first election of an African-American presidential candidate and the first open-seat presidential race since the 1950s. In addition to these facts, the race offers some of the most overt
agenda-setting efforts by the candidates in modern presidential campaigns with both candidates stressing noticeably different strengths and issues over the course of the campaign. Unlike its immediate predecessor, the election was not pre-defined around a single issue, with the most prominent issue, the economy, not taking center stage until later in the race when the dominoes of the economic crisis began to fall. Yet, many questions remain regarding how successful the candidates were in affecting their opponents’ attention and the campaign agenda as a whole.

So, having conducted an empirical examination of the dynamics of candidate attention and the agenda-setting efforts of the 2008 campaign, what can we now conclude about the race and presidential agenda-setting more generally? Through the combination of Granger-tests and impulse response function simulations I find partial evidence for my Double Bottleneck Theory in the 2008 presidential campaign. More specifically, I find mixed support for the Top Issue Focus hypothesis, as the candidates display a solid resistance to outside influence for macroeconomics, the top issue of the campaign. Yet, outside influence is considerably more prevalent and consistent for defense policy, the second most prominent issue area of the campaign. This result is surprising, as the Top Issue Focus hypothesis posits that the issues that the candidates choose as their top priorities will both receive the most attention and be the most insulated from outside influence. Yet, counter to this expectation, both candidates exhibit effects from shocks to several of the outside actors that are more in line with the mid-tier issues.

The Lower Salience Focus hypothesis is also partially supported by my findings, as once again one issue follows expectations while the other defies them. Specifically, candidate attention to energy policy is easily the most susceptible to outside forces as the Granger-causality tests and IRFs demonstrate the ability of the opposing candidates,
media,\textsuperscript{144} campaign contributors, and the public to affect candidate attention. Further, the other issues also offer some indication of outside influence, for energy policy, these marked responses to shocks in the other actors’ patterns of attention are more consistent than any other issue. Yet, counter to the agenda-setting effects evident in energy policy, the other mid-tier issue, health policy, is actually highly insulated, second only to the top issue of the campaign. This is counter to expectations as lower priority issues are less likely to receive candidate attention to begin with, resulting in lower levels of knowledge on these issues and an increased likelihood that some spike in news coverage or public opinion would precipitate a response.

Given these results, I find moderate support for the hypotheses put forth by DBT. But to what degree do we observe agenda-setting during the 2008 presidential campaign? As I suggest above, the context behind the campaign in conjunction with the disparate issue priorities of the two candidates provide ideal conditions for successful acts of agenda-setting to take place. To this end, I find evidence that the two candidates, more so than in 2004, were able to significantly affect the agenda of their opponents. Specifically, shocks to McCain’s attention produces significant responses in Obama’s attention in at least half of the causal orderings across all four of the issues examined here. Similarly, spikes in Obama’s attention are consistently able to produce significant shifts in McCain’s attention, although admittedly in fewer of the orderings than McCain. Thus, it would be a fair point to suggest that both candidates are able to successfully set their opponent’s agenda, although McCain appears to be more successful in his efforts as a whole. So, while McCain’s call to suspend his campaign might have proven unsuccessful, he appears to have been able to frequently force Obama’s attention to the issues of his choosing.

\textsuperscript{144} By media I mean both the front page and campaign coverage.
Chapter Seven
It’s Not Just the Economy Stupid

In presidential campaigns, attention is finite, time is scarce, and the ability to set the campaign agenda can make the difference between winning and losing. After all, presidential campaigns permeate the news cycle by soaking up considerable amounts of ink on the front page and precious seconds of airtime on television news. Further, they dominate the public's political consciousness for years, in many regards starting fresh only hours after each election is complete. As dictated by current events, several issues will typically receive attention at any given point in time, but the candidate who is able to shift attention toward his favored issues will often reap significant benefits through increases in the awareness of the issue, campaign contributions, and the issue’s salience among the voting public. To this end, the candidate that is the most adept at affecting how much attention his favored issues receive should make the transition from candidate to president-elect.

In the two examples I offer in Chapter One, those of Clinton’s economy mantra and McCain’s failed campaign suspension, the latter appears to be much more frequent. But if agenda-setting can play such a critical role in determining the outcome, why do we observe so few cases where one candidate is able to direct the campaign agenda? In the work presented above, I offer an in-depth empirical analysis of presidential candidate attention during the 2004 and 2008 campaigns. I propose a new Double Bottleneck Theory to explain not only how candidate attention will shift over time, but also the degree to which candidates are affected by the campaign environment ranging from their opponents to which issues the public view as being important. Yet, through all the analyses of agenda-setting I perform, a central theme emerges. Successful efforts to affect the campaign
agenda are frequent, although inconsistent, but they almost always lack the significance or magnitude to completely set the agenda.

**Chapter Summary**

I began my analysis with several examples from the 2008 and 1992 presidential campaigns where one candidate attempted to alter the campaign agenda in his favor. These examples offer a glimpse of how these interactions between candidates play out in reality and demonstrate the importance of agenda-setting in determining the outcome of the race. But from a more conceptual standpoint, I detail the role of presidential candidate issue attention during a campaign in determining future policies, giving a justification for why we should seek to further understand the nuances of attention and agenda-setting in presidential campaigns.

In Chapter Two, I explore the existing Issue Ownership and Issue Convergence theories of candidate attention, revealing that these theories offer useful insights while failing to account for the dynamics of a campaign. To address this issue, I use the existing literatures on policy change to incorporate the limitations imposed by finite attention into a larger theory of candidate attention dynamics, my Double Bottleneck Theory. I argue candidate attention is limited by at least one of two possible forces: the limited ability of the public to process political information and the simple human nature constraints that reduce presidential candidates into serial processors of information. These bottlenecks, I posit, restrict the number of issues a candidate is capable or willing to address. Further, the reality that candidate attention is finite has implications for how candidates prioritize issues and the degree to which outside actors are capable of influencing their agendas. Specifically, I argue candidate attention to the top two issues, as the primary focus of the
candidates’ efforts and expertise, will be largely insulated from other actors’ efforts to direct the agenda; however, as the salience of the issue declines, the frequency and consistency of external influence should increase.

In Chapter Three, I provide an in-depth overview of the extensive data collection process that underlies these analyses. As previous theories of candidate attention are largely static and examine elections as cross-sectional events, it is necessary to compile new, dynamic data that record the attention of presidential candidates and other actors over the course of presidential campaigns. Specifically, I engage in a significant data collection process, including the location, collection, and coding of almost 250,000 candidate speech-sentences, spanning more than 1,400 campaign speeches; approximately 15,000 newspaper stories, looking across both the front page and campaign coverage of the New York Times; 24 separate Gallup opinion polls; and more than one million campaign contribution filing reports, covering more than $1.5 billion in campaign funds.

Chapter Four marks the first empirical examination of the expectations that extend from my Double Bottleneck Theory of candidate attention dynamics. More specifically, I evaluate the two bottlenecks that discern whether candidate attention is finite. Through an examination of the scope of candidate attention, I find that candidates typically focus their attention primarily on three-or-fewer issues, suggesting that they make a conscious effort to restrict their agenda. I argue this active restriction of their issue agendas is evidence that the candidates recognize the public’s limited interest and ability to process political information, offering support for the public bottleneck of candidate attention. I next test the candidate bottleneck hypothesis through an examination of changes in candidate attention for each issue area over the course of the campaign. I find the distributions of changes in attention are highly leptokurtic, suggesting that candidates
exhibit the same disproportionate information processing as other government actors that have been identified as having limited attention (Jones and Baumgartner 2005).

Having provided evidence indicating that presidential candidate attention is finite, in Chapter Five I turn my attention to the wartime election of 2004. I propose a model of candidate attention to evaluate the degree to which other actors close to the campaign are able to affect the candidates’ agendas. I find support for both the Top Issue Focus and Lower Salience Focus hypotheses through a series of Granger-causality tests and Impulse Response Function (IRF) simulations across six different causal orderings. Simply put, for the top two issues of the day, defense and macroeconomics, the candidates operate almost as though they were in a vacuum. Instances of outside influence are few and the ability of any actor to affect candidate attention is inconsistent at best, including the efforts of their opponents. As the salience of the issue declines, as is the case for education and foreign affairs in 2004, the candidates appear to lower their guard, creating the opportunity for spikes in attention to the issue from outside actors to significantly increase or decrease the importance the candidates place on the issue. These instances occur with greater frequency and consistency as the candidates value the issues less and less.

In Chapter Six, I extend my analyses of agenda-setting in presidential campaigns by examining the determinants of candidate attention in the 2008 campaign. Highlighted by two candidates engaged in a heated battle for the first “open seat” presidential election in 56 years and the first nomination of an African American as a major party candidate, the election became one defined by disparate agendas and a battle over which issues should receive attention. Obama, seeking to offer a strong alternative to the exiting President George W. Bush, emphasized his desire to change Washington politics, to bring change and compromise to a broken system while also improving the availability of healthcare,
resolving the economic crisis in a level-headed manner, increasing access to education, and spurring growth in domestic commerce. Conversely, McCain sought to walk a narrow road, distancing himself from his highly unpopular predecessor while also stressing an agenda that would be conservative enough to appease the Republican Party as a whole. As a result, McCain chose to emphasize his experience in government, his ability to be a quality commander in chief (and other defense issues), how to address the struggling economy while maintaining a low level of government impact, and the need for American energy independence. These conflicting issue priorities produced a complex agenda with a hodgepodge of different issues receiving attention from the candidates.

Using the same basic model, I once again test my Double Bottleneck Theory, finding only mixed support for both the Top Issue Focus and Lower Salience Focus hypotheses. While candidate attention to the top issue of the race, the economy, appears to be quite insulated the second highest priority issue, defense, is marked with a considerable amount of outside influence. Similarly, among the lower salience issues of energy and health, one issue appears to be highly shielded from influence while the other is much more susceptible. These mixed results, however, are not entirely condemning, as the context surrounding the 2008 campaign made it more likely to exhibit significant instances of agenda-setting. To the extent this was the case, I find McCain was more frequently and consistently able to affect Obama’s attention than vice-versa; yet, these efforts were only successful to a degree, ultimately not redefining the campaign agenda enough for McCain to secure the victory.
Limitations and Extensions

One critical component of any piece of quality research is the ability to recognize its limitations. To this end, while I may offer one of the most thorough examinations of campaign agenda-setting and candidate attention dynamics to date, there are a number of things that are excluded from these analyses. First, I recognize that candidate speeches are not the ideal measure of candidate attention in a world where campaigns utilize an ever-changing set of technology and tactics to reach voters (Burton & Shea 2010). Ideally candidate advertising, direct mailings, and online outreach efforts can be incorporated into a more comprehensive measure of the campaign’s attention. This is not to say that my measure of attention is insufficient, but rather to suggest that future research seek to identify ways to record how attention is spread across the variety of mediums that presidential candidates and their campaigns employ.

Second, I note that these analyses only scratch the surface of the information contained in the candidate speeches. Whereas I have classified the speech-sentences into their major issue areas, I have chosen to omit the more nuanced information regarding how the issues were framed or even any record of the tone being used when referring to the issue. It would be possible to examine exactly these things in future research without too much additional work given these data.

Third, the scope of these analyses is limited to the ways in which presidential candidates attempt to influence and are influenced by the attention of other actors within the contexts of the 2004 and 2008 presidential campaigns. To this end, while I have no reason to believe my Double Bottleneck Theory would not extend beyond these immediate circumstances, I am hesitant to generalize too broadly to Congressional, gubernatorial, or
races at any other level. However, I have no reason to believe my theory or results should not apply to additional presidential elections.

Having conducted the analyses detailed in the Chapter Summary above, what then can be said for future research on presidential campaign agenda-setting? At current I am engaged in the process of compiling data from the 2012 campaign to extend these analyses to include yet another election year. In addition, it is my intent to examine these data through an even finer lens to examine the tone of campaigns and whether or not the tone of the campaign shifts in response to changing poll standing. Further, these data provide an ample opportunity to pair with a measure of presidential attention to explore the degree to which campaign attention and promises translate into activity from the newly elected, or re-elected, president. These projects barely scratch the surface of the data and the potential for future research into both presidential campaign agenda-setting and its implications beyond election season.

**Evaluating Agenda-Setting in Presidential Campaigns**

The goals of this dissertation were three-fold. First, I sought to better define which issues defined the 2004 and 2008 presidential campaigns. Further, by examining the entire distribution of candidate attention over-time, I wanted to offer a more complete picture of what comprises the campaign agenda on any given day of the race. Second, it was my goal to build upon existing theories of candidate attention to both offer and test a broader theory of candidate attention dynamics that would explain not only which issues candidates address, but how their attention to those issues would change over time. Third, I wanted to discern the degree to which the never-ending efforts of the candidates and other actors to set the agenda of the campaign, or a given candidate, were successful.
With respect to the first goal, I find both races to be largely focused on the same two issues, the economy and defense policy. This is unsurprising as 2004 has been characterized as a referendum on the wars in Iraq and Afghanistan (Abramson et al. 2006, 2007; Malhotra & Krosnik 2007; Norpoth & Sidman 2007; Weisburg 2007; Wayne 2004) while the 2008 election was defined by the economic crisis that arose in mid-September 2008 (Kenski et al. 2010; Crotty 2009a, 2009b; Linn et al. 2009; Jamieson 2009). Yet, as I find in Chapter Four, while the majority of candidate attention is focused on a small subset of issues (roughly three) at any given point in time – this means that other issues beyond the most important are also receiving attention.

So what are these issues? For 2004 the candidates had a largely shared agenda space, addressing nearly identical sets of issues. More specifically, the candidates dedicated more than five percent of their time to talk about health policy; the daily operations of the federal government; improving education, with a particular emphasis on the availability of college; the administration of foreign affairs, focusing on the manner in which the Bush administration had treated our allies since taking office in 2000; the maintenance of law and order, including the selection of justices to the Supreme Court; and issues pertaining to civil rights. Yet, across this wealth of issues the candidates allocated remarkably similar levels of attention to each one, with the difference in attention being less than five percent for every issue with an average difference of only 0.08 percentage-points of attention.

The 2008 election offers a very different portrait of candidate attention, with both candidates adopting much more distinct subsets of issues. In particular, the 2008 campaign was characterized primarily by the economy, but also featured sizable debates over the candidates’ respective qualifications to serve as Commander-in-Chief, with a McCain claiming the stronger role as a decorated Vietnam veteran; both candidates
appealing to the public that they will break from party lines and end gridlock in
Washington; how the United States should best seek to achieve energy independence; the
extension of healthcare benefits to more than 50 million uninsured Americans; various
topics involving foreign affairs ranging from reopening discussions with Cuba to taking
steps toward repairing ties with foreign nations; improving access and quality of education,
with a focus on fixing No Child Left Behind; and the improvement of small business
ownership and domestic commerce via tax credits for companies that hire U.S. workers.  As
each of these topics was the subject of debate, they received attention from both candidates;
however, unlike the 2004 campaign, many of the issues received lop-sided amounts of
attention from only one candidate.  For instance, McCain allocated ten percentage-points
more attention to defense policy than Obama, who allocated approximately five percentage-
points more attention to both the economy and education.  Examined across all these
issues, the average difference in candidate attention appears deceptively small at 0.45
percentage-points; yet, this is still roughly six-times as large as in 2004.

With the goal of building upon existing theories of candidate attention, the debate
between Issue Ownership and Issue Convergence theories took center stage.  On the one
hand both theories present arguments regarding how candidates will distribute their
attention across a population of issues; yet, on the other, neither theory is explicitly
designed to be dynamic.  Further, neither theories address the reality that candidate
attention is finite and the implications of this reality on a candidate’s decision for how to
allocate their attention.  To address these issues, I propose a new Double Bottleneck Theory
of candidate attention dynamics that incorporates both the restrictions on candidate
attention with the existing expectations from the Issue Ownership and Issue Convergence
theories.  Specifically, I posit that candidate attention is limited, either as a function of the
public’s inability to process political information or the candidates’ own narrow experience, expertise, or interests. I argue finite attention has implications for how candidates process and the degree to which they are affected by external efforts to shape their agendas. Namely, candidates prioritize their issues and are resistant to outside pressures for their top issues, as they possess the expertise and allocate the attention needed to be well suited to address critiques and rebuff efforts to alter attention. For issues that candidates do not emphasize, they are often lacking in familiarity and can be caught off guard, allowing for outside stimuli to cause a spike in attention.

The process of testing my Double Bottleneck Theory of candidate attention was the expressed goal of Chapters Four through Six, which contain a variety of analyses that examine the different components of the theory in a serial fashion. As I detail above, I evaluate the underlying assumption that candidate attention is finite by examining the scope of candidate attention and the patterns of changes in attention. In both cases I find evidence that suggests candidate attention is restricted, regardless of the source. I then proceed to test the more specific expectations of my theory with respect to how candidates prioritize issues and how open their attention is to influence. To this end, I propose a model for candidate attention and using vector autoregression examine how the respective patterns of attention for each candidate are affected by their opponents, the media, the public, and each candidate’s contributions. I find high levels of support for my hypotheses in 2004 and moderate levels of support in 2008. In particular, candidates appear to be highly insulated from outside influence for their top issues and are more susceptible as the importance they place on the issue declines, as the fourth and fifth most important issues of each election show more instances of significant responses to shocks in the attention of other actors in the campaign system.
With regard to my third goal and having conducted the analyses detailed above, what conclusions can then be drawn about agenda-setting in modern presidential campaigns? Or, more pointedly, how frequently are efforts to affect the candidates’ respective agendas successful? Whereas I preface my analyses with stories of Bill Clinton’s mythical economic election (The War Room 1993) and Riker’s (1986) retelling of the Lincoln-Douglas debates, I find the far more realistic agenda-setting event follows the path of McCain’s failed campaign suspension. To the extent that I find successful efforts to alter a candidate’s attention, they are inconsistent at best and even the candidates are largely unable to affect their opponents for the top issues of the campaign. As issues fall down a candidate’s priorities, they become far more likely to be affected by critiques from their opponents, surprise news stories, current events, shifting public opinion, or other forces. Much in the same way that Herman Cain and Governor Rick Perry stumbled in the Republican primaries of 2012 as I describe in Chapter Two, candidates are, for better or worse, human beings who are susceptible to the same lapses in memory as the rest of us. Further, for issues that simply fail to rank highly on their issue priorities, they will be less knowledgeable and possess less expertise, allowing outside information to force their hands into a response.

This in mind, it is clear that even in a presidential race, however inconsistent these outside effects might be, the campaign agenda is being affected every day. A wealth of related events take place with striking speed in a way that affects which issues candidates address and how much attention they allocate to them. Specifically, candidates respond to attacks from their opponents, newspaper articles catch candidates by surprise, campaign coverage reveals lows in a campaign that require responses, candidates “leak” stories to the press that alter coverage, candidates tailor statements to please contributors, and external
events stand poised to shift the entire system. The complexity of this system, as I discover, is further confounded by an important element that has eluded even the models I use in these analysis – choice. Candidates are free to choose which attacks to respond to and which to simply ignore. The result of this freedom is that outside influence, when possible, is highly inconsistent and difficult to predict.

As such, while I offer a new, broader theory of candidate attention dynamics that appears to hold through the 2004 and 2008 campaigns, I would argue that, ironically, more attention should be allocated to this vein of research. If the issues discussed in campaigns truly can affect not only the outcome of each race but also future campaigns and which policies are enacted following the election (Sulkin 2005, 2009, 2011), there is still much that needs to be explained about how candidates formulate their issue priorities and the different strategies they employ in efforts to affect their opponents’ agendas. Thus, while McCain’s grand show of suspending his campaign to combat the economic crisis might have failed to significantly alter Obama’s agenda, or the campaign agenda more generally, it did garner some attention from his opponent and the media. In turn, McCain has done us great service by illuminating the norm of presidential campaigns – agenda-setting is possible, but it is inconsistent.
Appendix A
The Policy Agendas Project Topic Coding Scheme

One the major challenges of analysis is to transform our variables in a way that allows them to be compatible with each other. Often this difficulty stems from the trying to match several disparate variables to a single unit of analysis, time-frame, or level of aggregation. As I describe in Chapter 3, much of the raw data for my analysis were readily available; however, in their raw form they were neither operationalized nor were they directly comparable. As such, I engaged in an extensive coding process in order to reduce from their raw text form into a set of daily measures of attention directed to specific issues.

Given the fact that some of my data sources were being drawn from the Policy Agendas Project, I chose to adopt their major topic coding scheme as a means of classifying my data into separate issue areas. The Policy Agendas Project has 21 major issue areas. They are as follows:

<table>
<thead>
<tr>
<th>Topic Code</th>
<th>Issue Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Macroeconomics</td>
</tr>
<tr>
<td>2</td>
<td>Civil Rights, Minority Issues, and Civil Liberties</td>
</tr>
<tr>
<td>3</td>
<td>Health</td>
</tr>
<tr>
<td>4</td>
<td>Agriculture</td>
</tr>
<tr>
<td>5</td>
<td>Labor, Employment, and Immigration</td>
</tr>
<tr>
<td>6</td>
<td>Education</td>
</tr>
<tr>
<td>7</td>
<td>Environment</td>
</tr>
<tr>
<td>8</td>
<td>Energy</td>
</tr>
<tr>
<td>10</td>
<td>Transportation</td>
</tr>
<tr>
<td>12</td>
<td>Law, Crime, and Family Issues</td>
</tr>
<tr>
<td>13</td>
<td>Social Welfare</td>
</tr>
<tr>
<td>14</td>
<td>Community Development and Housing Issues</td>
</tr>
<tr>
<td>15</td>
<td>Banking, Finance, and Domestic Commerce</td>
</tr>
<tr>
<td>16</td>
<td>Defense</td>
</tr>
<tr>
<td>17</td>
<td>Space, Science, Technology and Communications</td>
</tr>
<tr>
<td>18</td>
<td>Foreign Trade</td>
</tr>
<tr>
<td>19</td>
<td>International Affairs and Foreign Aid</td>
</tr>
<tr>
<td>20</td>
<td>Government Operations</td>
</tr>
<tr>
<td>21</td>
<td>Public Lands and Water Management</td>
</tr>
<tr>
<td>24</td>
<td>State and Local Government Administration</td>
</tr>
<tr>
<td>99</td>
<td>Miscellaneous</td>
</tr>
</tbody>
</table>

The following pages contain a breakdown of each of the 21 major issue areas with a listing of their sub-topic codes. These sub-topic codes were not applied to the majority of the data but they both identify and clarify the types of subject material that would result in a record being classified in each major issue area. Note the first two numbers of the sub-topic codes contain the major issue area code. As such, all codes with 16 as their first two digits are considered to be contained within the major code 16 for defense policy. All data
coded at the sub-topic level were aggregated in this fashion to allow for consistency in coding across all data.

The full Policy Agendas Project codebook is available at www.policyagendas.org.

**Topic Codes**

1. **Macroeconomics**
   - 100: General Domestic Macroeconomic Issues (includes combinations of multiple subtopics)
   - 101: Inflation, Prices, and Interest Rates
   - 103: Unemployment Rate
   - 104: Monetary Supply, Federal Reserve Board, and the Treasury
   - 105: National Budget and Debt
   - 107: Taxation, Tax policy, and Tax Reform
   - 108: Industrial Policy
   - 110: Price Control and Stabilization
   - 199: Other

2. **Civil Rights, Minority Issues, and Civil Liberties**
   - 200: General (includes combinations of multiple subtopics)
   - 201: Ethnic Minority and Racial Group Discrimination
   - 202: Gender and Sexual Orientation Discrimination
   - 204: Age Discrimination
   - 205: Handicap or Disease Discrimination
   - 206: Voting Rights, Participation, and Related Issues
   - 207: Freedom of Speech & Religion
   - 208: Right to Privacy and Access to Government Information
   - 209: Anti-Government Activities
   - 299: Other

3. **Health**
   - 300: General
   - 301: Comprehensive health care reform
   - 302: Insurance reform, availability, and cost
   - 321: Regulation of drug industry, medical devices, and clinical labs
   - 322: Facilities construction, regulation, and payments
   - 323: Provider and insurer payment and regulation
   - 324: Medical liability, fraud and abuse
   - 325: Health Manpower & Training
   - 331: Prevention, communicable diseases and health promotion
   - 332: Infants and children
   - 333: Mental illness and mental retardation
   - 334: Long-term care, home health, terminally ill, and rehabilitation services
   - 335: Prescription drug coverage and costs
   - 336: Other or multiple benefits and procedures
   - 341: Tobacco Abuse, Treatment, and Education
4. Agriculture
   - 400: General (includes combinations of multiple subtopics)
   - 401: Agricultural Trade
   - 402: Government Subsidies to Farmers and Ranchers, Agricultural Disaster Insurance
   - 403: Food Inspection and Safety (including seafood)
   - 404: Agricultural Marketing, Research, and Promotion
   - 405: Animal and Crop Disease and Pest Control
   - 498: Agricultural Research and Development
   - 499: Other

5. Labor, Employment, and Immigration
   - 500: General (includes combinations of multiple subtopics)
   - 501: Worker Safety and Protection, Occupational and Safety Health Administration (OSHA)
   - 502: Employment Training and Workforce Development
   - 503: Employee Benefits
   - 504: Employee Relations and Labor Unions
   - 505: Fair Labor Standards
   - 506: Youth Employment, Youth Job Corps Programs, and Child Labor
   - 508: Parental Leave and Child Care
   - 529: Migrant and Seasonal workers, Farm Labor Issues
   - 530: Immigration and Refugee Issues
   - 599: Other

6. Education
   - 600: General (includes combinations of multiple subtopics)
   - 601: Higher Education
   - 602: Elementary and Secondary Education
   - 603: Education of Underprivileged Students
   - 604: Vocational Education
   - 606: Special Education
   - 607: Educational Excellence
   - 609: Arts and Humanities
   - 698: Research and Development
   - 699: Other

7. Environment
   - 700: General (includes combinations of multiple subtopics)
   - 701: Drinking Water Safety
   - 703: Waste Disposal
8. Energy
   800: General (includes combinations of multiple subtopics)
   801: Nuclear Energy and Nuclear Regulatory Commission Issues
   802: Electricity and Hydroelectricity
   803: Natural Gas and Oil (Including Offshore Oil and Gas)
   805: Coal
   806: Alternative and Renewable Energy
   807: Energy Conservation
   898: Research and Development:
   899: Other

10. Transportation
    1000: General (includes combinations of multiple subtopics)
    1001: Mass Transportation and Safety
    1002: Highway Construction, Maintenance, and Safety
    1003: Airports, Airlines, Air Traffic Control and Safety
    1005: Railroad Transportation and Safety
    1006: Truck and Automobile Transportation and Safety
    1007: Maritime Issues, Including Safety and Security
    1010: Public Works (Infrastructure Development)
    1098: Research and Development
    1099: Other

12. Law, Crime, and Family Issues
    1200: General (includes combinations of multiple subtopics)
    1201: Executive Branch Agencies Dealing With Law and Crime
    1202: White Collar Crime and Organized Crime
    1203: Illegal Drug Production, Trafficking, and Control
    1204: Court Administration
    1205: Prisons
    1206: Juvenile Crime and the Juvenile Justice System
    1207: Child Abuse and Child Pornography
    1208: Family Issues
    1209: Police, Fire, and Weapons Control
    1210: Criminal and Civil Code
    1211: Riots, Crime Prevention, and Crime Control
    1299: Other
13. Social Welfare
  1300: General
  1301: Food Stamps, Food Assistance, and Nutrition Monitoring Programs
  1302: Poverty and Assistance for Low-Income Families and Individuals
  1303: Elderly Issues and Elderly Assistance Programs (Including Social Security Administration)
  1304: Assistance to the Disabled and Handicapped
  1305: Social Services and Volunteer Associations
  1399: Other

14. Community Development and Housing Issues
  1400: General
  1401: Housing and Community Development
  1403: Urban Economic Development and General Urban Issues
  1404: Rural Housing and FmHA Housing Assistance Programs
  1405: Rural Economic Development
  1406: Low and Middle Income Housing Programs and Needs
  1407: Veterans Housing Assistance and Military Housing Programs
  1408: Elderly and Handicapped Housing
  1409: Housing Assistance for Homeless and Homeless Issues
  1410: Secondary Mortgage Market
  1499: Other

15. Banking, Finance, and Domestic Commerce
  1500: General
  1501: U.S. Banking System and Financial Institution Regulation
  1502: Securities and Commodities Regulation
  1504: Consumer Finance, Mortgages, and Credit Cards
  1505: Insurance Regulation
  1507: Bankruptcy
  1520: Corporate Mergers, Antitrust Regulation, and Corporate Management Issues
  1521: Small Business Issues and the Small Business Administration
  1522: Copyrights and Patents
  1523: Domestic Disaster Relief
  1524: Tourism
  1525: Consumer Safety and Consumer Fraud
  1526: Sports and Gambling Regulation
  1599: Other

16. Defense
  1600: General
  1602: U.S. and Other Defense Alliances, U.S Security Assistance
  1603: Military Intelligence, CIA, Espionage
  1604: Military Readiness, Coordination of Armed Services Air Support and Sealift Capabilities, and National Stockpiles of Strategic Materials
  1605: Arms Control and Nuclear Nonproliferation
  1606: Military Aid and Weapons Sales to other Countries
1608: Manpower, Military Personnel and Dependents (Army, Navy, Air Force, Marines), Military Courts
1609: Veteran Affairs and Other Issues
1610: Military Procurement and Weapons System Acquisitions and Evaluation
1611: Military Installations, Construction, and Land Transfers
1612: National Guard and Reserve Affairs
1614: Military Nuclear and Hazardous Waste Disposal, Military Environmental Compliance
1615: Civil Defense & Homeland Security
1616: DOD Civilian Personnel, Civilian Employment by the Defense Industry, Military Base Closings
1617: Oversight of Defense Contracts and Contractors
1619: Direct War Related Issues and Foreign Operations
1620: Relief of Claims Against U.S. Military
1698: Research and Development
1699: Other

17. Space, Science, Technology and Communications
   1700: General
   1701: NASA, U.S. Government Use of Space, Space Exploration Agreements
   1704: Commercial Use of Space, Satellites
   1705: Science Technology Transfer, International Scientific Cooperation
   1706: Telephone and Telecommunication Regulation
   1707: Broadcast Industry Regulation (TV, Cable, Radio)
   1708: Weather Forecasting and Related Issues, NOAA, Oceanography
   1709: Computer Industry, Computer Security, and General Issues related to the Internet
   1798: Research and Development
   1799: Other

18. Foreign Trade
   1800: General
   1802: Trade Negotiations, Disputes, and Agreements
   1803: Export Promotion and Regulation, Export-Import Bank
   1804: International Private Business Investments, Overseas Private Investment Corporation (OPIC)
   1807: Tariff and Import Restrictions, Import Regulation
   1808: Exchange Rates and Related Issues
   1899: Other

19. International Affairs and Foreign Aid
   1900: General (Department of State and U.S. Information Agency appropriations)
   1901: U.S. Foreign Aid
   1902: International Resources Exploitation and Resources Agreement
   1905: Developing Countries Issues (for financial issues see 1906)
   1906: International Finance and Economic Development

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1907: China
1908: Soviet Union and Former Republics
1909: Eastern Europe
1910: Western Europe, Common Market Issues
1911: Africa
1912: South Africa
1914: Latin America (South America, Central America, Mexico, Caribbean Basin, Cuba)
1915: Panama Canal Issues and Other International Canal Issues
1919: Asia, Pacific Rim, Australia, and Japan
1920: Middle East
1925: Human Rights
1926: International Organizations other than Finance: United Nations (UN), UNESCO, International Red Cross
1927: Terrorism, Hijacking
1999: Other

20. Government Operations
2000: General (includes budget requests and appropriations for multiple departments and agencies)
2001: Intergovernmental Relations
2002: Government Efficiency and Bureaucratic Oversight
2003: Postal Service Issues (Including Mail Fraud)
2004: Government Employee Benefits, Civil Service Issues
2005: Nominations and Appointments
2006: Currency, Commemorative Coins, Medals, U.S. Mint
2007: Government Procurement, Procurement Fraud and Contractor Management
2008: Government Property Management
2009: IRS Administration
2010: Presidential Impeachment & Scandal
2011: Federal Government Branch Relations and Administrative Issues, Congressional Operations
2012: Regulation of Political Campaigns, Political Advertising, PAC regulation, Government Ethics
2013: Census
2014: District of Columbia Affairs
2015: Relief of Claims against the U.S. Government
2030: Federal Holidays
1999: Other

21. Public Lands and Water Management
2100: General
2101: National Parks, Memorials, Historic Sites, and Recreation
2102: Native American Affairs
2103: Natural Resources, Public Lands, and Forest Management
2104: Water Resources Development and Research
2105: U.S. Dependencies and Territorial Issues
2199: Other
Appendix B
Difference of Means Tests
Examining the Top Two and Two Mid-Tier Issues in 2004 and 2008

As explained in both Chapters 3 and 4, the candidate speech data record the levels of attention allocated to the 20 major issue areas from the start of each respective election year and run through Election Day. As such, a total of 307 days are included in 2004 (January 1 through November 2) and 309 in 2008 (January 1 through November 4). Yet, as Median Voter Theory (Holcombe 1989, Downs 1957, Page 1978) and the Moderation Hypothesis (Stone & Rapoport 1994) suggest, candidates at all levels benefit by moderating their positions when transitioning from the primaries to the general election (Southwell 2010; Lazarus 2005; Stone & Maisel 2003; Kenney & Rice 1988, 1987) leading one to argue that the issue agendas of candidates should change once they secure their party’s nomination. To test this expectation that the primary and general elections are markedly different, in this appendix I present a series of difference of means tests comparing the candidates’ respective levels of attention to the eight issues stressed in Chapters 4 through 6 between the primaries and general elections.

Table B1 – Difference of Means Tests for Candidate Attention in 2004

<table>
<thead>
<tr>
<th>Issue-Candidate</th>
<th>Primaries</th>
<th>General Election</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush – Defense</td>
<td>19.63</td>
<td>23.24</td>
<td>3.60*</td>
</tr>
<tr>
<td>Bush – Macroeconomics</td>
<td>8.15</td>
<td>9.61</td>
<td>1.46</td>
</tr>
<tr>
<td>Bush – Education</td>
<td>10.08</td>
<td>5.40</td>
<td>4.68***</td>
</tr>
<tr>
<td>Bush – Foreign Affairs</td>
<td>4.27</td>
<td>6.77</td>
<td>2.50**</td>
</tr>
<tr>
<td>Kerry – Defense</td>
<td>3.19</td>
<td>9.16</td>
<td>5.98***</td>
</tr>
<tr>
<td>Kerry – Macroeconomics</td>
<td>5.25</td>
<td>6.61</td>
<td>1.36</td>
</tr>
<tr>
<td>Kerry – Education</td>
<td>0.66</td>
<td>1.62</td>
<td>0.96***</td>
</tr>
<tr>
<td>Kerry – Foreign Affairs</td>
<td>1.31</td>
<td>1.22</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Note: * p<0.10; ** p<0.05; *** p<0.01. N=307. Values reported are the mean level of attention by the candidates. The primaries are coded as all days until both candidates have secured their respective party nominations. In this case, as Bush is the incumbent president, the primary period ended on February 3, when Kerry took a commanding lead over his competition and became the presumptive party nominee. As a result, there were 33 days of primary attention and 274 days of general election attention.

Perhaps the most glaring result from Table A1 is that for several issues there are significant differences in candidate attention between the primaries and general election. Specifically, the issues of defense and education receive significantly higher levels of attention from both candidates once the nominations were in place. Attention to foreign affairs also receives a considerable increase in attention from President Bush once Kerry secured his nomination and marked the start of the general election.
Yet, I would urge caution before we conclude that the primaries are markedly different from the general election, as two nuances of the 2004 campaign could result in these shifts in attention being misleading. First, President Bush was the incumbent president and did not have to endure the competitive primary process to secure his party’s nomination, meaning that his agenda may have been more loosely defined while his Democratic opponents fought amongst each other. Thus, as he was not actively campaigning as diligently or narrowly as Senator Kerry, it is possible that he was willing to stray from his more focused agenda before the official “start” of the race. Second, the sample size of primary attention is admittedly quite small, only covering 33 days from the start of the year through early February. While 33 observations are sufficient to discern whether the shift is sufficient, I am hesitant to conclude that the primaries are as dramatically different from the general election as these results would suggest.

Table B2 – Difference of Means Tests for Candidate Attention in 2008

<table>
<thead>
<tr>
<th>Issue-Candidate</th>
<th>Primaries</th>
<th>General Election</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCain – Macroeconomics</td>
<td>2.62</td>
<td>13.29</td>
<td>10.67***</td>
</tr>
<tr>
<td>McCain – Defense</td>
<td>6.54</td>
<td>10.50</td>
<td>3.96***</td>
</tr>
<tr>
<td>McCain – Energy</td>
<td>0.54</td>
<td>8.93</td>
<td>8.39***</td>
</tr>
<tr>
<td>McCain – Health</td>
<td>2.18</td>
<td>2.22</td>
<td>0.04</td>
</tr>
<tr>
<td>Obama – Macroeconomics</td>
<td>6.75</td>
<td>19.91</td>
<td>13.15***</td>
</tr>
<tr>
<td>Obama – Defense</td>
<td>5.98</td>
<td>6.67</td>
<td>0.69</td>
</tr>
<tr>
<td>Obama – Energy</td>
<td>1.53</td>
<td>4.85</td>
<td>3.32***</td>
</tr>
<tr>
<td>Obama – Health</td>
<td>2.58</td>
<td>5.04</td>
<td>2.46***</td>
</tr>
</tbody>
</table>

Note: * p<0.10; ** p<0.05; *** p<0.01. N=309. Values reported are the mean level of attention by the candidates. The primaries are coded as all days until both candidates have secured their respective party nominations. In this case, as the primary period ended on June 3, when Hillary Clinton conceded to Obama, allowing him to become the presumptive party nominee. As a result, there were 154 days of primary attention and 155 days of general election attention.

Looking at the 2008 campaign I again note several significant increases in candidate attention between the primaries and general election. The largest increase comes in attention to macroeconomics, which, unsurprisingly, is largely a product of the economic crisis that sparked in September.\textsuperscript{145} To that end, both candidates exhibit comparable spikes in attention, indicating the increase was the product of the external events, not a purposeful shift by one candidate over the other. Conversely, energy and health are two issues where the candidates have clearly made a choice to emphasize an area where they possess expertise or favorable ratings from the public. For energy the increase in McCain’s attention is roughly three-and-a-half times larger than Obama’s. Similarly, Obama’s general

\textsuperscript{145} This can be seen by the sudden increase in attention to macroeconomics that starts in September in Figure 4.14.
election attention to health is paired with an insignificant increase in McCain’s attention to the issue.

While the spikes do not appear in the same issue areas, these results suggest the findings in Table A1 are not simply a product of the 2004 campaign. Simply put, candidates appear to stress a considerably different agenda during primary season. Yet, this does not immediately suggest that the primaries should be excluded from my analyses as for many of the issues a significant increase in attention from the primary to general election by a candidate is met with a similar increase in attention from his opponent. This suggests that the nature of the debate in the general election may simply be different from the primaries in a way that both candidates must accommodate. Further, while the shifts are not symmetric, both candidates go through a similar transformation of their agendas as they circle and eventually engage one another for the presidency.
Appendix C
Additional IRF Simulations for 2004

In Chapter 5 summaries of the IRF simulations were reported in Tables 5.3 through 5.6. The simulations for the first two causal orderings for attention to defense were displayed graphically in Figures 5.1 and 5.2. However, there are six possible causal orderings for each issue area and the presentation of each set of simulations graphically is unnecessary. In this appendix I present the results of the other IRF simulations for each of the four issues addressed in the chapter. Results for the remaining 12 issue areas are available upon request to the author.

The graphs have a slightly different presentation from those presented in the chapter. The first difference is in the titles for the graphs which are in a more standardized format. They denote both the causal ordering and the issue area addressed. The causal orderings are listed in the following manner:

<table>
<thead>
<tr>
<th>Table C1 – Additional IRF Labeling and Causal Ordering Key</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Order Label</strong></td>
</tr>
<tr>
<td>FirstOrder</td>
</tr>
<tr>
<td>SecondOrder</td>
</tr>
<tr>
<td>ThirdOrder</td>
</tr>
<tr>
<td>FourthOrder</td>
</tr>
<tr>
<td>FifthOrder</td>
</tr>
<tr>
<td>SixthOrder</td>
</tr>
</tbody>
</table>

Note: Remember that for each causal ordering the remaining four variables remain fixed in the following order:
Front Page – Bush’s Contributors – Kerry’s Contributors – Public Opinion

In addition to the causal orderings, the titles include a number that defines which issue is being simulated. More specifically, the issues correspond to the following numbers:

<table>
<thead>
<tr>
<th>Table C2 – Additional IRF Issue Label Key</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issue Label</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>19</td>
</tr>
</tbody>
</table>

The second difference between the graphs presented here and in the chapter comes from the labeling of the shocks and responses. In the chapter the labels were adjusted to more clearly denote which actors’ attention was being shocked and which actor’s response is being simulated. The graphs presented here follow the
same ordering for presentation of the shocks and responses. However, in cases where it is unclear which actor is receiving the shock or which response is being simulated, each simulation includes a title that lists which variables receive the shocks and which responses are being examined. An example title reads as follows:

```
SixthOrder19, pctBushcont19, pctBushcont19
```

The first term is the title of the graph, which is explained above. The second term indicates which actor’s attention received the shock in the particular simulation. The third term states which actor’s attention is being simulated. The numbers in each term of the sub-graph titles follow the same definitions as those stated above. Each actor is represented using the following labels:

<table>
<thead>
<tr>
<th>Actor Label</th>
<th>Actor’s Attention</th>
</tr>
</thead>
<tbody>
<tr>
<td>pctbush</td>
<td>President Bush</td>
</tr>
<tr>
<td>pctkerry</td>
<td>Senator Kerry</td>
</tr>
<tr>
<td>pctfrontpage</td>
<td><em>New York Times’</em> Front Page</td>
</tr>
<tr>
<td>pctnytcc</td>
<td><em>New York Times’</em> Campaign Coverage</td>
</tr>
<tr>
<td>pctBushcont</td>
<td>Bush’s Contributors</td>
</tr>
<tr>
<td>pctKerrycont</td>
<td>Kerry’s Contributors</td>
</tr>
<tr>
<td>public</td>
<td>Public Opinion</td>
</tr>
</tbody>
</table>

Graphs are presented by in order of the total attention they received from both candidates. For 2004, defense was the top issue, followed by macroeconomics, with education and foreign affairs coming in as the fourth and fifth highest attention respectively. As such, the first two graphs are the less formatted versions of Figures 5.1 and 5.2.
Graphs by irfname, impulse variable, and response variable

ThirdOrder16

FourthOrder16
Macroeconomics

FirstOrder1

Shocks

Responses

SecondOrder1

Shocks

Responses
Graphs by irfname, impulse variable, and response variable:

ThirdOrder1, pctBushcont1

FourthOrder1, pctBushcont1

Shocks

Responses
Education

FirstOrder6

SecondOrder6

Shocks  Responses

Graphs by irfname, impulse variable, and response variable
Graphs by irfname, impulse variable, and response variable
ThirdOrder19, pctBushcont19, pctBushcont19ThirdOrder19, pctBushcont19, pctKerrycont19ThirdOrder19, pctBushcont19, ... pctBushcont19, pctkerry19ThirdOrder19, pctBushcont19, pctnytcc19ThirdOrder19, pctBushcont19, public19

FourthOrder19, pctBushcont19, pctBushcont19FourthOrder19, pctBushcont19, pctKerrycont19FourthOrder19, pctBushcont19, ... pctBushcont19, pctkerry19FourthOrder19, pctBushcont19, pctnytcc19FourthOrder19, pctBushcont19, public19

Graphs by irfname, impulse variable, and response variable
Graphs by irfname, impulse variable, and response variable

Shocks

Responses

FifthOrder19

SixthOrder19
Appendix D
Additional IRF Simulations for 2008

In Chapter 6 summaries of the IRF simulations were reported in Tables 6.3 through 6.6. The simulations for the first two causal orderings for attention to defense were displayed graphically in Figures 6.1 and 6.2. However, there are six possible causal orderings for each issue area and the presentation of each set of simulations graphically is unnecessary. In this appendix I present the results of the other IRF simulations for each of the four issues addressed in the chapter. Results for the remaining 12 issue areas are available upon request to the author.

The graphs have a slightly different presentation from those presented in the chapter. The first difference is in the titles for the graphs which are in a more standardized format. They denote both the causal ordering and the issue area addressed. The causal orderings are listed in the following manner:

<p>| Table D1 – Additional IRF Labeling and Causal Ordering Key |</p>
<table>
<thead>
<tr>
<th>Order Label</th>
<th>Causal Ordering</th>
</tr>
</thead>
<tbody>
<tr>
<td>FirstOrder</td>
<td>McCain – Obama – Campaign Coverage</td>
</tr>
<tr>
<td>SecondOrder</td>
<td>Obama – McCain – Campaign Coverage</td>
</tr>
<tr>
<td>ThirdOrder</td>
<td>McCain – Campaign Coverage – Obama</td>
</tr>
<tr>
<td>FourthOrder</td>
<td>Obama – Campaign Coverage – McCain</td>
</tr>
<tr>
<td>FifthOrder</td>
<td>Campaign Coverage – McCain – Obama</td>
</tr>
<tr>
<td>SixthOrder</td>
<td>Campaign Coverage – Obama – McCain</td>
</tr>
</tbody>
</table>

Note: Remember that for each causal ordering the remaining four variables remain fixed in the following order:
Front Page – McCain’s Contributors – Obama’s Contributors – Public Opinion

In addition to the causal orderings, the titles include a number that defines which issue is being simulated. More specifically, the issues correspond to the following numbers:

<p>| Table D2 – Additional IRF Issue Label Key |</p>
<table>
<thead>
<tr>
<th>Issue Label</th>
<th>Issue Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Macroeconomics</td>
</tr>
<tr>
<td>3</td>
<td>Health/Healthcare</td>
</tr>
<tr>
<td>8</td>
<td>Energy</td>
</tr>
<tr>
<td>16</td>
<td>Defense</td>
</tr>
</tbody>
</table>

The second difference between the graphs presented here and in the chapter comes from the labeling of the shocks and responses. In the chapter the labels were adjusted to more clearly denote which actors’ attention was being shocked and which actor’s response is being simulated. The graphs presented here follow the
same ordering for presentation of the shocks and responses. However, in cases
where it is unclear which actor is receiving the shock or which response is being
simulated, each simulation includes a title that lists which variables receive the
shocks and which responses are being examined. An example title reads as follows:

SixthOrder3, pctMcCaincont3, pctMcCain3

The first term is the title of the graph, which is explained above. The second term
indicates which actor’s attention received the shock in the particular simulation.
The third term states which actor’s attention is being simulated. The numbers in
each term of the sub-graph titles follow the same definitions as those stated above.
Each actor is represented using the following labels:

<table>
<thead>
<tr>
<th>Actor Label</th>
<th>Actor’s Attention</th>
</tr>
</thead>
<tbody>
<tr>
<td>pctMcCain</td>
<td>Senator McCain</td>
</tr>
<tr>
<td>pctObama</td>
<td>Senator Obama</td>
</tr>
<tr>
<td>pctfrontpage</td>
<td>New York Times’ Front Page</td>
</tr>
<tr>
<td>pctnytcc</td>
<td>New York Times’ Campaign Coverage</td>
</tr>
<tr>
<td>pctMcCaincont</td>
<td>McCain’s Contributors</td>
</tr>
<tr>
<td>pctObamacont</td>
<td>Obama’s Contributors</td>
</tr>
<tr>
<td>public</td>
<td>Public Opinion</td>
</tr>
</tbody>
</table>

Graphs are presented by in order of the total attention they received from both
candidates. For 2008, macroeconomics was the top issue, followed by defense, with
energy and health coming in as the fourth and fifth highest attention respectively.
As such, the first two graphs are the less formatted versions of Figures 6.1 and 6.2.
Shocks

Responses

FirstOrder1

SecondOrder1

Graphs by irfname, impulse variable, and response variable
Graphs by irfname, impulse variable, and response variable.
Defense

FirstOrder16, pctMcCain16, pctMcCain16FirstOrder16, pctMcCain16, pctMcCaincont16FirstOrder16, pctMcCain16, ... pctMcCain16, pctfrontpage16FirstOrder16, pctMcCain16, pctnytcc16FirstOrder16, pctMcCain16, public16

FirstOrder16, pctObama16, pctMcCain16FirstOrder16, pctObama16, pctMcCaincont16FirstOrder16, pctObama16, ... pctObama16, pctfrontpage16FirstOrder16, pctObama16, pctnytcc16FirstOrder16, pctObama16, public16

FirstOrder16, pctfrontpage16, pctMcCain16FirstOrder16, pctfrontpage16, pctMcCaincont16FirstOrder16, pctfrontpage16, ... pctfrontpage16, pctfrontpage16FirstOrder16, pctfrontpage16, pctnytcc16FirstOrder16, pctfrontpage16, public16

FirstOrder16, pctnytcc16, pctMcCain16FirstOrder16, pctnytcc16, pctMcCaincont16FirstOrder16, pctnytcc16, ... pctnytcc16, pctfrontpage16FirstOrder16, pctnytcc16, pctnytcc16FirstOrder16, pctnytcc16, public16

FirstOrder16, public16, pctMcCain16FirstOrder16, public16, pctMcCaincont16FirstOrder16, public16, pctObama16 ... pctObamacont16FirstOrder16, public16, pctfrontpage16FirstOrder16, public16, pctnytcc16FirstOrder16, public16, public16

SecondOrder16, pctMcCain16, pctMcCain16SecondOrder16, pctMcCain16, pctMcCaincont16SecondOrder16, pctMcCain16, ... pctMcCain16, pctfrontpage16SecondOrder16, pctMcCain16, pctnytcc16SecondOrder16, pctMcCain16, public16

SecondOrder16, pctMcCaincont16, pctMcCain16SecondOrder16, pctMcCaincont16, pctMcCaincont16SecondOrder16, pctMcCaincont16, ... pctMcCaincont16, pctfrontpage16SecondOrder16, pctMcCaincont16, pctnytcc16SecondOrder16, pctMcCaincont16, public16


SecondOrder16, pctObamacont16, pctMcCain16SecondOrder16, pctObamacont16, pctMcCaincont16SecondOrder16, pctObamacont16, ... pctObamacont16, pctfrontpage16SecondOrder16, pctObamacont16, pctnytcc16SecondOrder16, pctObamacont16, public16

SecondOrder16, pctfrontpage16, pctMcCain16SecondOrder16, pctfrontpage16, pctMcCaincont16SecondOrder16, pctfrontpage16, ... pctfrontpage16, pctfrontpage16SecondOrder16, pctfrontpage16, pctnytcc16SecondOrder16, pctfrontpage16, public16

SecondOrder16, pctnytcc16, pctMcCain16SecondOrder16, pctnytcc16, pctMcCaincont16SecondOrder16, pctnytcc16, ... pctnytcc16, pctfrontpage16SecondOrder16, pctnytcc16, pctnytcc16SecondOrder16, pctnytcc16, public16

SecondOrder16, public16, pctMcCain16SecondOrder16, public16, pctMcCaincont16SecondOrder16, public16, ... public16, pctfrontpage16SecondOrder16, public16, pctnytcc16SecondOrder16, public16, public16
Graphs by irfname, impulse variable, and response variable

FifthOrder16, pctMcCain16, pctMcCain16FifthOrder16, pctMcCain16, pctMcCaincont16FifthOrder16, pctMcCain16, pctMcCaincont16, pctMcCain16FifthOrder16, pctMcCain16, public16

SixthOrder16, pctMcCain16, pctMcCain16SixthOrder16, pctMcCain16, pctMcCaincont16SixthOrder16, pctMcCain16, pctMcCaincont16, pctMcCain16SixthOrder16, pctMcCain16, public16
Health

FirstOrder3

Graphs by irfname, impulse variable, and response variable

SecondOrder3

Graphs by irfname, impulse variable, and response variable

SecondOrder3

Graphs by irfname, impulse variable, and response variable

Shocks

Responses

Shocks

Responses

Shocks

Responses

Shocks

Responses

Shocks

Responses
Graphs by irfname, impulse variable, and response variable.

Shocks

Responses

FifthOrder3

SixthOrder3
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