

The Language of Autocrats: Leaders' Language in Natural Crises

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I. Introduction

What happens in authoritarian regimes following natural disasters? In this article we explore how authoritarian leaders use language strategically to shift blame and reap any possible benefits from the state's response to the disaster. How autocrats arrive at their policy choices following disasters is not well understood because of the lack of transparency in autocratic regimes. Therefore, we look at the speeches given by authoritarian leaders, using text analysis to open the black box of autocratic leaders' strategies for successfully navigating political crises, and evaluating their speeches in the days, weeks, and months following natural disasters. This method of text analysis aligns with other recent scholarship in political science which utilizes latent semantic analysis (LSA) to investigate political phenomena (Landauer & Dumais, 1997; Simon & Xenos, 2004). LSA allows scholars to reveal the mental constructs that authoritarian leaders use to navigate times of political turmoil, like natural disasters.

For nondemocratic regimes, natural disasters represent a window of insight into the robustness of state institutions and the preferences of the ruling elite. On many occasions, the very policies that authoritarian rulers pursue can exacerbate naturally occurring phenomena, as in the case of the Chinese famine during the Great Leap Forward between 1958 and 1961 when Chairman Mao's policies contributed to deaths of millions of people. Alternately, leaders can use natural disasters opportunistically to plunder the national coffers, or to extend social benefits to citizens in need. Fidel Castro has personally overseen a very successful set of national policies to mitigate the effects of hurricanes, droughts, and other catastrophic natural events (Sims & Vogelmann, 2002). On the other hand, Hosni Mubarak oversaw a frail and ineffective institutional response to natural disasters, like the 1992 earthquake. Whereas the government failed to prepare for and respond to this event, the Muslim Brotherhood intervened and provided

relief and assistance. An effective response can ratify an autocrat's leadership; an ineffective response can undermine his authority.

In this article, we focus our efforts exclusively on authoritarian states: China, Cuba, and Egypt. Since most research on leaders' responses to natural disasters has focused on responses in democracies (Achen, Bartels, & (Madrid), 2004; Atkeson & Maestas, 2012; Boin, Hart, McConnell, & Preston, 2010; Healy & Malhotra, 2009; Maestas, Atkeson, Croom, & Bryant, 2008; Malhotra & Kuo, 2008), we know comparatively less about leaders' responses in nondemocratic states. Autocrats are idiosyncratic individuals who often shield their private information and decision-making strategies from public scrutiny. Yet they do provide public statements that provide a window into their thinking that computational linguistics can help reveal. We investigate three strategies often used in post-disaster phases, including blaming, referencing God, and claiming credit, as well as a general strategy of using more complex language. We find support that these authoritarian leaders indeed use these three strategies of blaming, credit-claiming, and referencing religion.

Our paper proceeds as follows: we first describe the patterns and problems of natural disasters in authoritarian regimes. We then turn to discussing the linguistic strategies that authoritarian leaders use following natural disasters. In the next section, we describe our case selection, computational linguistics tools, and corpora. Following this, we provide an empirical test of the text data as well as discussion about its implications. We conclude with a discussion of some policy implications for disaster risk reduction and next steps in this research.

II. Authoritarian Leaders and Natural Disasters

Citizens look to both leaders' actions and their words to evaluate their policy responses. These events give leaders an opportunity to speak to the country and connect with their constituents. Across many regimes, there is a disparity between what leaders promise, and what they accomplish. However, the messages that constituents hear – irrespective of the material goods delivered – influence public opinion about their leaders. There is an abundance of literature about how democratic leaders navigate natural disasters, especially related to Hurricane Katrina (Boin et al., 2010; Maestas et al., 2008; Malhotra & Kuo, 2008), but a dearth of attention on how autocratic regimes behave. This paper focuses on understanding how autocrats manage the disruptiveness of national crises like natural disasters by using text analysis (Grimmer & Stewart, 2013; Lowe, 2008; Monroe & Schrod, 2008).

We treat leaders as consequential actors, as other scholars of leadership studies have done, in connecting state-level phenomena like natural disasters with individual leader characteristics. This includes the works of Herman and Preston (1994) and Preston and t' Hart (1999) who examine the foreign policy choices of individual leaders and as well as their domestic advisory oversight mechanisms.¹ Hermann et al. also provide a useful framework for evaluating leaders' decision-making strategies with regard to their openness to new information and respect for institutional constraints (Hermann, Preston, Korany, & Shaw, 2001). Taking a

¹ Analyzing the texts of autocratic leaders does present some methodological problems. One limitation to all leadership discourse studies is the difficulty in discerning the influence of speechwriters. During his tenure, Chairman Mao often circulated drafts to his trusted advisors, with clear strategic value. While final editing authority rests with Mao, he makes his policy decisions more transparent and gains support and rapport from potential rivals by offering them editing opportunities. From this perspective, the weight of speechwriters' influence on individual leaders' language remains an empirical question (Bligh, Kohles, & Meindl, 2004; Emrich, Brower, Feldman, & Garland, 2001; Winter, 1995). However, given that leaders are responsible for any policy repercussions, it is fair to assume they play a critical role in the final decisions regarding the content of the speech. The question of speechwriters' impact on individual leaders' political discourse is a potentially fruitful avenue research is needed that quantitatively identifies any potential differences in the linguistic patterns between political leaders public and private communication.

more language-centered approach, Dyson and Preston (2006) link individual leaders' language through use of analogy to their foreign policy. Boin et al. also link leaders' language strategies to post-crisis blame management, which we will address in more detail in the forthcoming sections (Boin et al., 2010).

The scope of natural disaster research in political science is multifaceted and spans a broad set of literatures that include civil wars, retrospective and economic voting, social psychology and blame attribution, environmental degradation and protection, international organizations and cooperation, and country-specific case study methodology. The effects of natural disasters on the lives of citizens are universally deleterious, but are also mitigated by the type of government and society in which they occur, and the capacity of the state to respond. Democracies tend to prepare for and respond to disasters better than do non-democracies. As a result, most research focuses on voters' punishment of leaders' poor policy performance following natural disasters in democracies, or citizens' likelihood of conflict following natural disasters in non-democracies. In general, the effects of natural disasters in autocracies and the responses of autocratic leaders to these types of events are under-explored and under-theorized.

While all natural disasters can be disruptive, those related to climate and weather happen most frequently, affect the most number of people, and incur the greatest economic costs (Emdat, 2010). In this paper, we hold government type constant by investigating three autocratic leaders over time to reveal regime-type specific trends in autocratic leaders' management of natural disasters. Furthermore, we restrict our natural disaster cases to only those with distinct onset dates to evaluate the type of language used immediately after an event. This would be much more difficult to accomplish with slow-onset natural disasters that gradually transpire, like droughts. Disasters with rapid onsets include earthquakes, subsidence, landslides, avalanches,

wildfires, extreme cold and hot weather, insect infestations, storms, floods, and volcanoes. We derived the “rapid onset” variable from data from the Center for Research on the Epidemiology of Disasters (Em-dat, 2010). Figure 1 shows the increase in the number of people affected by natural disasters. This means that as more people are affected, leaders will potentially face more political challenges arising from the natural world that have the ability to destabilize their countries and affect both their tenure in office, and their reputational legacy. How leaders manage natural disasters depends in large part on their ability not only to prepare for and respond to these crises, but also to shape the messages they share with their constituents.

[Figure 1 about here]

Large-scale natural disasters are national crises that threaten the political status quo, since people often make policy demands of their leaders in the aftermath to alleviate their suffering. Authoritarian leaders are not bound by democratic institutions that would hold them accountable to public demands. Furthermore, authoritarian leaders may use natural disasters to pilfer national accounts or humanitarian aid packages, or privilege trusted supporters with private funds. Nicaraguan President Somoza did just this following the 1972 Nicaraguan earthquake that killed between 3,000 and 7,000 people, injured approximately 15,000, and displaced two-thirds of the capital city’s residents. This earthquake offered Somoza the opportunity to exercise emergency powers, and confiscate international aid for his personal benefit. These policy choices were the catalysts that began to erode his authority and power, which ended a few years later in 1979. In

Unlike Somoza, the three autocratic leaders evaluated in this paper, Mao Zedong, Hosni Mubarak, and Fidel Castro, have managed to navigate the perils of natural disasters and remain in office for many decades. In other words, they may be able to get away with cursory gestures

or lip service, using blaming and credit-claiming strategies following natural disasters, without having to deliver on policy concessions.

Leaders calibrate their policy responses based on their assessment of the best strategy for remaining in office. They have a unique position with regard to natural disasters in that they can use the podium afforded by their official position to persuade, console, and connect to their constituents. Interestingly, even given the multiple layers of governments within states, including local, regional, and national, citizens tend to blame leaders at the highest office for their suffering following natural disasters (Lay, 2009). Thus we anticipate that leaders will use their speeches following natural disasters as strategic opportunities to steer their political course, blaming others and distancing themselves from responsibility for the negative consequences of the disaster, and claiming credit where they can.

The leaders in our study employ this language following natural disasters. In discussing these events, Mao Zedong wrote the following in 1955:

“The peasants are vigorous in production, and grain output in the whole nation registered an increase last year despite the fact that disasters caused by floods, drought, and gales were the worst in years. But now there are people who assert that cooperativization does not work, that it has no superiority. Thus they whip up a miniature typhoon. Does cooperativization have superiority or not (Mao, 1992)?”

He also referenced the blame frame in another discussion of natural disasters also in 1955:

“There won’t be the kind of high peak we’re having now, [but] perhaps there will [still] be a little crest in the flood at that time. This crest in the flood [we are experiencing now] wasn’t created by us. There are some things we hadn’t figured on. Haven’t we said this? The Communist Party produced Gao Gang. Don’t you democratic parties have a single Gao Gang? I can’t believe it. Currently the Communist Party has produced people like Ding Ling, Feng Xuefeng, and Jiang Feng (Mao, 1992).”

This strategy is similar to the rally effect in conflict politics, where the leader’s words unify the citizens of the country around a tragedy. Wen Jiabao’s response to the 8.0 magnitude

2008 Szechuan province earthquake that killed more than 68,000 people exemplifies this strategy. His words of empathy for those affected served to endear him to the public who compared him to Zhou Enlai, alongside the Communist party's official disaster relief strategy entitled, "Resist the Quake, Redress the Disaster" (*kangzhen jiuzai*). Following the highly destructive Hurricane Michelle in 2001, Fidel Castro made policy concessions aimed at providing food relief for suffering Cubans by agreeing to import American-grown grains like rice, corn, and soybeans. Fidel Castro contributed this statement about a hurricane in 1986:

“Late last year our country was affected by a natural disaster, a hurricane that flattened 70 percent of our sugarcane, and that made the sugar harvest more difficult. Despite the great efforts made by our workers, there's no doubt that in the end our sugar plans will be affected by at least half a million tons. And if the figure does not run to a million or a million and a half, it will be thanks to the efforts of our sugar workers. But it wasn't only the hurricane. Paradoxical and incredible as it may seem, we were also affected by the drop in the value of the dollar (Castro, 2007).”

We are concerned here with the instances when leaders blame others for the natural disaster, like political opponents or external actors in neighboring states or international enemies. An autocrat can avert personal responsibility for the effects of the natural disaster by scapegoating lower-ranking officials. An example of this scenario again comes from the 2008 earthquake in Sichuan province that measured 7.9 on the Richter scale and killed more than 10,000 people. Local officials were blamed for using shoddy building materials and construction that increased the death toll and damage. Additionally, analysts from the Institute for International Economics note that famines, droughts, and food shortages in North Korea are often blamed on acts of God, rather than state policies. Local and regional officials bore the brunt of political blame for the effects of flooding in July 2012 in Russia, insulating the national leadership from responsibility.

We also still have much to learn about the effect of exogenous natural disaster shocks on the tenure of autocratic leaders in office (Reference Removed). Davies posits a relationship between the needs that citizens have, and the ability of the government to meet those needs (Davies, 1962). However, governments prepare for and respond to national crises, like those created by natural disasters, in very different ways. In democracies, leaders have an electoral incentive both to enact preventive measures as well as to respond efficiently to citizens' needs following natural disasters because their tenure in office depends on support from a large constituency (Mesquita, Smith, & Morrow, 2003). Democratic leaders that fail to respond effectively can face certain removal from office (Achen, Bartels, & Madrid, 2004; Healy & Malhotra, 2009; Lay, 2009). Autocratic leaders, on the other hand, are comparatively unconstrained by electoral institutions as their tenure in office depends on support from a privileged few, and as such have a lesser incentive to supply citizens with remedies for their suffering. However, autocrats cannot ignore the effects of natural disasters altogether either since they must be concerned with the accumulation of grievances and potential for revolt. A global initiative called the Hyogo Framework for Action (HFA) has begun to quantify countries' levels of preparedness as well as disseminate best practices for natural disaster risk reduction.

As Gandhi and Przeworski (2007) note, autocrats can face both domestic and external threats. Bureaucratic inefficiencies coupled with natural disaster disruptions can exacerbate grievances and incentivize rebellion and contention in both rural and urban areas. Using the bully pulpit of state media to amplify their speeches and policies, autocratic leaders seek to avert unrest, reiterate their authority, and deflect blame.

III. Linguistic Strategies After Natural Disasters

When a natural disaster happens in an autocracy, the leader can do several things. First, he can ignore the event and those affected, and not mention it in public.² This option may be particularly attractive if the disaster affects citizens with little political power to exert influence over the leader's choices or tenure in office, or if the disaster onset is gradual or incremental with no clear start date. Second, he can respond favorably by promising policy concessions and empathizing with the suffering of those affected, often manifested in credit-claiming language. This scenario may be most likely under the conditions that the natural disaster happens to a set of constituents who have influence over the leader's tenure in office, or the disaster happens quickly and publicly, and has a clearly identifiable onset date and afflicted group. Third, the leader can take an offensive strategy and blame others, including members of an opposition party or movement, or take a religious tone and blame God for the country's misfortunes. Finally, leaders also select the manner in which they deliver these messages, including the level of complexity in their language following natural disasters.

In the aftermath of disasters in democratic regimes, a blame firestorm erupts where the key targets are most often the highest-level political leaders (Boin et al., 2010; Hood, 2002; Mortensen, 2012). Do non-democratic leaders do the same thing? We investigate strategies for blame avoidance that have been popular in political discourse analysis (Bhatia, 2008; Dijk, 1998; Masters & Hart, 2012), political science (Mor, 2007) organizational psychology, and social psychology (Stapleton & Hargie, 2011). More specifically, a common tactic for leaders to navigate the scrutiny following a disaster is to shift the blame to others using "negative other" presentation tactics. This approach might be more advantageous than other strategies, such as

² We use the pronoun 'he' hereafter to refer to autocrats for two reasons: first, in our sample, all autocrats are male; and second, most world leaders to date, and especially those classified as autocrats, are male as well.

denial, during large-scale disasters because it helps channel citizens' discontent toward local or regional officials, thus insulating the leaders from culpability.

Linguistic features of leaders' speeches, like the use of emotionally laden vocabulary, or pronouns like *I* or *they* to indicate psychological distance, are evidence of the strategies leaders use to relate to their audiences. Previous scholarship has investigated the way language reveals leaders' personal linguistic style. Using experimental research design to test the electability of candidates based on linguistic features describing their past negative or positive actions, Fausey and Matlock find that "the combination of imperfective and negative information appeared to shift attention away from beneficial policy outcomes and lead to more decisions that the candidate would not be elected (Fausey & Matlock, 2011)."

For autocratic leaders, the threat of revolt and mass uprisings with grievances rooted in uncompensated disaster losses are problems with which autocratic leaders must contend (Brancati, 2007; Hendrix & Salehyan, 2010; Nel & Righarts, 2008). Autocratic leaders who fail in their policy performances often face removal from office by violent means, and following their removal they can face harsh consequences. As such, they will say anything to retain power by claiming credit and deflecting responsibility. Because autocratic regimes are less transparent than their democratic counterparts, evaluating the documents that autocratic leaders produce can reveal information about how they respond to natural disasters. Although considerable progress has been made in investigating the role of blame in democratic regimes, little is known about how autocratic leaders navigate the challenges generated natural disasters (Masters & 't Hart, 2012).

One theory posits that citizens blame leaders for poor policy performance. Several scholars have addressed the role of blame attribution related to natural disasters in democratic politics. Achen and Bartels (2004) find that voters punish elected officials for events such as droughts, epidemics, and even shark attacks. Lay (2009) finds that voters are sophisticated in blame attribution so long as the natural disaster happened just prior to an election and caused sufficient death and destruction, and that voters find that the government should be held accountable for the problems they incur as a result of the natural disaster. Healy and Malhotra (2009) find that voters reward elected officials for post-disaster compensation, but not for preventive spending. The breadth of these studies, covering areas of Europe, the United States, and Africa, have controlled for government type as an explanatory variable and a contributing factor that influences countries' resilience with regards to natural disasters.

Responding publicly to natural disasters in an effective way is a complex process that involves claiming credit or impunity, distancing from negative outcomes, and conveying a mix of positive and negative emotion. Blaming may be directed generally at political rivals or predecessors Akin to the theory of personality advanced by Asch (1946), people overestimate their own innocence and benevolence, while emphasizing the culpability or ill intentions of others. Leaders can also scapegoat God for the misfortunes of their fellow countrymen. Referencing "acts of God" is a common strategy used by leaders to convey the idea that the tragedy was unavoidable, and that neither the leader nor the state could be held responsible for the disaster. Their language should reflect this. We employ a composite variable which we call "blame" that utilizes both the distancing as well as elements of accusation alongside emotionally-laden words, as well as a religion variable. The composition of these variables are

described subsequently in the methodology section. From this we generate our first and second hypotheses:

Authoritarian leaders increase their use of blaming language following rapid-onset natural disasters.

Authoritarian leaders increase their religious references following rapid-onset natural disasters.

Whether deserving or not, authoritarian leaders may also claim credit for the disaster response. As opportunistic and often egomaniacal individuals, authoritarian leaders can turn the nation's misfortune into a personal win through their use of credit-claiming language. From this we generate our third hypothesis.

Authoritarian leaders increase their use of credit-claiming language following rapid-onset natural disasters.

Finally, to be most persuasive in their blaming and credit-claiming strategies, leaders must connect with their target audience. Research has established that people use more formal language when they are trying to convince others of a particular line of argument, and that they use more informal language when they are telling a story or constructing a narrative. Informal language is marked by simplistic vocabulary. From this we generate our final hypothesis.

Authoritarian leaders use more simplistic language following natural disasters.

In the next sections, we discuss our case selection, methodology and empirical tests, and results.

IV. Research Design

Case Selection

We evaluate the political speeches and texts produced under the tenure of Mao Tse-Tung in China, Fidel Castro in Cuba, and Hosni Mubarak in Egypt using two linguistic facilities, Coh-Metrix and Linguistic Inquiry and Word Count (LIWC). All three leaders presided over politically closed authoritarian regimes. Levitsky and Way note that Egypt can be considered a “façade electoral regime in which electoral institutions exist but yield no meaningful contestation for power,” but in Cuba and China, “elections have been eliminated either de jure...or de facto (Levitsky and Way 2002: 54).” China, Cuba, and Egypt have a common form of government, but demonstrate important variations in geographic location, years of autocratic rule, territorial size, and experience with natural disasters. As comparative cases, we hold constant the type of government to assess the effects of natural disasters on the language that leaders use to retain power. Geddes, Wright, and Frantz (Geddes, Wright, & Frantz, 2012) code China as a party-based autocracy, Egypt under Mubarak as party-personal-military, and Cuba as party-personal. While there are discernible differences between authoritarian regimes, we assert that they share much in common, including lengthy tenures in office during which time they gave many speeches and suffered multiple natural disasters.

Given the differences in population size, climate, geography, and territory size, we see variation in the baseline rate of natural disasters for each country. Figure 2 shows the number of natural disasters that took place in China, Cuba, and Egypt between 1927 and 2011 specifically for the years for which we have linguistic data for each leader in this project. While China in recent years has experienced the most natural disasters affecting the most number of people, in our sample China’s hazard rate is actually the lowest. Egypt has the highest incidence of natural

disasters, followed by Cuba. We will describe how these disasters are operationalized in this study in a subsequent section.

[Figure 2 about here]

Description of Linguistic Analysis Tools

Text analysis is increasing as an analytical method across disciplines (Atteveldt, Kleinnijenhuis, & Ruigrok, 2008; Klebanov, Diermeier, & Beigman, 2008; Monroe & Schrodt, 2008). Computer automated data collection makes retrieval and coding feasible under time constraints and limited human capabilities (Benoit, Laver, & Mikhaylov, 2009a; Monroe & Schrodt, 2008; Quinn, Monroe, Colaresi, Crespín, & Radev, 2010). Computer-coded textual analysis of political data is an emerging field of research with interdisciplinary applications (Benoit, Laver, & Mikhaylov, 2009b; Monroe & Schrodt, 2008).

More recently, researchers have incorporated cognitive approaches in the exploration of political phenomena, namely corpus linguistics and computational techniques (Reference removed; Baker et al., 2008; Grimmer & Stewart, 2013; Hancock et al.; Masters & 't Hart, 2012; J. Pennebaker & Chung, 2008; J. W. Pennebaker & Lay, 2002; Reference removed). Coh-Metrix and LIWC provide a new framework for identifying and analyzing linguistic and psychological strategies in political discourse. These tools can systematically analyze massive amounts of information that span many years. This allows researchers to address some of the noted concerns from scholars of political leadership, such as explaining the leadership phenomena over time and in social/ historical context (Shamir, 2011). With such sophisticated computational and statistical capabilities we are now able to evaluate theoretical claims on how leaders navigate political crises.

In addition to word counting programs, researchers have made significant strides in more complex linguistic analysis tools that facilitate investigations into the deeper more subtle patterns in language and discourse.

Linguistic Inquiry Word Count (LIWC)

LIWC is an increasingly popular automated word analysis tool used in the social sciences (J. W. Pennebaker, Booth, & Francis, 2007; Tausczik & Pennebaker, 2010). LIWC analyzes texts files on a word-by-word basis using an internal dictionary of more than 2,300 of the most common words and word stems within a given text, and then categorizes them into over 80 linguistic dimensions. These dimensions are organized into language categories including the following: standard language like articles, prepositions, pronouns; psychological processes like positive and negative emotion words, cognitive processes; and content categories like sex, death, home, occupation. The standardized values are expressed as a percentage of the total words in the text sample. For example, if the number for the category “pronouns” is 9.22, this means that 9.22% of the total words in the text were pronouns.

Coh-Metrix

Coh-Metrix is an automated linguistics tool that analyzes higher-level features of language and discourse (Reference removed). Unlike basic word counting systems, Coh-Metrix relies on more sophisticated methods of natural language processing, such as syntactic parsing and cohesion computation, to capture these higher-level language characteristics (Reference removed). Additionally, the Coh-Metrix dimensions align with the proposed multilevel theoretical framework of language and discourse (Reference removed); Kintsch, 1998; Snow, 2002). These frameworks distinguish representations of meaning, structures, strategies, and

cognitive processes at different levels of language and discourse. Five levels have frequently been proposed in these frameworks: (1) words, (2) syntax, (3) the explicit textbase, (4) the situation model (sometimes called the mental model), and (5) the discourse genre and rhetorical structure.

Authoritarian Leader Corpora

Commander Fidel Castro's corpus consisted of 1,172 English-translated texts delivered between 1959 and 2008. The texts were obtained using the Castro Speech Database maintained by the Latin American Information Center at the University of Texas at Austin as well as Discursos e Intervenciones de Fidel Castro.³ Chairman Mao Zedong's corpus consisted of 365 English translated texts delivered between 1926 and 1970. The speeches from 1926-1957 were collected from the "Selected Works of Mao Zedong (1975)," while the speeches ranging from 1958-1970 were collected from the "Selected Works of Mao Zedong" published by Kranti Publications (1990). President Hosni Mubarak's corpus consisted of 307 English translated texts delivered between the years of 1996 and 2011. The texts were obtained using the Egypt State Information Service site ("Egypt State Information Service," 2011). We are confident that sample of speeches given by these three leaders is representative of their language patterns throughout the duration of their tenure, as the speeches are distributed relatively evenly. Figure 3 shows the number of words per speech (word count) for all speeches given by the three leaders. We subsequently use word count as one of our independent variables in the empirical model to control for variations in the size of the text.

[Figure 3 about here]

³ <http://lanic.utexas.edu/la/cb/cuba/castro.html>; <http://www.cuba.cu/gobierno/discursos/>

Recent research has demonstrated that translated speeches have a high correlation with the original text using Google translate, and as such we feel confident in our use of English language documents (Li, Graesser, & Cai, 2014). Some languages encode subjects and pronouns within the verb conjugation. In Spanish, for example, *voy* translates as *I go*. What takes two words in English takes one word in Spanish, otherwise known as a pro-drop language. This project relied on English translations of texts originally produced in Chinese, Arabic, and Spanish. We used the translated versions because Coh-Metrix and LIWC are calibrated for English and have a wider variety of assessment tools than do the original language programs. To ensure that the translated versions are comparable to the original language texts, we examined the cohesion of the speeches and are confident that the translated versions reflect the original texts. Another potential issue is that of omitted speeches. While we have many hundreds of observations for each leader, it is possible that our corpora do not contain every speech that the leaders made during their tenure. Given the breadth and time span for each corpora, however, we feel confident that the speeches and texts contained in our corpora represent a significant portion of the leaders' communications.

The genres of texts included speeches, statements on major issues, and addresses in which the leader was the sole speaker. Information that was not a part of the actual discourse (e.g., audience reactions, editor comments) was removed in a rigorous cleaning process. Each speech was then labeled by date and put into a text file format and analyzed with Coh-Metrix and LIWC. We used a time scale that provided a unique number for each of the speeches.

Linguistic Strategy Variables

We investigate four types of linguistic strategies that authoritarian leaders use following natural disasters. The first strategy is blaming, which we operationalize by incorporating causal

verbs, intentional verbs, references to third person plural pronouns, and negative emotions.

According to McNamara et al., “The distinction between causality and intentionality is based on the event-indexing model (Zwaan, Langston & Graesser, 1995; Zwaan & Radvansky, 1998).

Intentionality refers to the actions of animate agents as a part of plans in pursuit of goals.

Narrative text is replete with such intentionality because they are stories about people with plans that follow a plot (McNamara, Graesser, McCarthy, & Cai, in press). In contrast, the causal realm refers to mechanisms in the material world or psychological world that either may or may not be driven by goals of people. Texts about physics or chemistry are prototypical examples of the causal realm that are not governed by volitional goals.” We include causality and intentionality in this model to show how a leader might blame others or natural factors for the effects of the disaster.

There are three components to this variable. One is causal verbs, another is intentional verbs, and another is third person plural pronouns (“they”) interacted with negative emotions. We account for the negativity inherent in blaming by using the proportion of words in the passage related to negative emotions. We divide the formula by the number of variables included in it. For blame, there are three components so we divide it by three. Figure 4 shows the composition of the variable for blame.

[Figure 4 about here]

The variable for credit-claiming shown in Figure 5 has a similar composition to the blame variable. Instead of using “they” and negative emotions, we use first person pronouns and positive emotions. Ostensibly when a leader is claiming credit, he will frame his behavior in a positive light. We also divide this variable by three because it has three constituent components.

[Figure 5 about here]

We also account for references to religion, as those might indicate either blame or credit. Leaders might blame god for the disaster, or might use god to claim credit for positive outcomes. LIWC has two variables, religion and humans, which together comprise our religion concept (Figure 6). As there are two components to this variable, we divide it by two.

[Figure 6 about here]

The final variable we use is the proportion of six letter words the leader uses in his speeches. Leaders are likely to use more simplistic language to convey their messages. Whereas the previous three variables reflect the substance of leaders' language following natural disaster, using more simplistic language reflects the manner in which leaders convey their messages.

Natural Disaster Variables

The variables for natural disasters were assembled from The International Disaster Database and the Centre for Research on the Epidemiology of Disasters – CRED (Em-dat, 2010). Per the ontology proposed by Nel and Righarts, we distinguish between slow- and rapid-onset natural disasters (Nel & Righarts, 2008). Several scholars have suggested that disaster effects differ by onset type, where rapid-onset disasters being more likely to elicit policy responses from leaders due to the specificity of their onset as well as a clearly defined affected target population (Reference removed). On the other hand, slow-onset natural disasters are more likely to elicit a “wait and see” approach from leaders. For this reason, we include in our analysis only rapid-onset natural disasters. Given the sporadic nature of leaders' speeches and unbalanced structure of the data, and given the differing time frames for responding to natural disasters, we count the number of rapid-onset natural disasters happening within a 7-day window, a 14-day window, a 30-day window, and a six-month window of leaders' speeches. Rapid-onset disasters include hot

and cold episodes, earthquakes, floods, mass movements (wet and dry, i.e., subsidence and avalanches), wildfires, and storms.

V. Methodology

In this study we are explaining the effects that natural disasters have on the linguistic strategies of authoritarian leaders. The dependent variable in this data set is a composite measure of blame, described as a composite variable of pronoun and emotional language usage. The summary statistics for each of the components of the variables for blame, credit, and religion, are detailed in Table I. We converted the raw scores derived from LIWC and Coh-Metrix to standardized z-scores, so the mean of the variables is near zero. Using a time series regression fixed effects model for Stata 13.1, we control for each individual leader, so the N=1673 is the combined number of speeches from the three leaders in our study.

[Table 1 about here]

Table 2 gives the summary statistics for our key rapid-onset natural disaster variables. We run four fixed effect model regressions using speeches given within four time frames: 7 days, 14 days, 30 days, and 60 days. Our fixed effects model account for the consistency of the leaders over time, as well as factors like the territorial boundaries that do not change significantly over the course of this study. We understand that leaders do not make speeches at regular intervals, and thus our data are unbalanced. For example, leaders may make two speeches on one day, and then make another speech two weeks later. The independent variables are counts of natural disaster events (Em-dat, 2010), and the total number of words spoken per speech. Additionally, we use robust standard errors (Huber, 1967; White, 1980).

[Table 2 about here]

VI. Results and Discussion

Using a time series regression model with fixed effects, we find that leaders increase their use of blaming and credit-claiming language following natural disasters, as shown in Tables 3 and 4.

[Tables 3 and 4 about here]

In support of our first three hypotheses, leaders use blaming language less as the time from the disaster passes, and they continue to use credit-claiming language at statistically significantly higher levels up to a month after the onset of a disaster. Leaders appear to use religious references immediately following natural disasters, i.e. within seven days. They also increase their use of six-letter words in the months following the natural disaster. It is interesting that in the direct aftermath of natural disasters, these leaders invoke religion, but do not use a statistically significant higher number of more complex words. Furthermore, as time passes, leaders increase their use of more complex language. We think this is because in the days following disasters, leaders seem to understand that those affected seek consolation, best conveyed in simplistic terms. In the weeks and months following a disaster, citizens want action, and leaders change strategies to reference more complex concepts, like agencies or initiatives tasked with providing relief. The extent to which relief is provided, however, is highly variable.

In the cases of Cuba, Egypt, and China, are we likely to see natural disasters go unmitigated because the leaders are able to maneuver linguistically to avoid personal and institutional responsibility? This may be difficult to ascertain, even given what we know about their linguistic choices and the policies that these countries have implemented. The results of our statistical analysis show that they are clearly using language strategically following natural

disasters, but this is likely not their only strategy for addressing natural disasters. However, we can gain purchase on their institutional responses by examining the Hyogo Framework for Action. The Hyogo Framework for Action (HFA) is an international institution that promotes disaster risk reduction strategies, especially for countries most at risk and with sizeable vulnerable populations. HFA also serves as a common platform for comparing disaster risk reduction and preparedness across countries. HFA releases survey evaluations and preparedness scores for each voluntarily participating country which self-reports on their preparedness and implementation of policies, like education and training for first responders, and budgetary allocations for disaster mitigation. For the first cycle (2007-2009) none of the three countries in our study participated. For the second cycle (2009-2011), Cuba and Egypt participated. And for the most recent cycle (2011-2013), all three countries participate.

We can use the HFA to help evaluate the extent to which leaders' language compensates for institutional shortcomings. Core Indicators 1.1 through 1.4 address institutional preparedness at the national level, and all three countries, with the exception of Egypt in one category (national funding allocation), receive a score of 4 out of a possible 5. It is important to remember that these scores are based on the countries' self-evaluations, and many of the responses are missing or incomplete. Each country reports that they have national legislation regarding disaster risk reduction, and most have "dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels (Hyogo Framework for Action (HFA) - UNISDR)." Each country also reports that a national multi-sector platform for disaster risk reduction is functioning.

Thus it is possible that these three authoritarian regimes have successfully initiated national policies aimed at mitigating the effects of natural disasters, even if the extent to which

they are implemented is sporadic, inefficient, or directed toward specific or privileged groups. It is also possible that in conjunction with the preparedness measured by HFA, that these leaders still employ standard linguistic cues following disasters to mitigate their own culpability. While our three countries of interest are all longstanding authoritarian regimes, their state capacities for dealing with disaster differ. Cuba is well known for its early warning systems, especially in advance of tropical storms. China has sufficient state capacity and resources to implement disaster risk reduction strategies as well as preventive measures. Egypt, however, is notorious for its lack of preparation for natural disasters, and its ineffective responses to them as well.

VII. Conclusions

This study provides insight into the language that autocratic leaders use in the context of natural disasters. Our findings indicate that they do increase their use of blaming and credit-claiming language following natural disasters, and we anticipate that leaders use language strategically to navigate other types of national crises, like internal and external conflicts, and to signal their resolve to domestic and foreign challengers who pose threats to the stability of their regime. Using textual analysis to uncover the patterns of autocratic leaders' language can be a valuable contribution to the field of political science by revealing patterns and processes that are not visible at the aggregate, annual level of data, or at the level of event analysis.

We are interested in assessing to what extent these results may be generalized to other authoritarian regimes as well. Countries like Burma, North Korea, or DR Congo have much lower levels of state capacity than do the three countries in our analysis, to buffer against natural disasters, so those leaders may overcompensate by using different linguistic strategies from traditional blaming or credit-claiming. We might find increased references to other categories of

topics, intended as distractions from the disaster event. These categories might include erroneous topics of the leaders' choosing, or they might include points of national interest, like references to sporting events that could serve as a unifying topic to neutralize the disaster. None of these countries is represented in the HFA reports, leading us to conclude that their infrastructure for dealing with natural disasters is sorely lacking. Future research on post-disaster language in democracies may also yield some interesting comparisons.

This research demonstrates a novel data set and methodological approach to the study of political actors that highlights the linguistic patterns of autocratic leaders and demonstrates how individual attributes matter to the course of international affairs. Treating leaders as consequential actors offers the opportunity to better understand the patterns and decision-making strategies of autocrats. Much of international relations scholarship has focused on democracies and democratization, precisely because they are more open and transparent. Consequently, we lack systematic understanding of the behavior of autocratic leaders. Scholars of international relations as well as policymakers are often puzzled by the impulsiveness, brutality, and longevity of autocratic leaders. This research offers insight into a field where there is limited access to other material and the leader's language remains one of the few available artifacts for researchers.

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Tables and Figures

Figure 1. Number of Natural Disasters Worldwide

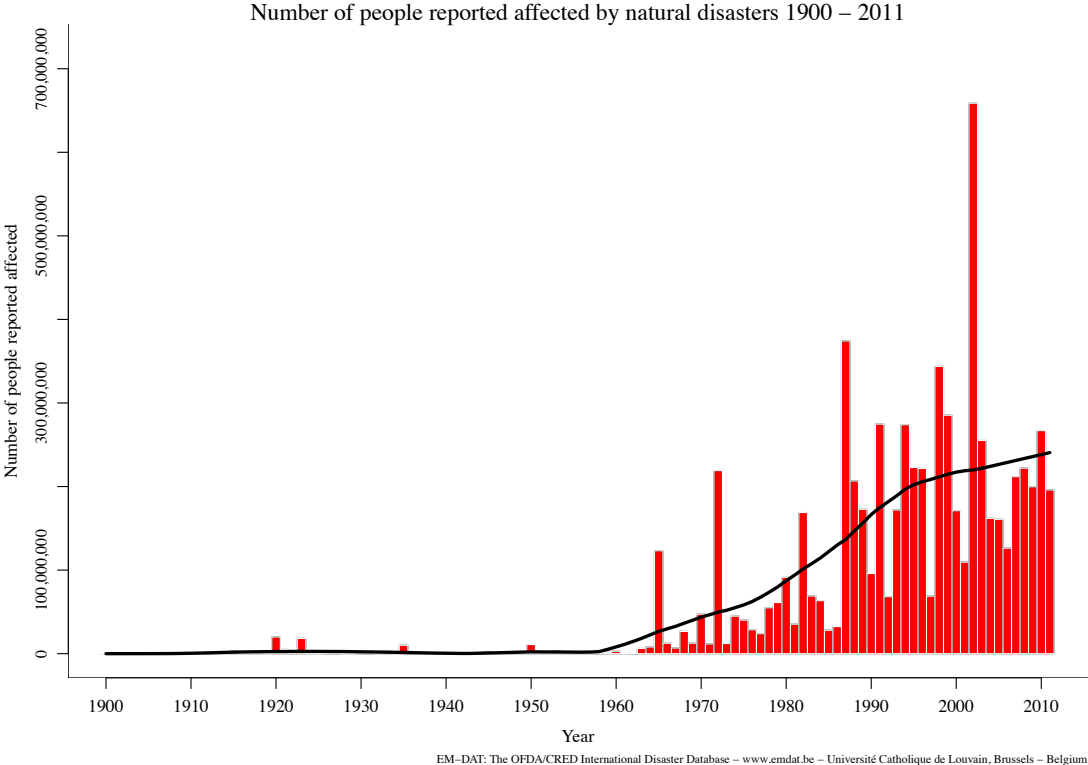


Figure 2. Number of Natural Disasters in China, Egypt and Cuba 1927-2011 (Source: Em-Dat/CRED)

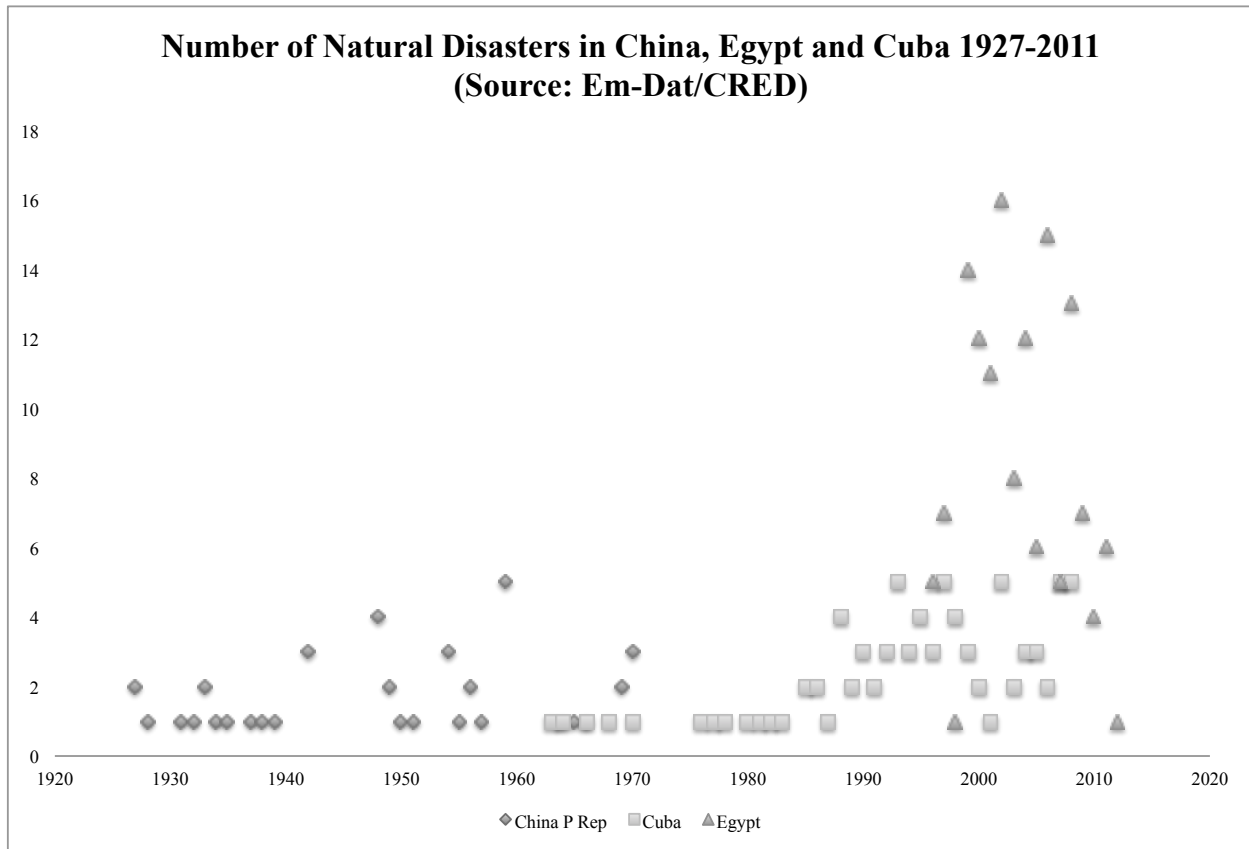


Figure 3: Word Count for All Leaders' Speeches

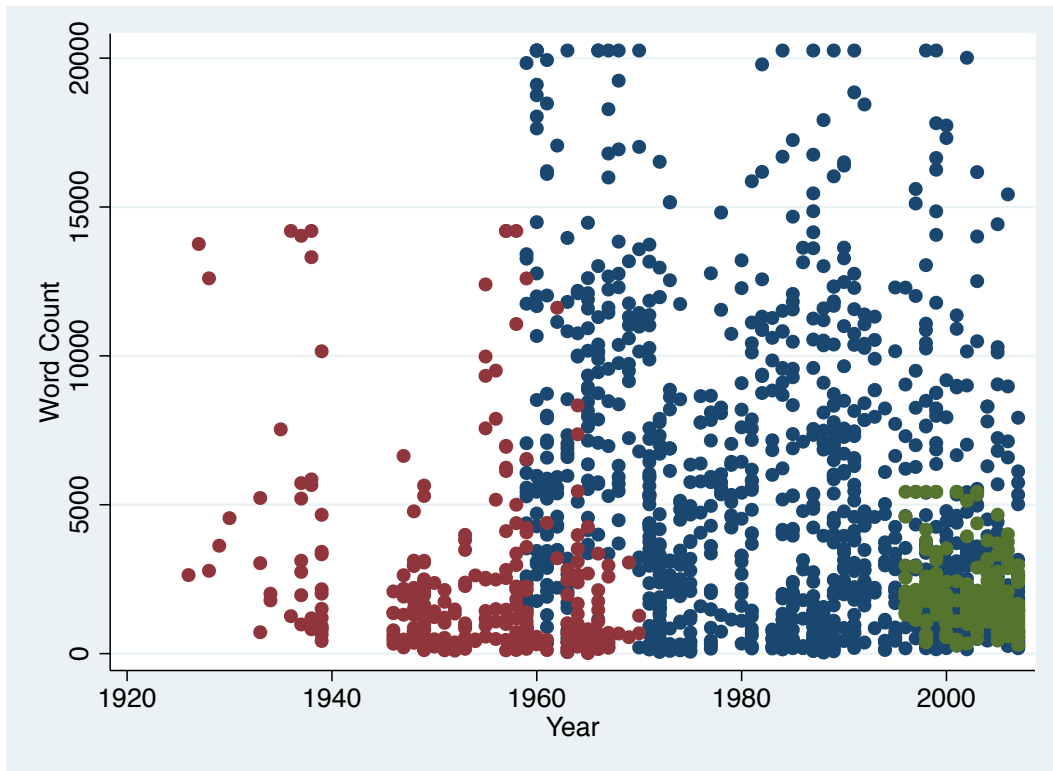


Figure 4. Composition of Blame

$$\text{Blame} = (\text{Causal verbs} + \text{Intentional verbs} + (\text{They} * \text{Negative emotion})) / 3$$

Figure 5. Composition of Credit

$$\text{Credit} = (\text{Causal verbs} + \text{Intentional verbs} + (\text{I} + \text{I pronouns}) * (\text{Positive emotion})) / 3$$

Figure 6. Composition of Religion

$$\text{Religion} = (\text{Humans} + \text{Religion}) / 2$$

Table 1. Summary Statistics for Blame, Credit, and Religion

Variable	Mean	Std.Dev.	Min	Max
Causal verbs	21.06224	6.606374	0	42.44
Intentional verbs	111.2842	15.81764	57.90709	162.75
They	1.224017	0.7879239	0	4.75
I	0.7577466	0.8297636	0	4.1
I pronouns	5.654002	1.658746	0.3622666	10.71
Negative emotion	1.975571	1.075068	0	6.44
Positive emotion	3.24425	1.38001	0	9.58
Religion	0.3208189	0.5525577	0	4.61
Humans	1.107537	0.6464438	0	3.33
Six letters	24.48806	4.288599	12.77	38.71

Table 2. Summary Statistics of Linguistic Measures

Variable	Mean	Std.Dev.	Min	Max
7 Days	0.063957	0.2566771	0	2
14 Days	0.0800956	0.2987886	0	2
30 Days	0.1153616	0.374689	0	3
60 Days	0.2038255	0.4996982	0	4
Word Count	4094.254	4443.374	16	20255.79

Table 3: Blame and Religion

	Blame				Religion			
	1	2	3	4	1	2	3	4
7 Days	5.887 ***				-0.182*			
	(3.64)				(-2.14)			
14 Days		4.597 ***				-0.126		
		(3.87)				(-1.72)		
30 Days			4.180 **				-0.12	
			(2.82)				(-1.57)	
60 Days				2.32*				-0.139
				(2.28)				(-1.55)
Word Count	0.000 1	0.000 1	0.000 1	0.000 1	- 0.00002 **	- .00002 **	- .00002 **	- .00002 **
	(1.94)	(1.74)	(1.57)	(1.71)	(-2.88)	(-2.79)	(-2.72)	(-2.61)
Constant	43.81 ***	43.88 ***	43.82 ***	43.77 ***	.841***	.838** *	.840** *	.851** *
	(111.0 2)	(111.4 5)	(103. 95)	(109.4 6)	(21.67)	(21.62)	(21.42)	(20.27)
N	1673	1673	1673	1673	1673	1673	1673	1673
* p < .05, ** p<.01, *** p<.001								

Table 4: Credit and Six Letters

	Credit				Six Letter			
	1	2	3	4	1	2	3	4
7 Days	5.863*				-2.360			
	(2.10)				(-1.04)			
14 Days		4.769**			-2.757			
		(2.66)			(-1.70)			
30 Days			5.234*				-	
			(2.24)				2.932***	
							(-3.34)	
60 Days				2.214				-
				(1.19)				2.849***
								(-4.77)
Word Count	-0.0009	-0.0001	-0.0001	-0.0001	-0.0001*	-0.0001	-0.0001	-0.0001
	(-.68)	(-.79)	(-.95)	(-.73)	(-2.04)	(1.91)	(-1.73)	(-1.59)
Constant	50.91**	50.98**	50.86**	50.89**	25.41**	25.42**	25.48***	25.67***
	*	*	*	*	*	*		
	(94.61)	(96.66)	(89.02)	(92.97)	(65.54)	(67.78)	(72.19)	(73.13)
N	1673	1673	1673	1673	1673	1673	1673	1673
<p>* p < .05, ** p < .01, *** p < .001</p>								