# Impact of Terrorism, Insurgency, and Other Human-caused Catastrophes on Pivotal National Leaders' Vision Statements

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**Abstract** Vision statements articulated by seven pivotal national leaders before and after a catastrophe were examined for changes in moral reasoning stage, moral reasoning orientation, explanatory style, and rumination. Established two-stage structured content analysis methods were used and a perspective of shared leadership. Five leaders showed no significant change in moral reasoning stage but two showed a statistically significant reduction following overt attack on their homeland. After a catastrophe, six showed significant change in moral reasoning orientation, four showed less positive or negative explanatory style, and all seven showed high rumination. From an organizational systems perspective, an impact of human-caused catastrophe was adjustment of these four variables in pivotal national leaders' vision statements as if they are systems levers.

**Keywords** Moral reasoning · Leadership · Organizational systems · Content analysis

Abraham Lincoln perceived people of the Confederacy as insurgents who, early on, falsely made Maryland seem against the Union by assaulting soldiers, burning bridges, and damaging railroads there. George W. Bush perceived people of al Qaeda as terrorists who, on September 11, 2001, seized control of U.S. airliners and crashed them into major occupied buildings, killing thousands of people.

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When pivotal national leaders encounter a catastrophe they attribute to terrorism or insurgency, do they react the same as, or differently than, they do to catastrophes they attribute to other human causes?

Structured content analysis of vision statements articulated by pivotal national leaders before and after a real-world catastrophe offers a method to study this question. This multivariate research examines vision statements made by seven pivotal leaders before and after a real-world catastrophe for changes in moral reasoning stage, moral reasoning orientation, explanatory style, and rumination.

Table 1 shows the seven leaders and the human-caused catastrophes associated with them. All seven are pivotal leaders: formal leaders whose choices appear to set direction for their entire organization. All seven events are catastrophes: uncontrollable events with impact so serious the leader arguably perceived the organization or a significant part of it might not achieve fundamental goals or even survive. Lincoln faced insurgency that included terrorist-like attacks. Wilson faced terrorist-like attacks on the high seas by German submarines that sank U.S. and other neutral nations' ships with no regard for human life. Bush faced avowed terrorist attacks. Roosevelt, Meir, and Thatcher faced overt military attacks. For Meir the attack was on her homeland. For Roosevelt it was arguably on his homeland, the nation's major military posts located in Hawaii. For Thatcher it was on an unfortified island thousands of miles distant from her homeland. Kennedy discovered clandestine deployment of Soviet offensive missiles and aircraft to Cuba. How did these national leaders' vision statements change after these catastrophes?

Vision statements are observable artifacts of leadership. For this study, a vision is a leader's prepared statement that (a) is accessible to substantially all organization members or their representatives, (b) provides an image of the future

**Table 1** Pivotal leaders and catastrophes selected for study

| Leader | Catastrophe | Catastrophe date |
|---|---|---|
| George W. Bush | Terrorists attacked the United States | September 11, 2001 |
| Margaret Thatcher | Argentina attacked the Falkland Islands | April 2, 1982 |
| Golda Meir | Egypt and Syria attacked Israel | October 6, 1973 |
| John F. Kennedy | Soviet Union deployed offensive missiles and aircraft to Cuba | October 16, 1962 |
| Franklin Roosevelt | Japan attacked Pearl Harbor | December 7, 1941 |
| Woodrow Wilson | Germany waged unrestricted submarine warfare | April 12, 1917 |
| Abraham Lincoln | Confederates captured Fort Sumter | April 14, 1861 |

organization, and (c) provides an attractive improvement over perceived alternatives. Although other criteria have been offered, they often prove unhelpful or sometimes wrong. For example, "specific," "realistic," and "credible" are unhelpful because the truth is that a useful vision may be quite the opposite: faith-based, values-based, belief-based, radical, bold, and unconventional (Bass 1998).

## Analytical Concerns

### Level of Analysis

Level of analysis makes a substantial difference when studying these national leaders who clearly had advisors and did not act alone. If analysis is attempted at the level of an individual leader, the influence of advisors and consultants is a confounding factor that degrades interpretations and inferences. However, if analysis focuses on the organization level and assumes the formal leader worked with advisors and consultants, then the multiple influences are not confounders but part of the integrated phenomenon under study.

Organization level analysis can focus on shared leadership, a concept that found organized expression beginning in the 1990s although elements existed earlier in the literature. It is defined as "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both" (Pearce and Conger 2003, p. 1). The definition's focus is on interactive process and the definition is silent on issues of accountability, power, and leader-follower interaction.

### Content Analysis Methods

The four variables studied all have structured content analysis methods already documented in the literature.

#### Common Reasoning Stage

Hierarchical Complexity Scoring System (HCSS) scores the highest order of abstraction in text elements and the logical structures coordinating those elements. This structural approach to analysis can be applied to content in any domain. The HCSS is an application of the Model of Hierarchical Complexity (Commons and Pekker 2004; Commons et al. 1998). The model of hierarchical complexity is the basis for the Hierarchical Complexity Scoring System (HCSS) and may be used to determine a text's moral stage. HCSS (M. L. Commons et al. 2005, unpublished) also avoids moral reasoning orientation controversies raised by Carol Gilligan (1977/1994) and cultural bias issues associated with Kohlberg's stage exemplars because they were predominantly based on inputs from middle class whites (M. L. Commons et al. 2005, unpublished; Dawson and Kay 2003).

Hierarchical Complexity Scoring System specifies that texts to be scored must contain: (a) an asserted solution to (b) what the speaker perceives as a problem, plus (c) a justification for that assertion. For this study, T. L. Dawson served as expert scorer for HCSS using a computerized system (Dawson and Wilson, 2004).

### Moral Reasoning Orientation

Moral reasoning orientation studies developed from research by Piaget and Kohlberg into stage development of moral reasoning which they grounded on justice and rights. Gilligan (1977/1994) opened a new research direction when she discovered a group of women not using justice and rights for moral decisions but instead using a care orientation. N. P. Lyons (1982, unpublished) developed a structured content analysis method to score for justice and care. In brief, codable statements are extracted from text, categorized by raters using a single scale having care and justice as polar extremes, and the category appearing with highest frequency is scored as the text's predominant perspective.

Lyons' process forces raters to make an important holistic judgment about each text. Raters consistently find elements of both care and justice in texts, and research shows positive correlation between care and justice

elements instead of the negative correlation that would be expected if they were polar opposites (C. R. Oliver, 2004, unpublished). So, while the single-scale model is statistically insupportable, it does force sense-making judgments by the raters: What point is the speaker really trying to make? Even if a text lists 49 care arguments and only 1 justice argument, the rater is empowered to make a qualitative judgment that justice is primary and thereby score the text as having justice moral orientation. Controls against abuse or error in those judgments include randomizing texts before presenting them to raters, averaging results from multiple raters, and keeping raters blind to each other's ratings and to research outcomes.

For moral reasoning orientation scoring, extracted statements must contain (a) a real-life moral dilemma, (b) an asserted solution, and (c) an explanation of the dilemma or an evaluation of the resolution of that dilemma (N. P. Lyons, 1982, unpublished, 1988). Raters are trained to score the extract "care" if it focuses on such things as fostering the welfare of another, interpersonal relationships, interdependence, or situation over principle. They are trained to score the extract "justice" if it focuses on such things as laws and rules, duty, effect on self, or principle over situation.

### Explanatory Style

Explanatory style emerged from research into learned helplessness and focuses on people's explanations of why an uncontrollable event happened and their perception of their own personal control over the situation (Peterson et al. 1995). Development of a two-stage content analysis method called Content Analysis of Verbatim Explanations (CAVE) provided a measure that could assess the explanatory style of individuals or groups (Oettingen 1995; Rettew and Reivich 1995; Zullow 1995; Zullow et al. 1988).

For explanatory style scoring, extracted statements must contain a discrete occurrence that the leader perceives to have good or bad impact on the leader, the leader's ingroup or organization, or the leaders' country, along with an explanation by the leader—not by another person—describing what preceded the event and covaried with it from the perspective of the leader. The event and the explanation must both be good or both be bad (not a bad event with a good explanation or vice versa), and a clear causal relationship must exist between the explanation and the event (not simply a sequence of events that describe without explaining and not just proof or justification of the event) (Peterson et al. 1992; Schulman et al. 1989; Seligman 1998; Zullow 1988; Zullow et al. 1988). Raters score extractions for three characteristics: internality/externality, stability/instability, and globality/specificity.

### Rumination

Study of rumination can be linked to Schein's (1992) insight that the effectiveness of a leader's vision is mediated by situation. Followers who do not see need to change are unlikely to pay much attention to the leader's vision. They pay attention when information disconfirming previous beliefs makes them hurt. Rumination is internal articulation of disconfirming information—thinking about bad events that have happened or are happening, the who, what, where, or how of a bad event, or explanation why a bad event occurred or words expressing negative emotional state or display.

For rumination scoring, all sentences in the text were extracted and evaluated individually for presence or absence of rumination. The score is the percentage of sentences in the text found to contain rumination (Zullow 1988, 1995; Zullow and Seligman 1990).

### Hypotheses

### Moral Reasoning Stage

Hierarchical Complexity Scoring System measures cognitive complexity. Previous research using a different measure, integrative complexity, found leaders demonstrating more complexity when stress was absent and less when stress was present (Ballard 1983; Porter and Suedfeld 1981; Suedfeld and Tetlock 1977; Suedfeld et al. 1977) and that public statements by multiple officials of nations that experienced surprise attacks showed more complexity before the attack and less immediately afterward (Suedfeld and Bluck 1988).

**Hypothesis 1** For terrorism, insurgency, and other human causes of catastrophes, vision statements will show more complexity, expressed as high moral reasoning stages, before a catastrophe and less complexity, marked by lower moral reasoning stages, after the catastrophe.

### Moral Reasoning Orientation

People use both justice and care moral reasoning orientations and can choose to access either (Batson 1998; Johnston 1988; N. P. Lyons, 1982, unpublished, 1983, 1988). Under conditions of stress, the influence various people exert in a group is likely to change (Janis 1982). So when national-level pivotal leaders' vision statements incorporate multiple advisors' ideas (Frum 2003; Gelderman 1997; Ritter and Medhurst 2003), both justice and care orientations will likely be present and changes in reaction

to catastrophe appear probable but no data indicate the direction of change.

**Hypothesis 2** For terrorism, insurgency, and other human causes of catastrophes, vision statements before a catastrophe will show both justice and care moral reasoning orientations. Vision statements after the catastrophe will show change but the direction is undefined and could be toward either justice or care.

### Explanatory Style

A primary assumption underlying the CAVE method is that normal people (and by extension normal organizations) score in the middle range and only extreme scores indicate disconnection from reality: individuals' extreme negative scores suggest depression and their extreme positive scores suggest unwarranted optimism. Previous research adds a predilection toward positive scores for pivotal national leaders. From 1900 to 1984, pivotal national leaders' explanatory style usually was more positive and showed less rumination in nomination acceptance speeches by candidates who later were elected President of the U.S. than for their unsuccessful opponents. Three prominent exceptions were reelections of Franklin Roosevelt and the investigators opined the cause was the environment of economic depression and global war (Zullow 1995). Candidates elected also were more positive in nomination acceptance speeches and when seeking reelection than in their inauguration speeches (Zullow 1995; Zullow and Seligman 1990). Saddam Hussein and George H. W. Bush were more positive before aggressive and risky behavior and less so before cautious and passive behavior (Satterfield and Seligman 1994).

**Hypothesis 3** For terrorism, insurgency, and other human causes of catastrophes, vision statements before a catastrophe will show explanatory style that is positive and vision statements afterward will show explanatory style that is less positive.

### Rumination

Intuitively, when something bad happens to a group, people in the group tend to talk about it. Assuming nothing bad happened proximately before a catastrophe, people should have little to ruminate about compared to what they have to ruminate about in the aftermath of a catastrophe.

**Hypothesis 4** For terrorism, insurgency, and other human causes of catastrophes, vision statements before a catastrophe will show less rumination than vision statements afterward.

## Methods

### Leader Selection

The seven leaders were selected by first identifying a catastrophe and then identifying leaders with available vision statements that preceded and followed it. While all perceptions underlying a leader's vision statement cannot truly be known, the surface content of these vision statements speaks plainly to the perceived threat of failure to achieve fundamental goals or to organizational survival. Lincoln's constant theme was preserving the Union. Wilson sought to make the world safe for democracy. Roosevelt spoke of a threat posed to the United States by Axis plans to divide the world. Kennedy saw the Soviet Union's missile build-up in Cuba as threatening a war neither nation could survive. Meir spoke of Arab nations trying to overwhelm hers. When Argentina attacked the Falkland Islands, Thatcher defended fundamental goals of self-determination and was outraged that Argentina believed it might get away with seizing British territory (Campbell 2003). Bush, after the September 11, 2001, terrorist attacks, spoke of the threat to Americans' way of life and freedom.

### Vision Statement Selection

For each leader, the process was to compile an inventory of speech texts before and after the catastrophe using published texts from official or authoritative sources that are represented as substantially correct and a foundation for the leader's reputation. The texts were examined to identify those meeting the criteria for a vision statement and then to identifiy the last three visions before the catastrophe and the first three visions after it. Subjective editing by type or topic was avoided because the objective was to examine each leader's pattern of actual vision statements of all types before and after a catastrophe.

### Structured Content Analysis

Structured content analysis fundamentally has two steps: extract scorable statements using stringent, predefined criteria, and score the extracts.

### Unit of Coding

In content analysis, the unit of coding varies over method. Only rumination scores all sentences in the speech. In this study, moral reasoning stage required no extractions

because the complete text of each vision was submitted for computer scoring. The other two methods first require extraction of statements that meet defined criteria then use those scorable extractions as the unit of coding.

### Extractions

For moral reasoning orientation and explanatory style, precedent is that one researcher do all extraction because the process is tedious and requires meticulous examination of a large volume of text (Peterson et al. 1992). After refresher training and practice on each method, each vision statement was examined for extractable texts at least four times for moral reasoning orientation and at least four times for explanatory style. Extracts were grouped by category—moral reasoning orientation, explanatory style, or rumination—sequenced using a table of random numbers, and raters were trained to holistically score each extract by comparing content to a scoring aid showing exemplars.

### Rating Process

For all manual scoring, a panel of nine paid research assistants—seven undergraduates and two master's level graduate students—from a regional college served as raters blind to each other and to outcomes. Each extract was scheduled to be scored by three raters and randomization of the extracts assured that three to nine raters would participate in scoring every vision statement, depending on how many extracts composed the vision statement. Raters were not told who said each passage but content clues may have allowed them to guess. For example, who said, "Yesterday, December 7, 1941—a date which will live in infamy"? [Roosevelt (1941/1950).] While some studies delete such clues, that was impossible here because they are vital to the vision statements.

### Reliability

Intercoder reliability was evaluated using Cronbach's (1951) alpha. A high alpha (approaching 1) indicates raters appear consistent in scoring the same dimension and scores differ because their opinions differ, not because raters are confused about how to apply rating rules.

### Results

#### Moral Reasoning Stage

Expert scorer Dawson, supported by a computerized system for scoring hierarchical complexity (Dawson and Wilson, 2004), was able to score 41 out of the 42 vision statements (Kennedy's Vision 5 was not scored because it did not present a rationale for its asserted solution) and reported the scores shown in Fig. 1. On the Dawson scale, they range from 15 to 20, which matches formal to meta-systematic-with-some systematic on the Commons' (Commons et al. 2005) scale (Table 2). The mean was 17.4, the median 17, the mode 17, and the standard deviation 1.3. On Commons' scale, the dominant Stage 17 is systematic-with-some-formal, which fits well with the leader of a system called a nation who expresses ideas logically.

Dawson and Wilson (2004) reported the minimum reliability of the computerized scoring system as equivalent to $\alpha = .80$. Differences between scores of more than 1/3 of a complexity order are statistically meaningful (T. L. Dawson, personal communication, August 5, 2003). On the Dawson scale, complexity orders appear every third integer: 15, 18, and 21. The intermediate numbers, for example 16 and 17, 19 and 20, represent one-third transitions to the next stage. Therefore adjacent steps are treated here as not significant and non-adjacent steps ($\Delta > 1$) as significantly different scores.

For moral reasoning stage, five leaders showed no significant change after a catastrophe but two, Roosevelt and Meir, showed a statistically significant stage reduction in the vision immediately following overt attack on their homeland. For Roosevelt the decrease was 2/3 of a stage and for Meir it was one full stage. For both, Vision 4 was scored at Stage 15, equaled only by Bush, whose Vision 4 also was Stage 15 but who did not show the same statistically significant decrease because his Vision 3 also was Stage 15.

Why would these leaders' first post-catastrophe visions all be at Stage 15? Roosevelt, Meir, and Bush faced unambiguous attacks that arguably require only the abstract stage for response—if attacked, defend yourself. Also, unambiguous attacks may generate high emotion that decreases working memory and therefore performance (M. L. Commons, personal communications, June 9 and December 22, 2003).

Of equal importance, why would the other four leaders' post-catastrophe visions all be higher than Stage 15? Lincoln, Wilson, Kennedy, and Thatcher all faced ambiguous attacks they needed to frame for organization members. Lincoln framed the battle as civil war while opponents framed it as war between free states. Wilson framed terror by submarine as harming the homeland while opponents argued isolationism protected America from the war raging in Europe. Kennedy framed the Soviet military buildup in Cuba as an unacceptable clandestine threat to American sovereignty while opponents argued Cuba invited Soviet military presence. Thatcher framed Argentina's invasion of

**Fig. 1** Moral reasoning stage by vision, 1–3 before catastrophe and 4–6 after catastrophe
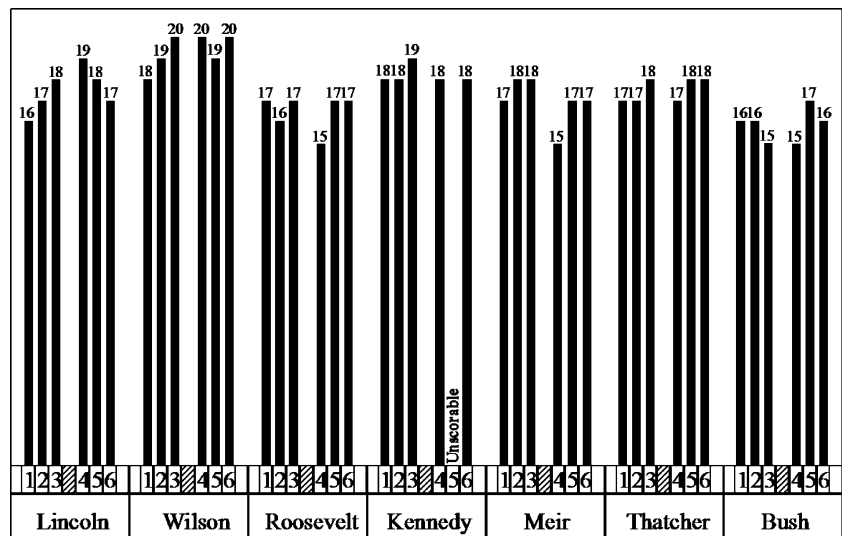


**Table 2** Sample behaviors for moral reasoning stages 15–21

| Dawson's stage | Commons' stage | Sample behaviors |
|---|---|---|
| 15 Consolidated abstract mappings | 10 Formal | Linear, logical, one-dimensional: If you are attacked, then defend yourselves. |
| 16 1st Transition to abstract systems | 10+ | Formal with some Systematic |
| 17 2nd Transition to abstract systems | 10++ | Systematic with some Formal |
| 18 Consolidated abstract systems | 11 Systematic | Systems words (e.g., legal system, society, the economy), relationships among variables: Organize and mobilize all the material resources of this country to supply the materials of war and serve the needs of the nation abundantly, economically and efficiently. |
| 19 1st Transition to single principles | 11+ | Systematic with some Metasystematic |
| 20 2nd Transition to single principles | 11++ | Metasystematic with some Systematic |
| 21 Consolidated single principles | 12 Metasystematic | Properties of systems, systems of systems: It only remains for the two great democracies to face their task with whatever strength God may give them. |

the Falkland Islands as an affront to the universal principle of self-determination and a brazen attempt to seize British territory while opponents used the Argentine name Malvinas to refer to the islands and said they were close to Argentina and historically claimed by Argentina.

The framing interpretation is consistent with leaders' need to explain their vision not only logically but also in terms of government or world systems. Systemic words drive ratings to higher stages. For moral reasoning stage,

Wilson's vision statements uniquely reached Stage 20, systems and metasystems—systems of systems. Wilson pressed for multi-national relationships that led to the League of Nations. Oppositely, Bush's visions tended to score at Stage 15 or 16, very linear in their logic. Frum (2003) described Bush as insistent that his speechwriters use "strict linear logic" (p. 48). Roosevelt's Stage 15 vision following the Pearl Harbor attack fits his deliberate choice to be brief and uncomplicated: Roosevelt rejected

Secretary of State Cordell Hull's recommendation that his speech be a thorough recitation of Japanese treachery (National Archives and Records Administration 2001, 2003).

Inspection of Fig. 1 suggests pattern effects, central tendencies, and significant changes in stage over time. The patterns include variations of one step between adjacent vision statements that look frequent and perhaps normal. Each leader's visions appear to rise and fall with some consistency around a mean not necessarily shared by other leaders. While the stage change between adjacent vision statements usually was not statistically significant, a skip analysis that compares non-adjacent visions, such as 1 and 3, 2 and 4, and so forth, shows significant differences that demonstrate the leaders did access different transition steps and stages. Lincoln showed wide variation, from 16 to 19, but adjacent visions scored only one step apart. Wilson showed smaller variation, from 18 to 20, again with adjacent visions not more than one step apart. The one-step pattern was true also for Kennedy and Thatcher.

Three anomalies are Roosevelt, whose fourth vision—his speech to Congress after the Pearl Harbor attack—showed a two-step drop; Meir, whose fourth vision—her speech announcing an invasion—showed a three-step drop; and Bush, whose fourth vision matched his third vision's low score, 15. For all three, their Vision 5 showed a significant, two-step increase, perhaps because they needed to explain the organization's system response to the catastrophe.

This is consistent with findings reported by Raphael (1982), who saw complexity scores decline just prior to the onset of crises and then rise subsequently, which Raphael interpreted as related to crisis resolution efforts. This might indicate deliberate framing of the speech immediately following the catastrophe to describe the situation in simple terms, for clarity or impression management, followed by another vision that elaborates on implications and complexities. Some evidence supporting this view appears in an unsolicited comment that expert scorer T. L. Dawson offered on Bush's Vision 4: "This is a carefully crafted speech, written by professional speech writers to be comprehensible to anyone over the age of 14 or 15. It has clearly been written by someone who could write at the systematic order, but has chosen not to do so" (personal communication, December 10, 2001).

A one-sample $t$-test of the 41 scores determined their mean differs significantly from a hypothetical population value at the .01 level ($p < .0005$). The mean is 17.3902 and the confidence interval extends from 16.8325 to 17.9480, which rounds to the integers 17 and 18, supporting assessment that adjacent numbers may be similar scores but non-adjacent numbers ($\Delta > 1$) are significantly different.

Overall, five out of the seven leaders (71.4%) showed no statistically significant change immediately after a catastrophe but two showed the decrease in moral reasoning stage immediately after a catastrophe that previous research suggested would occur. The five setting the norm, no significant change, are Lincoln, Wilson, Kennedy, Thatcher, and Bush, whose vision statements immediately following the catastrophe are within one integer ($\Delta \leq 1$) of their statements immediately preceding the catastrophe.

That the 5-leader norm did not show the decrease in stage consistent with expectations based on previous research is qualitatively significant in the face of evidence that stage has decreased for individuals in the past and that reasonable justifications for stage decrease exist. Possibly shared leadership, with its implied interactive influence by multiple people, influenced these vision statements toward explaining system responses.

Some vision statements are longer than others, raising question whether long visions overwhelm short visions. The median number of sentences in the 41 scorable visions is 102.5. Of the 41 scorable visions, 20 have 102 sentences or less (designated the low set) and 21 have 103 sentences or more (designated the high set). A paired-comparison $t$-test for that split shows the means for the low and high sets are not statistically different at the .05 level ($p = 0.860$), so long visions do not dominate results for moral reasoning stage.

Hypothesis 1 was that vision statements before terrorism, insurgency, and other human causes of catastrophes will show more complexity, expressed as high moral reasoning stages, and vision statements afterward will show less complexity, marked by lower moral reasoning stages. Analysis of these vision statements by these leaders supported the hypothesis only for Roosevelt and Meir, the two leaders experiencing overt military attack on their homelands. Significant increases for three leaders in the second speech following a catastrophe were possibly caused by deliberate simplification of the first speech followed by elaboration on implications and complexities in the second. Most leaders addressing human-caused catastrophes, including terrorism and insurgency, showed no significant change in moral reasoning stage after a catastrophe.

Moral Reasoning Orientation

Raters scored 115 extractions for moral reasoning orientation. Scores ranged from 100% caring to 100% justice orientation (Fig. 2). Each extraction was scored holistically by three raters on a 4-point linear scale: only caring, mostly caring, mostly justice, only justice. For statistics, "only caring" and "only justice" responses were assigned twice the weight of "mostly caring" and "mostly justice." The

**Fig. 2** Moral reasoning orientation ratings for Care and Justice on a 4-point scale
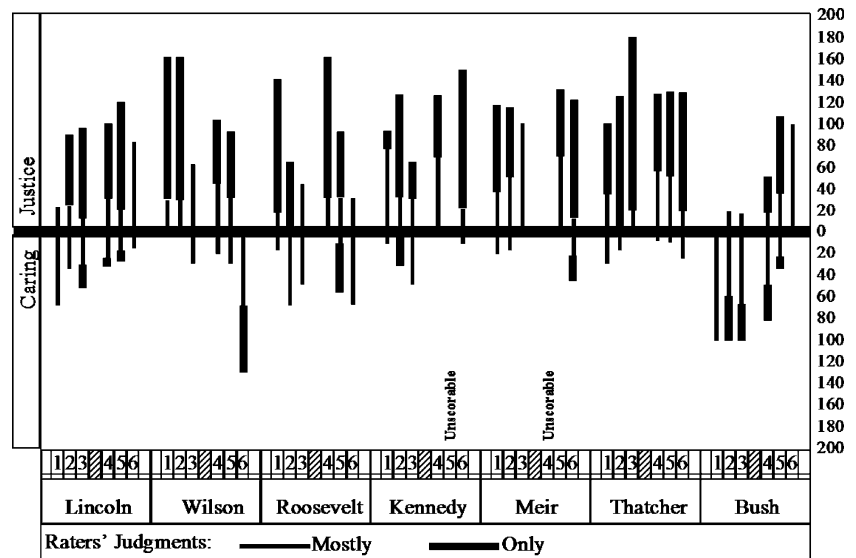


mean of the three raters' scores was used as the extraction's overall score. The extractions for each vision statement were recombined and the consolidated mean became the vision statement's overall score. Of the 42 vision statements, 40 were scorable and 2 had no content meeting extraction criteria (Kennedy's fifth vision was missing a real-life moral dilemma and Meir's fourth vision was missing an asserted solution). Cronbach's α = 0.90.

One-sample $t$-tests showed the 40 vision statement scores are significant at the .01 level ($p < .0005$) with a mean of 0.7478, a standard deviation of 0.8160, and a 99% confidence interval ranging from 0.5485 to 0.9472 ($\Delta = 0.3987$). Their 95% confidence interval ranged from 0.5971 to 0.8986 ($\Delta = 0.3015$). For the set of 7 visions scored care dominant, $p = .008$ with a mean of −0.6186 and a standard deviation of 0.4155. For the set of 33 visions scored justice dominant or neither care nor justice dominant, $p < .0005$ with a mean of 0.9206 and a standard deviation of 0.4473.

For moral reasoning orientation, six (85.7%) leaders showed significant change when the vision immediately preceding a catastrophe was compared to the vision immediately after it. Five (71.4%) showed an increase in justice and one showed an increase in care (Meir was excluded because she had no scorable Vision 4).

Lincoln, Wilson, Roosevelt, Kennedy, and Bush showed the increase toward justice. A paired-comparison $t$-test showed it was significant at the .05 level ($p = .032$). Thatcher's moral reasoning orientation, from Vision 3 to 4, increased toward care by 0.3667, significant because the change is greater than the 95% confidence interval for the 7-leader dataset ($\Delta = 0.3015$).

One possible explanation is that these changes indicate deliberate framing to garner followers' support. Wilson's

Vision 6 provides some support for this. It was a Flag Day speech in which Wilson spoke of sending Americans to fight World War I and framed it as beneficial to democracy and mankind worldwide.

Another important outcome is Bush's dramatic change from care toward justice. From Vision 3 to 4 his moral reasoning orientation increased toward justice by 0.5000, significant because the change is greater than the 99% confidence interval for the 7-leader dataset ($\Delta = 0.3987$). A paired comparison $t$-test of Bush's set of Visions 1–3 to his set of Visions 4–6 showed the change was significant at the .05 level ($p = .036$).

Bush's first three caring vision statements are part of a series of brief pre-recorded Saturday morning radio addresses to the nation, each with a single theme that advocated social welfare and education reforms. The fourth caring statement, immediately following the terrorist attacks, praised responses to the catastrophe. Frum (2003) attributed that vision statement principally to Bush's senior communication advisor, Karen Hughes, saying she threw out words others had drafted and replaced them with her own.

Frum (2003) criticized the caring, compassionate tone of Vision 4 and wished it had been a war speech, justice oriented, because Americans had been slaughtered and the country was furious and ready for war against anyone connected to the attack. Frum said such criticism caused Hughes to back away from drafting Vision 5, Bush's September 20 address to a joint session of Congress and to the nation, the first of his justice-oriented visions. According to Frum, Michael Gerson chaired the drafting of that speech and the change in moral orientation garnered support: A poll after September 11 showed about half the country felt Bush could cope with the crisis and a poll after

the September 20 speech showed "levels of trust no leader in American history had ever previously achieved" (p. 148). Frum did not report who influenced Vision 6 two days later.

Meir and Thatcher were unusual in always being scored justice dominant. One explanation may be that the presidents used a "presentation" style but Meir and Thatcher were both prime ministers speaking primarily in a parliamentary forum, perhaps using a discussion or debating style. Another explanation might relate to image setting. As Bush's shift from care to justice was attributed to a deliberate shift away from an appearance that could be interpreted as vulnerable and not in command (Frum 2003), perhaps Meir and Thatcher chose justice orientation for similar reason: belief that it better created an image of invulnerability and powerful command. For them, such belief could be based on one or more of a number of factors such as political experience, antipathy toward gender stereotypes, or advice from consultants. Triangulating information is that before the Falkland Islands were attacked, Thatcher already had "taught the public to see her as the Iron Lady...a resolute defender of British interests and British pride" (Campbell 2003, p. 126).

Testing showed long vision statements did not overwhelm short ones. The median number of moral reasoning orientation extractions is two (12 at that number). Of the 40 scorable vision statements, 13 have fewer than two extractions and 15 have more than two. If the 12 with two extractions are split chronologically, so the first 7 are added to the low extractions set and the last 5 are added to the high extractions set, the paired-comparison $t$-test shows the null hypothesis is accepted at the .05 level ($p = 0.411$).

Hypothesis 2 was that vision statements before terrorism, insurgency, and other human causes of catastrophes will show both justice and care moral reasoning orientations and vision statements afterward will show a change but the direction is undefined and it could be toward either justice or care. Analysis of the vision statements for this study supported the hypothesis; six leaders showed change, five changed toward justice, and one changed toward caring. Bush dramatically changed from caring to justice orientation and the change occurred when presidential advisor Hughes reportedly withdrew from drafting his speeches. The two non-American leaders, Meir and Thatcher, showed more consistent justice orientation, possibly because they spoke in a different, parliamentary forum or possibly for gender or image reasons.

## Explanatory Style

Raters scored 423 extractions for explanatory style. Figure 3 shows the explanatory style combined scores.

Columns rising above the mid-point indicate positive direction and columns descending below the mid-point indicate negative direction.[1]

Explanatory style tasks raters to score each extraction three times: once for internality versus externality, once for stability versus instability, and once for globality versus specificity. Each characteristic is scored on a scale from 1 to 7; the mid-point, 4, is neutral. Scores below 4 favor one polar quality and scores above 4 favor the other. Each characteristic can be charted separately and all three scales can be combined by summing the scores. When combined, the scores can range from 3 to 21; the midpoint, 12, is neutral. Scores below 12 favor one polar quality and scores above favor the other. A complication is that occurrences the speaker perceives as having bad impact must be processed separately from occurrences the speaker perceives as having good impact. The polar qualities for good occurrences are opposite the polar qualities for bad occurrences: A score of 21 is highly negative for a bad occurrence but highly positive for a good occurrence.

Each extraction was scheduled to be scored by three raters and two-thirds were. One-third received only two scores due to a problem that curtailed one rater's participation. Of the 42 vision statements, 36 were scorable, and 6 had no content meeting extraction criteria. Overall, 144 good extractions and 279 bad extractions were scored. The good extractions tended to score slightly above the scale's mid-point, which for good events is in the positive direction. The bad extractions tended to score below the scale's mid-point, which for bad events is in the positive direction. The exception is the globality versus specificity scale, which showed the reverse pattern. Cronbach's $\alpha = 0.58$ for internality versus externality, 0.58 for stability versus instability, and 0.57 for globality versus specificity. One-sample $t$-tests for each of the three characteristics (good and bad scores combined) showed the scores were significant at the .01 level ($p < .0005$).

Combined scores were predominantly neutral or in the positive direction. The norm for the 36 visions' combined scores is that 53 (91.4%) of the 58 combined scores were in the positive direction or not significantly different from the neutral median, and only 5 (8.6%) were in the negative direction and significantly different from the neutral median. A possible implication is that the norm for these visions was to present an "objective" or positive outlook, neutral or positive explanatory style, so it was a rare deviation to convey negativity.

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[1] The reference labels "pessimism" and "optimism" usually associated with explanatory style analysis at individual level are replaced for this study by the terms "negative" and "positive" that are more meaningful for analysis at the organizational level.

**Fig. 3** Explanatory style combined scores predominantly positive or neutral
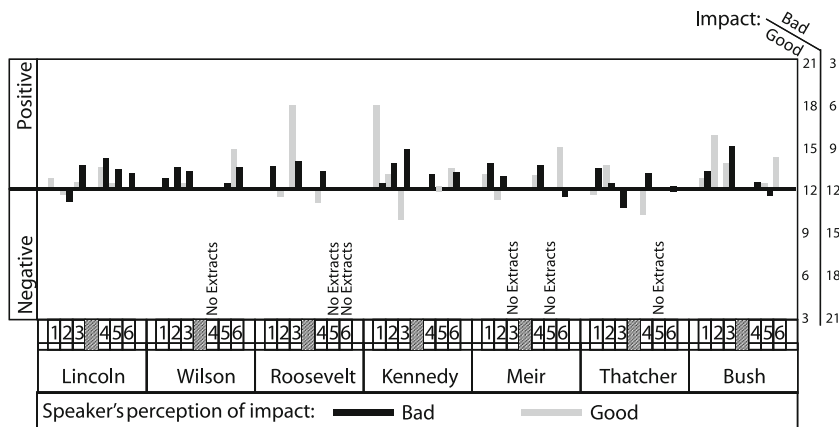


For explanatory style, four leaders showed less positive or negative explanatory style after a catastrophe. Roosevelt, Kennedy, Thatcher, and Bush were less positive after a catastrophe when scores for bad occurrences for the first three visions were compared to scores for the last three. A paired-comparison $t$-test showed the change was significant at the .05 level ($p = 0.020$). The other three leaders were statistically unchanged—more positive, but not significantly so ($p = 0.140$).

Of the six vision statements containing no text meeting criteria for extraction, four lacked a discrete occurrence (for example, Wilson broadly characterized the recent course of the Imperial German Government to be nothing less than war) and two lacked a clear causal relationship (for example, both Meir and Thatcher chronicled wartime events without explaining what preceded and covaried with those events).

Testing to determine if long vision statements overwhelmed short ones showed they did not but the condition bears watching. The median number of explanatory style extractions is 10 (four have 10 extractions). Of the 36 scorable vision statements, 16 have 9 extractions or less and 16 have 11 extractions or more. If the four with 10 extractions are split chronologically so the first two are added to the low extractions set and the last two are added to the high extractions set, then the mean of casewise differences between the two sets can be tested. A paired-comparison $t$-test for that split shows the difference is not significant at the .05 level ($p = 0.052$).

Hypothesis 3 was that vision statements before terrorism, insurgency, and other human causes of catastrophes will show explanatory style that is positive and vision statements afterward will be less positive. Overall, the seven leaders showed neutral or positive explanatory style, but four showed significant change after a catastrophe and the direction was to be less positive or to be negative.
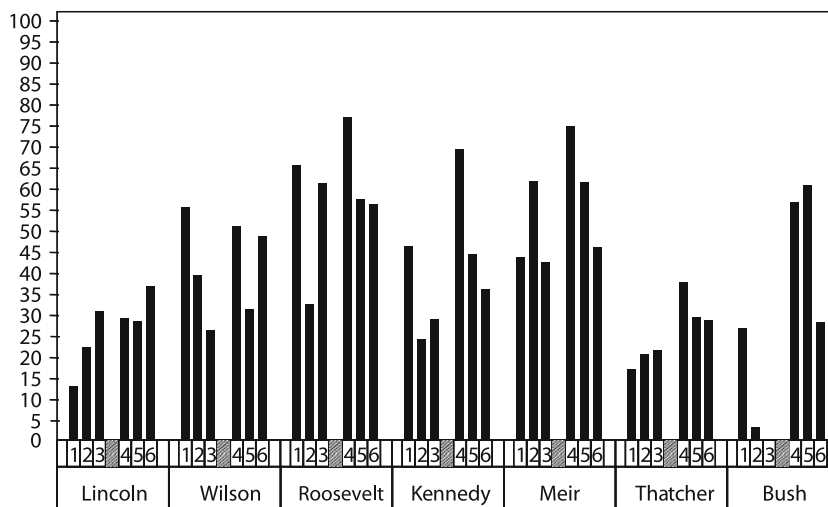
Rumination

Raters scored 4,400 extractions from the 42 vision statements for presence of rumination (Fig. 4). Rumination is present if, from the speaker's point of view, the sentence focuses on a bad event, explains a bad event, or presents a negative emotion. Each extraction was scored by three raters. For each vision, the sentences were recombined and the percentage of sentences containing rumination became the overall score.

Rumination scores ranged from 0 to 76.92%, with a mean of 39.98%, a median of 37.47%, and a standard deviation of 18.26. Cronbach's $\alpha = 0.58$. A one-sample $t$-test showed the scores were significant at the .01 level ($p < .0005$).

For rumination, all seven leaders showed high rumination after a catastrophe. Franklin Roosevelt always had high rumination. He stands out for both having the most rumination and showing the least variation in amount of rumination. Previous research reported that Roosevelt showed more rumination than the opposition candidate during his three reelection campaigns (Zullow 1995), possibly because his administration faced both the Great Depression and World War II. "Fireside Chats" Roosevelt conducted by national radio broadcast stand as evidence that Roosevelt felt need to discuss the nation's problems with the nation's people. His consistently high rumination level is consistent with effort to increase "disconfirming information" in the foreground of people's thoughts and thereby win increased attention to and support for his visions.

The pre-catastrophe rumination score for Roosevelt was 61.15% and the post-catastrophe score was 60.10%, a decrease of 1.05 points, too small to be statistically significant. All other leaders showed increases. With Roosevelt excluded as an outlier, a paired-comparison $t$-test of the other six leaders' Visions 1–3 with Visions 4–6

**Fig. 4** Rumination percentage
by vision, 1–3 before
catastrophe and 4–6 after
catastrophe



showed rumination increases after a catastrophe were significant at the .05 level ($p = 0.039$). The largest amount of change is attributed to Bush. When only Visions 3 and 4 are compared, Lincoln showed an insignificant decrease and the other six leaders showed increases significant at the .01 level ($p = 0.005$).

A logical explanation for increases in rumination, or continuation of a high level of rumination in Roosevelt's case, is that when something bad happens to a group the members of that group talk about it. The insignificant decrease between Lincoln's Visions 3 and 4, like Roosevelt's overall pattern, probably is attributable to sustained high rumination. Lincoln spoke at length in Vision 3, his inaugural address, about signs of insurgency and spoke in Vision 4, following the loss of Fort Sumter, about his unsuccessful efforts to prevent that loss.

In individual speech data, Bush stands out for very little rumination in Vision 2 and none in Vision 3. A logical cause for so little rumination is that both visions advocated education reforms and looked more toward future benefits than toward past wrongs. If Schein (1992) was right about people not paying attention to a leader's vision unless disconfirming information makes them hurt, then the low amount of rumination in those two vision statements may have decreased their effectiveness.

Testing to determine if long vision statements overwhelmed short ones showed they did not. The median number of sentences per vision statement is 102.5. Of the 42 vision statements, 21 have 102 sentences or less (designated the low set) and 21 have 103 sentences or more (designated the high set). The paired-comparison *t*-test for that split shows the null hypothesis is accepted at the .05 level ($p = 0.994$).

Hypothesis 4 was that vision statements before terrorism, insurgency, and other human causes of catastrophes will show less rumination than vision statements afterward.

Analysis of the vision statements used for this study partially supported the hypothesis and the deviations were only that levels of rumination that already were high remained high. Bush stood out for very little rumination in Vision 2 and none in Vision 3, and Roosevelt stood out for having the most rumination and showing the least variation.

Interactions

Correlation studies showed that moral reasoning stage, moral reasoning orientation, explanatory style, and rumination operated independently, and that explanatory style for good occurrences operated independently of explanatory style for bad occurrences, as posited in the explanatory style scoring manual (Peterson et al. 1992).

For factor analysis, $N = 42$ is quite small. Table 3 shows that four factors emerged: explanatory style good (eigenvalue = 1.832, 29.796% of variance), explanatory style bad (eigenvalue = 1.622, 28.176% of variance), internality/externality for bad events (eigenvalue = 1.070, 18.215% of variance), and moral reasoning stage (eigenvalue = 1.013, 17.114% of variance). Moral reasoning orientation and rumination loaded on all factors.

Table 4 shows calculated effect size, a power analysis quantifying the impact of a particular intervention, the catastrophe in this study. Post-catastrophe scores for all leaders were used for the "experimental group" and pre-catastrophe scores for the "control group." Missing data were filled by the mean of scores present. Catastrophe had a large effect only for rumination, consistent with the logic that people talk when bad things happen. The slight effect for other variables is consistent with an interpretation that the catastrophe had less effect on the vision statements than some other condition as yet not discussed.

**Table 3** Factor loadings

| Components | Factors | | | |
|---|---|---|---|---|
| | Explanatory style for good events | Explanatory style for bad events | Internality/ externality for bad events | Moral reasoning stage |
| Explanatory style good combined scores | 0.928 | | | |
| Explanatory style good stability/instability | 0.928 | | | |
| Explanatory style bad stability/instability | | 0.919 | | |
| Explanatory style bad combined scores | | 0.918 | | |
| Explanatory style bad internality/externality | | | 0.987 | |
| Moral reasoning stage | | | | 0.995 |

**Table 4** Calculated effect sizes

| Variable | Post-catastrophe mean (SD) | Pre-catastrophe mean (SD) | Cohen's $d$ effect size |
|---|---|---|---|
| Moral reasoning stage | 17.43 (1.40) | 17.38 (1.17) | 0.039 None |
| Explanatory style bad internal/external | 2.77 (0.73) | 2.97 (0.86) | −0.174 Small |
| Explanatory style good | 12.70 (1.64) | 13.05 (2.02) | −0.190 Small |
| Explanatory style bad | 11.13 (0.71) | 10.78 (1.04) | 0.193 Small |
| Moral reasoning orientation | 0.44 (0.97) | 0.13 (0.96) | 0.321 Small |
| Rumination | 47.16 (15.54) | 32.79 (17.94) | 0.856 Large |

## Discussion

With respect to moral reasoning stage, the model of hierarchical complexity predicts display of a predominant stage consistently across tasks of the same complexity. Remembering that adjacent stage numbers are not significantly different, these vision statements by these leaders met that prediction with rare exceptions and each exception possibly can be explained by a situational mediator.

Thatcher and Kennedy best displayed predominant stage and consistency. Thatcher's scores were modal at 17-18 and Kennedy was modal at 18-19. They had no exceptions.

Roosevelt and Meir showed predominant stage and consistency with the exception that their vision immediately after the catastrophe was lower than their predominant stage. Roosevelt was modal at 16-17 but the vision immediately after the catastrophe scored lower, 15. Meir was modal at 17-18 but the vision immediately after the catastrophe scored lower, 15. The mediator for both exceptions was that they followed overt military attack on the leader's homeland, a situation for which Stage 15 linear logic was adequate and perhaps judged most appropriate: When attacked, retaliate to defend yourself.

Lincoln, Wilson, and Bush showed predominant stage but less consistency. The direction of score discrepancy varied. Lincoln was modal at 17-18, with two exceptions: the first vision scored lower, 16, and the vision immediately after the catastrophe had his highest score, 19. Wilson

was modal at 19-20 with one exception: the first vision was lower, 18. Bush was modal at 15-16 with one exception: the second vision after the catastrophe had his highest score, 17.

Lincoln's first vision was expressed during his train trip over a number of days to Washington, D.C. for the inauguration. During this time he made many speeches and expressly said he was restraining himself from discussing the complexity of political dissent that led states to secede from the union. That would explain his use of a lower reasoning stage during that trip, which is what the first vision score of 16 shows. Lincoln's vision after the catastrophe, made to Congress, explained his awareness of a threat to Fort Sumter, his efforts to create a diversion that might prevent an attack on Fort Sumter, circumstances that frustrated success for that diversion, his efforts to send peaceful aid to Fort Sumter, and his explanation of the political significance of the insurgents' attack on the fort. It was a topic explained at system level and that would explain his use of a high reasoning stage.

Wilson's first vision announced severance of diplomatic relations with Germany as a consequence of Germany's declaration that it planned to sink all ships encountered in the eastern Mediterranean and around Great Britain, France, and Italy. In April of the preceding year, the United States had warned it would do this if Germany did not abandon such submarine warfare. So, with Germany's new declaration, Wilson saw no choice but to initiate the

promised systemic response and this situation fit Stage 18, systematic reasoning.

Interestingly, Bush's highest score, the second vision following the catastrophe, is the speech collateral information identified as prepared under the supervision of Michael Gerson after the usual coordinator, Karen Hughes, withdrew. The situation suggests that Gerson's influence may have increased the reasoning stage above the usual target. But from a different perspective, why would any vision statement be at a level lower than the highest reasoning stage the leaders are capable of? A reasonable answer emerges and is supported by the other three characteristics measured in this study.

While vision statements by these leaders following a catastrophe usually showed no significant change in moral reasoning stage, they usually did show significant change in moral reasoning orientation and it usually was toward justice, and they usually did show neutral or positive explanatory style but after a catastrophe four shifted significantly toward less positiveness, and they always showed high rumination after a catastrophe.

Random change is statistically ruled out by one-sample t-tests that showed the scores for each variable were significantly different than for a hypothesized sample and the eye sees patterns and trends in the graphs: rising and falling moral reasoning stages, predominance of justice moral reasoning orientation, predominance of positive explanatory style, and levels of rumination characteristically low for one leader or high for another.

Organizational systems perspective offers a concept that unifies all of the findings: system levers. Levers allow a small effort by the leader to have a large effect on the organization. Systems can contain many levers and the data here appear to show these leaders' vision statements adjusting these four variables as if they are systems levers able to influence organization members to behave in a desired direction. This explanation is supported by the correlation, factor analysis, and effect size tests that showed independence in these four variables and, except for rumination, more constancy than reaction to catastrophe.

Moral reasoning stage at least sometimes corresponded to the complexity of the leader's point: low after an overt attack prompting self-defense, and high to argue the merits of collaboration among nations—systems of systems. Moral reasoning orientation and explanatory style set tone: the rights and rules of justice combined with neutral objectivity or positive outlook. Rumination's reaction to catastrophe can be justified, using Schein's theory, as a lever to influence people to listen to the leader's vision and support it.

Collateral evidence supports finding that at least some of the observed changes were purposeful and achieved effects the lever concept expects. The principle of levers answers questions about why organization members attend to leaders' vision statements, what benefit they derive, and how a leader achieves community feeling and response in the organization.

The data showed these leaders reacting to a catastrophe attributed to terrorism or insurgency in the same way as other human-caused catastrophes that leaders framed for their organization. The significant difference was leaders' reaction to overt attacks that prompted self-defense. Viewed through the window of shared leadership, these seven pivotal national leaders appeared to react to these seven human-caused catastrophes by adjusting moral reasoning stage, moral reasoning orientation, explanatory style, and rumination as if they are levers a leader can use to adjust the organizational system and influence its members.

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