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ARTICLE

Reporting through the lens of the past

From Challenger to Columbia

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ABSTRACT

Collective memory, the publicly shared meaning of a common past, can structure both news stories and reporters' search for information within the broader context of journalistic practices. It can also provide reporters with an independent perspective, balancing elite-dominated news frames. Following the space shuttle Columbia's crash, journalists turned repeatedly to the 'lessons' of the accident that claimed the Challenger shuttle 17 years earlier both in formulating questions at NASA briefings and in reporting Columbia's destruction and the subsequent investigation in print. In many instances, journalists' reliance on these memories is entirely implicit in the finished news stories, making Challenger a ghostly presence that led reporters to focus on NASA's inadequacies rather than on the mechanical causes of Columbia's demise.

KEY WORDS ▪ Challenger crash ▪ Columbia crash ▪ collective memory ▪ framing ▪ hegemony ▪ press autonomy ▪ space reporting ▪ typification

The National Aeronautics and Space Administration refer to 1 February 2003 as a 'bad day'. At about 8:00 am local time on Saturday morning, the space shuttle Columbia broke up in the atmosphere above Dallas, Texas, only 16 minutes shy of its scheduled landing in Florida. All seven astronauts aboard were killed, and pieces of the craft were scattered across at least two states. No spacecraft had ever been destroyed on re-entry. Reporters and NASA officials waiting to welcome home the astronauts now had a very different sort of day ahead of them. The president spoke, memorial services were planned, and late that afternoon, the first formal briefings were held to provide the media with information about the crash. The electronic media, then, had minutes, the print media mere hours, to gather information and recount the story of

Columbia's demise. Such extreme deadline pressures are not uncommon in journalism, but they are far from routine reporting.

Previous research has shown how general reporting rules and practices help reporters gather information and tell stories about unexpected events. Tuchman (1972) describes the role of 'typifications', categories reporters use to define what kind of news an event represents, what kinds of resources are needed to cover that event, and whether it is 'hard' or 'soft' news. Berkowitz's (1992) subsequent work on how reporters cover major, unexpected events expands Tuchman's analysis to explore the use of typifications as a means of making decisions about what sort of story to tell about an event. Other researchers have also emphasized the use of story templates or narrative genres to transform events into stories (e.g. Darnton, 1990; Lule 2001). Work in this tradition has emphasized how reporters categorize specific events as members of a class of events-as-news.

This study demonstrates that reporters sometimes rely not on generic categories but on collective memory of specific pasts to structure their reporting on major, unexpected events and that this practice has important implications for the ways reporters inform the public. Almost exactly 17 years before Columbia crashed, on 28 January 1986, the space shuttle Challenger was destroyed shortly after lift-off, and in the chaotic week following Columbia's fiery end, reporters turned repeatedly to their shared memories of this public past, to the 'lessons' of the Challenger accident, as they questioned officials and assembled information into stories.

Earlier research on the role of the past in the news may have underestimated its influence. Studies have shown that journalists use the past frequently (Edy, 2001) and in a variety of ways (Edy, 1999; Lang and Lang, 1989). When using the past as a tool for interpreting more recent events, journalists tend to draw historical analogies that compare the past to the present or make use of the past as a historical context, a part of the environment that gave rise to current circumstances (Edy, 1999). Recent research has demonstrated that reporters are increasingly likely to situate current events in historical contexts (Barnhurst, 2003; Barnhurst and Mutz, 1997). However, in considering only explicit references to past events in finished news stories, these studies may have missed how collective memory structures reporters' search for information and influences the interpretive structure of news without being invoked explicitly in the finished product.

The particular properties of collective memories offer unique opportunities and dangers for journalists in serving their democratic functions. Collective memory can offer reporters storytelling opportunities they would otherwise be hard-pressed to employ. Literature in political communication has described reporters' dependency on public officials for information (e.g.

Sigal, 1973) and the consequent dominance of official perspectives and story frames in the news (e.g. Bennett, 1990; Entman, 1991; Gitlin, 1980). Critical scholars have actively wondered how to free the news from its dependence on officials and elites. Lawrence (2000) argues that accidents like the Columbia crash and other forms of what she calls 'event-driven news' offer more possibilities for media independence from elites than does routine (or 'institutionally-driven') news. However, not every accidental event results in a loss of elite control (see for example Entman, 1991), and Lawrence (2000) observes that event-driven news coverage is under-theorized. Collective memory may be an especially important tool for reporters in resisting official stories that are offered up to account for events. It can suggest an alternative interpretation, and its status as a 'real' event certifies the 'objectivity' of the interpretation it suggests.

At the same time, using the past as a reporting tool presents risks. Typification of any kind emphasizes what is 'routine' about even a major, unexpected event rather than what is distinctive about it. Collective memory does the same: it emphasizes similarities between past and present. The result may be that reporters and officials miss important innovations and differences. Indeed, collective memory presents greater risks in this regard than typification. Because of their generic nature, typifications may be more changeable as an event unfolds over time. In contrast, specific memories draw stronger parallels between past and present and are thus difficult to abandon. Of course, in a socially constructed world, what 'really' caused Columbia's crash is unknowable. The official investigation report is another version of the story that may be based on solid science but is also influenced by organizational politics. Still, it is worthwhile thinking about the risks of using collective memory to guide storytelling, particularly in light of the fact that its use is often invisible to audiences.

Unlike typification, collective remembering draws upon a specific, historical past rather than an ahistorical accumulation of like events. However, collective memory may be the wellspring of typifications, for specific pasts may evolve into generalized expectations or social values that eventually come to be dissociated from the pasts that gave rise to them. Evidence of such a connection has remained elusive, although Schudson's (1992) work on Watergate and Novick's (1999) and Zelizer's (1998) on the Holocaust do take important steps in this direction.

This study examines how collective memory shapes reporters' search for information about current events and its impacts on the way news stories about current events are framed, considering explicit references to the past and more indirect references that draw upon nuanced constructions of the similarities between past and present. Understanding how collective memory is

invoked in news coverage is important because it helps to explain the choice of sources and of news frames, and because using the past to frame the present, whether explicitly or implicitly, can be a double-edged sword. It can grant reporters some independence from elite representations of events without violating the tenets of objectivity (see Edy, 1999), but it can also lead reporters to ask the wrong questions of officials and fail to hold them accountable (see Schudson, 1992). This study not only presents a richer picture of the ways that collective memory of the past influences news of the present, it also offers some insight into how specific pasts evolve into more generic typifications.

Methods

To trace the presence of Challenger memories in the coverage of Columbia's demise, we began with a reporter's account of the 'lessons' of Challenger. Malcolm McDowell's 'instant' history of the Challenger accident, published in early 1987, is a space reporter's summation of the accident and subsequent investigation. We used it as a guide to how the Challenger accident is remembered in the popular media.

To assess the role of these Challenger memories in the information-gathering process, we examined transcripts of the press briefings held the day Columbia failed to return home safely and in the four days that followed, looking for similarities between reporters' construction of the event as revealed in their questions and the collective memory of Challenger as outlined by McDowell (1987). Although reporters gather information in many ways, briefings are one of the few places that this process is visible and preserved for later analysis. These first few days are likely to be crucial in the overall framing of the event because reporters are searching for 'a handle' on 'the story'. News frames established early in an event's trajectory are influential for reporters, elites, and audiences because altering them requires changing information-gathering patterns and the expectations of news professionals and audiences.

To examine how Challenger memories move from the information-gathering phase to the news itself, we examined the reports produced by some of the journalists credited with asking Challenger-derived questions at the briefings. We chose the reporters partly because their persistent interest in similarities between the two accidents, indicated by their questions at the briefings, suggested they were likely to use the past in their reporting. Two other considerations also played a role: the prominence and influence of the organizations they work for, and the availability of their reports in the Nexis database. In addition to analyzing their storytelling, we considered their selection of interview subjects as an indicator of Challenger's influence.

Finally, we conducted semi-structured telephone interviews with two of the reporters whose coverage we examined in order to validate our assessment that Challenger memories permeate Columbia's coverage. Our interview protocol, which consisted of four questions (available from the authors), was designed to encourage our subjects to describe their own process for covering the Columbia story before we specifically asked about the Challenger accident or revealed the central purpose of our research. In both interviews, our subjects brought up Challenger, often several times, before we did. Despite our brief protocol, interviews lasted approximately one hour as reporters shared at length their experiences in covering the Columbia crash. One might ask whether the memories of experienced space reporters are in fact collective, particularly if, like Kathy Sawyer of the *Washington Post*, they covered the Challenger crash. However, the essence of collective memory is not whether or not one has a personal memory of a public event but rather whether one shares an understanding of the public past with others. Our analysis focuses on commonalities in reporting and storytelling shared by all of these reporters that reveals a shared understanding of the Challenger accident.

'Lessons' of history: Challenger

Scholars and pundits consider the launching of the space shuttle Challenger on 28 January 1986 to be an archetypal example of bad decision-making arising from poor decision-making processes (Esser and Lidoerfer, 1989; Hirokawa et. al., 1988) and institutional culture (Vaughan, 1997). The immediate causes of its destruction were cold weather conditions that exacerbated problems with the O-rings, essentially large synthetic rubber washers, used in the solid rocket boosters that should have helped put the shuttle in orbit. Stiff with cold, the O-rings failed to seal, a booster exploded, and the orbiter was destroyed. But the 'lessons of history' from the Challenger disaster have typically focused not on mechanical failure but on the decision-making process and institutional culture that led to the launch decision despite concerns about the weather and the O-rings' performance.

The renowned, iconic event that illustrates processes thought to contribute to the accident was a lengthy teleconference held the night before the launch. NASA representatives and the outside contractor that made the solid rocket boosters, Morton-Thiokol, had known for more than a year that the O-rings often experienced partial failure during a launch and that if they failed, the shuttle would be seriously damaged or destroyed. Yet they believed, or convinced themselves, that the shuttles were safe enough to fly while the O-ring technology was redesigned. On the day before Challenger was to launch,

engineers at Morton-Thiokol expressed reservations about O-ring performance during the proposed launch because it was scheduled to occur on a morning when weather forecasters said the Kennedy Space Center would experience record cold, an overnight low of 18F degrees. Previous experience suggested that the O-rings were even more vulnerable in cold weather. A teleconference was scheduled to discuss the issue. As McDowell claims:

> The long Monday night teleconference has acquired mythical proportions . . . Many people have come to view the conference as a tense and acrimonious battle of wills between callous bureaucrats on one side and greedy capitalists on the other, with a virtuous group of engineers forming a Greek chorus of alarm, which the villainous managers on both sides scornfully ignored. (McDowell, 1987: 191)

Somewhere in the decision-making process, a critical line was crossed. Although the flight safety standards set out by NASA demanded that contractors and managers certify the shuttle safe to fly, in the course of the meetings, NASA administrators, managers and contractors began to demand evidence that the shuttle was *not* safe to fly as a prerequisite for delaying the launch. The Morton-Thiokol engineers (and, later, engineers at Rockwell International asked about potential problems that the buildup of ice on the fixed service structure that surrounded the shuttle might produce) could not provide hard data that the shuttle was not safe because launch conditions were outside of known parameters. Managers and corporate representatives therefore certified that it was safe.

Reasons for these failures have been variously placed. Communication chains were flawed. Morton-Thiokol was renegotiating its valuable contract to provide NASA with solid rocket boosters and may have been reluctant to acknowledge the weaknesses of its technology. NASA managers and administrators, seeking to preserve and expand their budget and assure the future of manned spaceflight, had emphasized the reliability and routine nature of shuttle flight, so repeated delays and delicate technology were more than an annoyance. Putting Challenger in space on 28 January could mean a mention in the president's state of the union address that night, an important bump up the federal agenda. And so they launched. Less than a minute later, the shuttle experienced a catastrophic explosion.

McDowell (1987) suggests that reporters had incentive to learn the 'lessons' of Challenger. He argues that prior to the Challenger crash, space reporters were uncritical, typically unaware, of NASA's deficiencies. While he defends his profession by saying that NASA was adept at carefully controlling information, he also notes reporters' failures to question the information they were provided. For reporters, there is no greater sin. Whether or not the next generation of space reporters was motivated by a desire to do better than its

forebears, the 'lessons' of Challenger were an important resource for them on a chaotic Saturday morning and in the first few days that followed.

In locating the briefing questions asked during the first five days that drew upon the Challenger accident, we went beyond those that explicitly mentioned the 1986 crash. We also identified those that brought the 'lessons' of Challenger to bear upon the Columbia crash, including those that:

- sought to uncover NASA decision-making practices regarding flight safety,
- asked about prior knowledge of troubled systems,
- questioned the performance of outside contractors,
- asked about weather conditions and ice.

Briefings

Knowing how a specific event was reported without being in position to observe the process unfolding is difficult. Even post hoc interviews with the reporters themselves, which we use here to corroborate our assessment of Columbia's coverage, are subject to a kind of rationalizing in which the way to cover the event has become 'obvious' and the narrative uncertainty that accompanies breaking news is lost. However, one way to witness news making is by taking advantage of one of the few places reporters can be seen gathering information: press briefings. Here, interaction between reporters and officials is direct and unmediated. Here, officials' efforts to guide reporters to a preferred framing is revealed, and here, reporters' instincts and expectations about the form the news product should take emerge in the questions they ask. If memory of the Challenger accident guided reporting of the Columbia accident, reporters' questions at the seven NASA briefings conducted during the five days following Columbia's crash should reveal that influence.

They do. Based on transcript space, those giving the briefings spent approximately 15 percent of their time answering questions that enacted the 'lessons' of Challenger. This figure would rise if only the question-and-answer portion of the briefings were used. Nearly one quarter of all the questions posed at the briefings invoked memories of Challenger. Figure 1 shows the proportion of Challenger-derived questions that were asked each day from 1–5 February. On both 3 February and 5 February, two press conferences were held, one by the shuttle program manager and one by high-ranking NASA administrators. Briefings held the same day contained similar proportions of Challenger-derived questions, so we offer overall proportions for those days here.

The pattern that emerges is not, perhaps, what one would expect. On the Saturday Columbia failed to reach home, reporters were probably expecting a

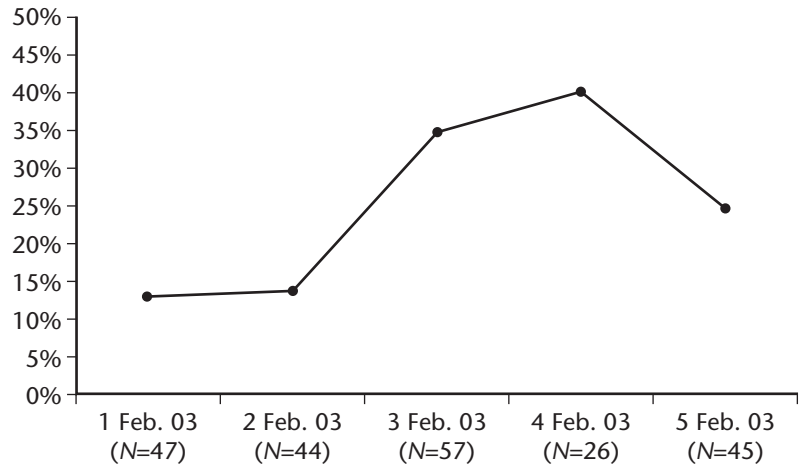

Figure 1 Percent of Challenger-derived questions

routine day and may have been struggling to get a handle on the story. Yet they are not terribly effective at using Challenger memories to structure their reporting; questions based on the Challenger accident are neither particularly sophisticated nor particularly critical. The most pointed question involved whether NASA had learned anything from past investigations, such as the one into the Challenger accident that would speed the present investigation. Questions like this seem unlikely to provide an interpretive framework for reporters trying to craft facts into story. Further, they account for only six (12.8%) of all the questions posed at the briefing.

By early the following week, Challenger questions were not only more frequent, they raised issues that were much more likely to provide a narrative framework for coverage of Columbia's accident. At the same time, overt references to the Challenger crash became less common. Still, collective memory of the Challenger shuttle was hard to mistake, particularly in the questions about decision-making that would come to dominate the briefings by the middle of the week. In one case, reporter Seth Borenstein made a direct connection between the decision-making process for Columbia's safety-of-flight and the decision-making associated with Challenger's crash: ' . . . And are you looking into the decision-making process as an issue, sort of like Challenger looked into overall management problems of decision-making?' (National Aeronautics and Space Administration News Briefing, 3 February 2003). Elsewhere, reporters clearly refer to the infamous Monday night meeting where the decision to launch Challenger was made:

- Can you flesh out for us a little bit more the discussions that took place about the possible consequences of the foam impact on the shuttle? How many people were involved? Was it NASA? Contractors? And also, can you address . . . that there have been some reservations expressed. Were those reservations expressed at any stage of the discussion process? ('National Aeronautics and Space Administration News Briefing, 4 February 2003).
- There were reports this morning that some shuttle engineers were very alarmed by the post launch films of debris hitting the wing and thought that was a very grave problem and said that it was sugar coated before reaching top management. Could you address that please? ('Major General Mike Kostelnik Holds News Conference at NASA Headquarters', 5 February 2003).
- [G]iven the fact that there were some reservations, but those reservations didn't reach the management team, do you see anything wrong with that? Is that a problem that should be addressed should the process be changed there? ('Major General Mike Kosternik Holds News Conference at NASA Headquarters', 5 February 2003).

These questions all reproduce key elements of the Monday meeting, such as the idea that dissent was ignored, that engineers' concerns were overridden by managers, and that concerns regarding safety were not effectively communicated through the command hierarchy. Many other questions contain similar references to details of the Challenger disaster.

Our interview with Seth Borenstein (personal communication, 12 May 2004) confirmed that as an experienced space reporter, he was quite knowledgeable about the Challenger accident and that it played an important role in his coverage of the story. Unaware that collective memory was the focus of this research, he himself introduced the Challenger crash into the conversation and mentioned it at least five times in the interview before he was asked about it. Of course, it is possible that at least some of the reporters who asked such questions were not themselves familiar with Challenger's story but were instead following the lead of their better-informed colleagues, as seems to have been the case with Traci Watson of *USA Today* (personal communication, 21 May 2004), but this would not lead one away from the conclusion that Challenger memories were an important part of Columbia's coverage. In fact, it could be an important element of the mechanism that transforms specific knowledge of a particular past into a typification (Berkowitz, 1992; Tuchman, 1972).

Reporters asked few questions about weather or contractors, but here, too, the fact pattern of Challenger can be discerned. Weather questions all involved cold weather and the build up of ice, an aspect of the Challenger launch. Such questions were odd given that the overnight low on the night before Columbia's launch was 43F degrees, well above freezing and significantly warmer than the 18F degree morning of the Challenger launch. While the weather in the weeks preceding Columbia's launch might have provided independent cause for concern and some of the fuel is chilled to subzero temperatures so

that ice is always a possibility, it is likely that well-informed reporters were recalling Challenger. Almost all of the questions that mentioned contractor performance included references either to safety-of-flight decisions or long-standing problems. The few that did not (four, to be exact) picked up other elements of Challenger's fact pattern in that they focused on propulsion systems or contract renewal.

By Monday, Challenger-derived questions were not only becoming more common, they were being asked earlier in the briefings, suggesting that more reporters were using the Challenger accident as a thinking tool. Shuttle Program Manager Ron Dittemore answered 6 Challenger-derived questions (30% of the total) in his Monday briefing, 3 about how the decision was made that Columbia was safe to fly despite being struck by debris during launch and 3 that asked whether foam striking the orbiter was a long-standing problem. The first of these questions was the sixth of the session. On the previous day, the first Challenger-based question was the 13th that he answered. For Bill Readdy (Administrator of Space Flight) and Michael Kostelnik (Deputy Associate Administrator for the Space Shuttle and International Space Station Program), Challenger was an even more dominant theme in their Monday briefing. The second question they were asked applied the 'lessons of Challenger', and they answered 14 questions derived from Challenger's fact pattern (almost 38% of all questions asked), 7 of which dealt with NASA's decision-making processes.

The questions quickly became a dominant theme. On Tuesday, 4 February, 6 of 10 Challenger-derived questions put to Readdy and Kostelnik were about decision-making (in a briefing where a total of 25 questions were asked). By Wednesday, five of the seven Challenger-derived questions Readdy and Kostelnik answered were about NASA's decision that Columbia was safe to fly.

Five of the seven briefing transcripts identify the reporters asking questions and the organizations they represent. They reveal that major media reporters were much more likely to ask Challenger-derived questions than were reporters working for less-well-known organizations. Almost 37% of all the questions asked by reporters for major media alluded to the Challenger accident (25 of 68), while only 16.4 percent of those asked by representatives of smaller organizations did (11 of 67). Reporters for the major media were especially interested in the post-launch review process. Almost half of the Challenger-derived questions asked by major media inquire into how the decision that the debris-hit had not compromised flight safety was reached.

The atmosphere at the briefings moved over the course of the five days from information seeking to relatively confrontational. In part, this was because reporters homed in on NASA decision-making processes over the course of the week, and questions in this vein necessarily questioned the competence

of the organization itself and also of the people doing the briefings because all of them were involved in the shuttle program. Another reason for the uncongenial atmosphere was that Challenger-derived questions about decision-making began to fall closer together. Rather than responding to diverse requests for information, the people giving the briefings found themselves being interrogated as reporters followed up each other's questions with more calls for NASA to explain its procedures for determining safety-of-flight. Finally, the questions began to evolve into the classic formulation of the 'Watergate' question: what did they know and when did they know it (Schudson, 1992), pushing the idiom of the briefings from information provision to cross-examination.

As the Challenger memory became a more effective tool for structuring reporters' questions about Columbia's destruction, mentions of Challenger itself became progressively rare. On Saturday, three of six questions at the first briefing specifically mentioned Challenger. By Wednesday, none of the Challenger-derived questions did. Immediately after Columbia's crash, then, one easily recognizes the Challenger connection, but it seems relatively innocuous. Soon afterward, however, one must be familiar with the fact pattern of the Challenger accident to recognize the memories at work in the Columbia press conferences, even as these references to Challenger seem much more likely to have an impact on Columbia's story. Indeed, were one unfamiliar with the Challenger story, the questions asked at the Columbia press conferences might simply seem like the 'normal' and 'common sense' questions that would be asked in light of any space-related accident.

Reporting

We considered the reporting of journalists working for large and influential news organizations who made use of Challenger memories in formulating questions at the briefings. Two reporters work for individual newspapers: Kathy Sawyer of the *Washington Post* and Tracy Watson of *USA Today*. The other reporters work for wire services. Marcia Dunn reports for the Associated Press. Seth Borenstein, Sumana Chatterjee, and Phil Long work for Knight Ridder, which provides wire copy as part of the Knight Ridder/Tribune news service. Most of these journalists are experienced space reporters. Dunn has been a space reporter since 1990, Borenstein began as a space reporter in 1994 (personal communication, 2004), and Sawyer began covering space with the Challenger launch (McDowell, 1987).

Reporters who provide wire copy, like Borenstein and Dunn, are potentially very influential in at least two ways. First, their reporting is likely to

appear in whole or in part in a large number of smaller newspapers that do not have a full-time space reporter or the resources to assign a staff reporter to cover the event. Second, their stories will be some of the first filed in the wake of the event. Their choice of narrative frame thus has great potential to influence the reporting of other journalists with later filing deadlines. A number of scholars have noted that reporters for the major wires are often a source of comparison for reporters looking for 'the story' of an event. Because wire service reporters file stories on the day of the event rather than the day after, as print reporters would, we consider the stories they filed between 1–5 February. The Associated Press (AP) offers a variety of services to subscribers, but the content of stories across services proved quite similar. Thus, we use only the stories Dunn filed for the main AP wire, a total of 11 stories over the five days. The Knight Ridder reporters also produced 11 stories over the first five days, although they did not produce any stories datelined 1 February. We consider the work the print journalists published between 2–6 February. Each had three stories published in that time.

Our analysis reveals the variety of ways memories of Challenger insinuate themselves into coverage of the Columbia accident. Quotes obtained at the briefings as responses to Challenger-based questions appear in the stories, and there is some evidence that memories of Challenger governed the search for information in other ways, particularly in the search for whistle-blowers whose warnings about safety had been ignored. Challenger memories also influenced the narrative frame of the stories. Chronicles of events were less apparently affected by memory, but those stories that attempted to interpret or contextualize (see Barnhurst and Mutz, 1997) the event and the ongoing investigation almost invariably included Challenger-driven perspectives with regard to decision-making at NASA. Finally, there is evidence that the growing frequency of Challenger-derived questions at briefings helped drive reporters' narrative choices, for the persistence of the journalists' questions itself became news.

Marcia Dunn: the Associated Press

Marcia Dunn seems to have been the primary Associated Press reporter assigned to cover the Columbia disaster. While she may not have had personal memories of Challenger in her capacity as a professional journalist, she was more focused on collective memories of the Challenger decision-making process than any other reporter whose questions can be identified in the press conferences. All three of the questions she is credited with demand explanations of NASA decision-making processes and rely on Challenger memories, including, ' . . . do you have any idea of how many engineers were involved in

all these various meetings? And during this time, and even after that, was there any concern expressed by even a single individual, any reservations, to the conclusion that was ultimately made?' ('National Aeronautics and Space Administration News Briefing', 3 February 2003b). Answers to her questions would be repeatedly quoted in stories produced by the reporters included in this study.

Two of Dunn's early stories (written with Pam Easton and carried on the wires 1 February and 2 February) are best described as round-ups of the day's events, collating information from a wide variety of sources including NASA officials, people who had witnessed Columbia's disintegration, and surviving relatives of the astronauts. As is the case in the earliest press conference, Challenger memories are present but are not used to give structure to the story. For example, in their second round-up story, they observe, 'The tragedy occurred almost exactly 17 years after the Challenger exploded' (Dunn and Easton, 2 February 2003).

Dunn's stories on the investigation into Columbia's crash appear much more influenced by memories of Challenger, but as in the press conferences, it is the fact pattern of the Challenger accident rather than explicit references to the earlier event that gives shape to the story. For example, in this passage she includes most of the key elements of the Monday night meeting:

> High-level officials at NASA said they agreed at the time with the engineers' assessment . . . 'We were in complete concurrence', Michael Kostelnik, a NASA spaceflight office deputy, said at a news conference Monday with NASA's top spaceflight official, William Readdy . . . 'The best and brightest engineers we have who helped design and build this system looked carefully at all the analysis and the information we had at this time, and made a determination this was not a safety-of-flight issue.' . . . No one on the team, to Dittemore's knowledge, had any reservations about the conclusions and no one reported any concerns to a NASA hot line set up for just such occasions. (Dunn, 4 February 2003a)

She goes on to report Dittemore's claim that NASA only later heard that some had reservations about the conclusion, quoting Dittemore's response to a Challenger-influenced question asked by reporter Kathy Sawyer.

Elsewhere, Dunn's stories on the investigation include the idea that the problems with Columbia were longstanding and that warnings about them had been ignored. On 4 February, the lead of one of her stories read: 'NASA was warned nine years ago that the space shuttle could fail catastrophically if debris hit the vulnerable underside of its wings during liftoff – the very scenario that may have brought down Columbia' (Dunn, 4 February 2003b). Many of her stories included the fact that foam had come off of the external tank and hit space shuttles during earlier missions.

The Challenger accident also seems to have influenced Dunn's search for other sources of information. On the day of the crash, Dunn quoted a NASA retiree who claimed that safety-of-flight had been compromised by budget cuts and had, according to her story, taken his concerns to the president without result. In later days, she would find other officials, scientists and engineers whose Cassandra-like warnings had been ignored, along with some whose analysis had in fact affected shuttle procedures. Within three days of the crash, Dunn's stories about the investigation into its cause are not reports on the progress of the investigation but instead are investigations themselves into decision-making practices at NASA. Because she is an experienced space reporter and the AP's representative, her work may well have served as a model for that of her colleagues.

One might ask at this point if Dunn's questions at the briefings and the stories that she wrote are not simply the standard trope of coverage for this type of event. Luckily, the Columbia accident was only the third in the history of US manned spaceflight to result in loss of life, so there probably is no 'standard' way to cover space disasters. Moreover, Dunn's coverage little resembles the AP's early coverage of the Challenger accident. Early coverage of Challenger focused on the main clues and key information sources likely to be important in the investigation, explanations of how key systems worked and how they might have failed and, where it apportioned blame at all, questioned the performance of a variety of contractors. NASA decision-making was rarely discussed and where it was, the issue was the agency's decision to send a teacher, Christa McAuliffe, into space. Interviews with Cassandras who had warned of trouble to come are also quite rare.

Seth Borenstein, Sumana Chatterjee, and Phil Long, Knight Ridder

The work of the Knight Ridder team was influential not just because it was shared throughout the newspaper chain but because the coverage was a finalist for the Pulitzer Prize for spot news. This was reporting that the industry itself upheld as a model. At the briefings, the Knight Ridder reporters were responsible for several questions based on memories of Challenger. When it came to reporting the event, Borenstein claimed that there were two basic stories (personal communication, 12 May 2004): 'How did it happen?' and 'How could it happen?' The latter, he said, was 'the better story', and it was also, he argued, where Challenger memories came into play. Asked why Challenger memories were important, he responded, 'Because the past is always repeated', and went on to say that there were always warning signs that were missed, that this 'was the story' with Challenger and that it 'was the story' with Columbia.

Both his comments and his reporting suggest that Challenger memories helped Borenstein to decide what kinds of information to gather and what kinds of stories to tell. The lead in one of the first stories he wrote on the accident was: 'Scientists have warned Congress for years that the space shuttle program needed more money and newer equipment or else it faced dangerously rising safety risks, and six NASA scientists were fired in March 2001 after issuing such warnings for years' (Borenstein, 2 February 2003). Borenstein also quoted a variety of sources who claimed to have known about and warned about longstanding problems with key shuttle systems, including one who said he had warned engineers about the debris-hit during Columbia's flight:

> About two days after the Jan. 16 launch, NASA engineers realized from flight videos that the shuttle's wing area was hit by a sizable piece of insulation from the shuttle's external fuel tank. One of them immediately told Reyes [a former safety official at NASA and expert on the thermal tiles], who replied: 'Oh man, you're going to have trouble on re-entry.' (Borenstein, 4 February 2003)

One source, Bob Hotz, who appears in multiple stories, is a member of the Rogers Commission that investigated the Challenger accident. Hotz offered several parallels between the Columbia investigation process and that of Challenger, including a prediction that the investigation would focus on decision-making processes and a comment that the management attitudes that had led to the Challenger accident seemed to have persisted in the decision-making regarding Columbia.

In several stories, the Knight Ridder team employed an approach reminiscent of Watergate-style scandal reporting: they began by reporting the claims of NASA officials from the briefings, then used resources generated by enterprise reporting to challenge the official story. Borenstein, who was especially given to this technique, described the key question of the Columbia investigation as 'What did they know, and why didn't they know it?' (personal communication, 12 May 2004), a close variation of the key Watergate question, 'What did they know and when did they know it?'. The work of the Knight Ridder reporters suggests that more than one collective memory may influence the development of a story but still does not suggest typification since the reporters are not categorizing the Columbia crash as one of a generic class of events-as-news but are rather employing specific collective memories to give structure to their search for information and their storytelling.

Kathy Sawyer, *Washington Post*

Kathy Sawyer asked one of the harshest Challenger-derived questions during the briefings: '[T]here's a memo that surfaced this morning that . . . suggests that somebody in your operation knew about extensive tile damage, wrote a

memo two days before the accident . . . Can you give us a chronicle of how that memo was handled and how high in the organization did it reach?'. Watson and Dunn both made use of the response in stories filed on 3 February and 4 February.

Although her question speaks to NASA's decision-making, her reporting does not make much of this issue. Nevertheless, memories of the Challenger disaster do influence Sawyer's reporting of Columbia's crash. Her long tenure as a space reporter means that she has 'personal' memories of the Challenger accident. While the collective memory of Challenger focuses on poor decision-making, as her question implies, in her reporting she recalls the Challenger accident as a time when NASA was 'defensive' and 'secretive' with reporters, recollections of her own experiences as a reporter trying to cover the story.

Tracy Watson, *USA Today*

Tracy Watson is credited with asking three questions based on Challenger memories, one about decision-making, one about weather, and one about longstanding problems. She never really uses the answers to her own questions in her reporting, but she does use responses provoked by the Challenger-derived questions of Dunn and Sawyer in her stories.

Watson's second story, printed 3 February, demonstrates how the tenor of the briefings themselves, rather than the responses to particular questions, began to leak into the finished stories. She observes:

> The re-examination [of the post-launch assessment of the foam hit] comes as more questions are being asked about whether NASA officials made the right judgment call in determining that the Columbia was safe and without risk of burning up in the atmosphere as it attempted its re-entry (Watson and O'Driscoll, 2003: 4A).

Of course, it is reporters who are asking the questions at the news briefings, though they remain invisible in order to satisfy the demands of 'objectivity'. The story goes on to detail not the investigation process but the decision-making process that concluded the debris strike had not significantly damaged the shuttle. Watson then describes evidence from the crash itself to suggest that this decision might have been wrong. Her fellow reporters have helped to make her story newsworthy by focusing on NASA's decision-making processes in their reporting.

Watson's story provides an excellent example of the potential benefits and problems of reporters invoking collective memory as they gather information and report the news. On the one hand, memories of Challenger give journalists a perspective on the Columbia accident that is somewhat independent of NASA's claims about the event without sacrificing claims to

objectivity (after all, the Challenger crash *really* happened). Such alternative perspectives may make reporters less vulnerable to officials' news management. Even if no official or 'legitimate' source were willing to criticize NASA's performance, the memory of Challenger makes it possible to pursue this story angle without violating professional norms. Indeed, if enough reporters take this approach, it will be hard for other reporters to ignore it. The quest itself becomes newsworthy, as Watson's story shows. On the other hand, collective memory can lead news astray, encouraging the pursuit of inappropriate questions that will not hold officials accountable or otherwise benefit citizens and democratic practice (Schudson, 1992). Did collective memories of Challenger help reporters be critical, or did they encourage reporters to jump to conclusions and lead the public astray with them? In our conclusion, we consider the role and importance of Challenger memories in structuring reporting of the Columbia accident and whether it improved or impaired reporting in those first, crucial days.

Conclusions

The early coverage of the Columbia crash examined here was not just 'common sense' coverage of a space disaster. The 'common sense' knowledge that problematic practices at NASA might have contributed to the crash was itself a product of the Challenger investigation, and there were a variety of alternative trajectories the stories might have taken. For example, they might have developed along the lines of a debate over the future of manned space flight, a question that has come up repeatedly over the years. They might have evolved as scientific stories about improving the technologies involved in space flight. An investigative narrative about the performance of NASA's outside contractors was possible (and would have more closely resembled early Challenger coverage). A political story about NASA's budget future might have emerged.

Instead, collective memory of the space shuttle Challenger's crash played an important role in structuring reporting of Columbia's destruction for these journalists, but not right away. In the chaos of the first few hours following Columbia's crash, reporters recognized Challenger as a relevant past but did not use it effectively as a tool for gathering information or structuring narrative. Only after they had been on the story for a day or two were reporters able to use Challenger as a means of making sense of Columbia's demise. By the third day, its 'lessons' became a dominant theme in press briefings and the published reports examined here.

However, Challenger's role in reporting on Columbia's accident is not obvious. Indeed, anyone unfamiliar with Challenger's 'lessons' would have a difficult time detecting memory's influence in the briefings or the articles, for reporters very rarely made manifest the link they were constructing between present and past. Nevertheless, collective memory influenced reporters' search for information and thus the material available for constructing stories. It also helped to shape the deep structure of stories by influencing the narratives used to present information. Thus, Bennett's (1983) complaint that news lacks a sense of history may be valid not in the sense that context is absent from reporting but rather in the sense that the context driving the reporting often remains invisible to the audience.

One might argue that reporting on the Columbia accident owes its narrative frame not to Challenger but to the more general trope, common in reporting, of governmental venality and incompetence. While this explanation does not account for the specific and distinctive Challenger fact pattern that emerges in the briefings and the stories, and therefore does not represent a fundamentally appealing alternative explanation, it does raise an interesting possibility with regard to the role of Watergate in Columbia's coverage. Both Borenstein and Watson overtly referred to Challenger as an influence on their coverage of the Columbia crash, suggesting collective memory at work. However, despite his reliance on Watergate-style reporting techniques and questions, Borenstein never mentioned Watergate as an influence on his coverage. This suggests that while Watergate memories continue to shape reporting, they are evolving into a genre of reporting that is no longer linked to the specific past that gave rise to it. That is, this collective memory is taking on the characteristics of a typification.

Collective memory can, under certain circumstances, offer reporters alternatives to the frames and stories promulgated by officials and elites by helping them customize their professional practices. That is, typifications and other generalized reporting rules offer only broad guidelines about the kinds of information to seek and what sort of story to tell, and may make reporters dependent upon officials' structuring of the issue or event. A particular past offers more specific direction about what kinds of information may be relevant and what 'the story' is, and, because it is 'real', allows reporters to resist official frames without giving up their claim of objectivity. The Columbia crash briefings and stories reveal that more general norms and practices were refracted through collective memory of a specific past, and the interaction of the two gave Columbia's coverage its particular flavor and made it difficult for NASA officials to exert effective control over the story. The coverage of Columbia's destruction may not have qualified as counter

hegemonic, but it almost certainly did not reflect the space agency's preferred framing of the event.

In addition to resisting the version of events given in briefings, reporters using collective memories of Challenger sought out sources likely to dispute the official story. Lawrence (2000) argues that accidental events like the Columbia crash offer opportunities for unofficial perspectives to enter the news as groups compete to define the event. Early coverage of Columbia's crash reveals that reporters sometimes identify the relevant groups using collective memories of previous events.

Yet using collective memory also represents a risk. Was collective memory of the Challenger accident helpful in holding officials accountable in Columbia's case, or did the memory of the earlier crash distract reporters from vital aspects of the more recent one? Challenger memories encouraged reporters early on to focus as much on NASA's decision-making processes as on the immediate causes of the crash. Reporters repeatedly held officials to standards of consensus decision-making and quickly abandoned accident stories (implying an unforeseeable outcome) for malpractice stories (implying a preventable failure). The official accident report, released in late August 2003, upheld this conclusion, for it made a point of holding organizational failures at NASA as responsible as the technological failure of the foam strike and subsequent heat shield collapse for Columbia's destruction. If we applied Best's (1993) conservative approach to social constructionism, we could say that Challenger memories were effective, since two different groups of observers with different perspectives and goals reached the same conclusion. However, it is also possible that Challenger memories distracted investigators and reporters alike and that the 'true' cause of Columbia's crash will never be known. Another important consideration is that the risk associated with this application of collective memory may have been especially low since the two accidents involved the same organization and occurred less than 20 years apart. Relying upon a more ambitious historical analogy might well prove more problematic.

More research is needed to tease out the implications of using collective memory as a reporting resource, but one final observation should be made here: since reliance on the past is not apparent in finished reports, news consumers are incapable of assessing for themselves the risks of reporting through the lens of the past.

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