

Positivist and interpretivist analytical approaches are frequently believed to be incompatible as research strategies and ways of understanding the world. This article argues that not only may versions of positivism and interpretivism be combined in the analysis of contested events, but this combination can further the goals of both approaches by contributing information that may have been missed by adopting only one perspective. The authors illustrate this using two case studies of lethal school shootings near Paducah, Kentucky, and Jonesboro, Arkansas, and introduce methodological strategies to manage potential biases that may lead to contradictory testimony. However, these same contradictions act as distinct data points from the interpretivist perspective, offering insight into the cultural understandings of a community. The authors develop new forms of triangulation that are tailored to these research goals and illustrate how, just as positivist analysis may be used to aid interpretivism, an interpretive understanding of a community may be necessary to develop causal theories of contested events such as school shootings.

The *Rashomon* Effect Combining Positivist and Interpretivist Approaches in the Analysis of Contested Events

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INTRODUCTION

Akira Kurosawa's 1950 film *Rashomon* presents four different accounts of a contested event—the murder of a Japanese nobleman and the rape of his wife. As the events are retold from four different points of view, the viewer is left wondering which of the four witnesses was telling

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the truth and whether a single “truth” really exists. The film makes clear that there are different truths for these characters, for they are not simply lying to protect themselves (in fact, the version of each main party to the crime implicates the teller for the murder); rather, they have deceived themselves into believing the version they have told. These same questions about truth might be asked about contested events in social research. When multiple sources relate different and sometimes conflicting accounts of an episode, how do we decide who is “right”? Is it possible that they all are right?

These questions may appear fundamentally incompatible, for they imply different perspectives about the meaning of truth and objective reality. These two perspectives, and the concordant forms of analysis they imply, have traditionally divided social scientists in several fields. The *positivist* approach maintains that a true explanation or cause of an event or social pattern can be found and tested by scientific standards of verification. The *interpretivist* approach does not seek an objective truth so much as to unravel patterns of subjective understanding. The latter assumes that all versions of the truth are shaped by the viewers’ perceptions and understanding of their world. In the case of a contested event with many different versions, the analyst’s job is to uncover what these versions reveal about the people who tell them, their positions in the social structure of their communities, and their cultural understandings.

In this article, we argue that the positivist and interpretivist approaches, as we define them, are not fundamentally at odds with one another but simply require different analytical lenses for the same data. Questions about the causes of events may be answered using research methods that permit replicability and allow causal theories to be tested with additional cases. We may also use the same data but treat the multiple and conflicting explanations of the event as data points, evaluating what the nature of the dispute over an event reveals about underlying social forces in a community.

We illustrate the combination of positivist and interpretivist research goals using two case studies of lethal school shootings near Paducah, Kentucky, and Jonesboro, Arkansas. The analysis is shaped by two distinct research questions: (1) Why do school shootings occur? and (2) How do people in these communities understand these school shootings, and what do their interpretations tell us about them? These

two approaches to understanding the events that took place outside of Paducah and Jonesboro are equally valuable to social researchers in their own right. Yet there is added value in asking both questions of the same set of data, for answering one of these questions may help us answer the other. Highly contentious events such as school shootings can serve as a lens through which to understand deeper webs of meaning within a community; thus, an inquiry into the causes of such an event that uses a positivist framework may further interpretivist goals. Similarly, interpretivist research, while not intended to provide a causal explanation, can reveal hidden aspects of the culture and worldview of community members; as members of these communities, school shooters are themselves affected by this culture and perspective. To the extent that interpretivist analysis of the community helps us understand the actions of its members, it may enable us to use a positivist approach to answer questions about the causes of contested events.

POSITIVIST AND INTERPRETIVIST APPROACHES IN SOCIAL SCIENCE

The expressions *positivism* and *interpretivism* are used to varying degrees in the different social sciences, yet the distinction made between the two concepts is common to most social science fields. The positivist approach is modeled on the methods of the natural sciences. It seeks knowledge based on systematic observation and experiment, with the goal of discovering social laws analogous to the natural laws uncovered by the methods of natural science (Angus 1986; Marshall 1994). Positivist analysis seeks to hypothesize and then evaluate causal inferences about social phenomena that will be generalizable beyond the specific data analyzed (Shankman 1984a; Lin 1998). This research approach is not limited to particular methods, and indeed both qualitative and quantitative techniques can further positivist goals when they share a unified logic of causal inference (King, Keohane, & Verba 1994, 1995). A fundamental assumption of positivist research is the existence of objective reality and facts, which can be known or approximated through these research methods. Analyses must be both replicable and testable across cases, and the validity of the analysis will be evaluated accordingly. Generally, hypotheses are generated and compared to other hypotheses, with an eye toward validity, explanatory power, and parsimony.

The interpretivist approach has received more varied treatment by different social science fields. It is perhaps most developed within anthropology, where it is most strongly associated with the work of Clifford Geertz.¹ Geertz proposed a shift away from positivist analyses toward the study of communally defined subjective understanding. Defining culture as the “webs of significance” that man himself has spun, Geertz (1973) stated that “the analysis of [culture is] therefore not an experimental science in search of law but an interpretive one in search of meaning” (p. 5). He claimed that what we think of as facts, our data, cannot be truly objective because they are really “our own constructions of other people’s constructions of what they and their compatriots are up to” (p. 9).

On this account, interpretive analysis of subjective meaning cannot be held to empirical tests of validity across cases because it is by nature tied to particular cultural systems. The construction of causal laws and patterns that are generalizable across cases necessarily divorces the interpretation from what has happened in any particular case. Because interpretive analysis cannot be systematically theorized and assessed, according to Geertz, it must be self-validating. The legitimacy of the analysis should be measured by how well the “thick description” holds up within the case and is supported by the evidence put forth.

This approach toward interpretivist research has influenced other fields in the social sciences. An interpretivist tradition in sociology follows the lead of Geertz, typically by starting out with a situation—often a changing one—and looking at how a certain group of people understand and make sense of it. One preeminent example is Jonathan Rieder’s (1985) study of a lower-middle-class community in Canarsie during the 1970s as it experienced racial transition and school desegregation. Rieder’s task was to understand why a largely Jewish and Italian area that had been Democratic since the New Deal voted in heavy numbers for Reagan in 1980. He wrote,

To make sense of middle-class discontent, writers have invoked white racism, “embourgeoisement,” labor market rivalry, apple-pie authoritarianism, Lockean individualism, neopopulist retaliation, right-wing protectionism, postindustrial society and political ethnicity. If each of these concepts explain a piece of the puzzle, the danger is that the pattern as a whole may vanish. (p. 3)

Rather than attempting to adjudicate between these competing hypotheses, Rieder (1985) abandoned these neat analytic categories and plunged into trying to understand the meaning of social life as it is experienced and constructed by Canarsie residents. Here, to take an almost trivial example, he found working-class Italians appalled by public profanity of young Black males; cursing at the factory in the company of other men was acceptable or even expected, but swearing in the streets within the earshot of women and children was most certainly not. Out of hundreds of observations of this sort, Rieder pieced together a complex and nuanced understanding of how real and perceived economic, social, and cultural threats led to a backlash against liberal politicians that—in the eyes of local residents—favored the interests of the morally lax and irresponsible (Black) poor over the upstanding and duty-fulfilling (White) lower-middle class.²

In the work of Rieder (1985) and others who share elements of this interpretivist tradition (see, for example, Hochschild 1997, 1989; Newman 1988, 1993), the analyst takes a phenomenon that is important in its own right and seeks to understand it through in-depth interviews and observation. But the author is not simply a recorder; the job of the analyst is to put forward a coherent account that makes sense of the often ambivalent, changing, or even contradictory beliefs that are held by the respondents. The primary object of the analysis is social meaning, but this in turn is an important constitutive element of social action; understanding social meaning therefore provides one important set of building blocks for understanding important social phenomena, such as why Reagan was able to break apart what had previously been a solid Democratic coalition.

Our approach to interpretivism takes its inspiration from the Geertzian perspective and its successors in the sociological tradition for which the primary focus of interpretivist research is the subjective meaning that events hold within a particular culture. Interpretivist analysis should not be conflated with qualitative research, as interpretivism, like positivism, is distinguished by its analytical approach and the goals of the researcher, not by its methodology. These differing approaches, as they are used in this article, are summarized in Table 1 below. As employed here, the interpretivist approach is that which adopts the broad goal of illuminating a set of social meanings that reflect cultural beliefs and values. The positivist approach, by contrast, is that which

TABLE 1: Summary of Positivist and Interpretivist Approaches

<i>Positivism</i>	<i>Interpretivism</i>
Causation—Seeks to understand the causal explanation for a phenomenon or event	Interpretation—Seeks to understand how people interpret a phenomenon or event
Objective reality—Presumes the “existence of facts”	Subjective reality—Recognizes the “construction of facts”; facts are seen as interpreted and subjective
Generality—Analysis seeks a “law” that extends beyond specific instances studied	Specificity—Analysis is context specific and based only on the subjective understanding of individuals within a specific context
Replicability—Analyses can be tested and verified empirically against other cases	Self-validation—Analyses can only be self-validating, through the consistency and coherence of “thick description”

seeks causal laws to explain objectively viewed phenomena, whether it uses survey methods or—as is the case here—detailed case studies to do so.³

COMBINING POSITIVIST AND INTERPRETIVIST APPROACHES

Positivist and interpretivist approaches are sometimes posed as diametrically opposed ways of conducting research. One form of the interpretivist approach—that adopted by Geertz himself—assumes that objective truth cannot be known since all attempts to understand “facts” are viewed through various subjective lenses, including the researchers’. This position sees people’s understandings, and therefore subjectively constructed social reality, as fleeting, dynamic, and constantly changing. Clearly from such a perspective, no combination of positivist and interpretivist research is possible. However, there is another viable current of interpretivism that flows from Geertz’s approach but is more compatible with positivist analysis. A number of later writers maintained that the view of objective truth as unknowable need not prevent researchers from approaching that truth and should not be considered incompatible with interpretivist goals (Rappaport 1979; Rosaldo 1982; Shankman 1984a, 1984b; Farrer 1984). This position acknowledges Geertz’s concerns about the problems of uncovering an

objective reality, yet argues that complete rejection of such knowledge is counterproductive. Shankman (1984b) wrote,

I believe that complete objectivity is impossible; but this does not mean abandoning the search for objective knowledge or conceding that all versions of reality are equally true. What is necessary, according to interpretivist Rosaldo (1982: 198) is “ways of moving back and forth between an actor’s subjective interpretation and a set of objective determinants” (p. 277).

Farrer (1984, p.274) agreed that data can be understood from a “product perspective based upon cause and effect or stimulus and response” or from a “processual orientation” that focuses on context, interpretation, and the process of developing meaning but claimed that we can “allow both product and process orientations” simultaneously in research. This perspective maintains that subjective interpretations of reality and objective phenomena may be simultaneously sought and that it is furthermore important to understand the connection between the two.⁴ The very fact that subjective understanding differs depending on the context reveals that objective contextual conditions may influence subjective meanings (Shankman 1984b). Thus, compatibility can be found between positivism and this understanding of interpretivism, which focuses on why and how individuals come to understand events as they do, yet recognizes that those understandings may be influenced by an objective reality that, while difficult to discern, is potentially knowable. Under this framework, it is possible to simultaneously accept that there is both a single objective truth of factual events and multiple subjective views of the truth that reveal much about the worldviews and perspectives of those who hold them. The objective for positivist analysis, as we discuss below, is therefore to come as close to this objective truth about the causes of events as possible by managing various forms of bias or distortion that may arise from the context or the respondent’s interpretive understanding of events. The objective for interpretive research, by contrast, is to understand how individuals understand that context and how the multiple subjective “truths” they construct provide insight into their cultural understandings. We argue that each approach is important in its own right and that combining the two has even greater analytic value.

Our approach to combining positivist and interpretivist analyses to studying a contested event involves the following three components:

1. *Using a positivist approach to address questions of causation.* What causes school shootings? Here, a researcher needs to uncover the factual precursors of an event to develop and evaluate theories about its causes. If, for example, one explanation of the shootings is revenge because of school bullying, we need to ascertain whether the shooters were bullied and by whom. Did the shooters target those who bullied them? Examination of the factual evidence can lead to a tentative hypothesis within a case study. By incorporating other cases, we can develop an explanatory theory, which will either be borne out or not by future school shootings.
2. *Providing an interpretive analysis.* What does this tragedy tell us about the culture⁵ of these small towns? Multiple subjective truths or ways of understanding the shooting offer valuable insight into the social structures, group tensions, and conflicting values in these communities. Rarely do these different accounts represent random variation; more often they reveal systematic differences in perspective based on the social status and position of the various community members, as well as their relationships to the shooter(s) and the victims. They may reveal the different stakes that community members have in the shooting and the way it is interpreted by the wider society. These divisions become a central object of analysis and help us understand larger cleavages in the community. Here, the object of our inquiry is not objective fact but the subjective interpretation that individuals in different social positions bring to objective facts. We do not attempt to posit a causal argument here.
3. *Using interpretive analysis and positivist analysis to inform one another.* Interpretivist and positivist analyses, as we define them, are not only compatible within the same set of data; they may each help achieve the goals of the other. Interpretive understanding of communities is always informed by a number of hard, objective facts, which help the analyst make sense of the subjective viewpoints of their respondents. Basic background information about the economic climate, racial or ethnic change, or the rate of turnover in a community is necessary to provide an informed account of the respondents' views on those same matters (see Newman 1988 for a good example of this interplay). Using a positivist approach to answer questions about a contested event

that “breaches” social norms can also serve as a window into otherwise hidden viewpoints. Deeper cultural understandings or social cleavages may reveal themselves in those explanations about the events’ causes.

Conversely, interpretivist analysis can inform positivist analysis by providing a more complete understanding of the social milieu in which the shooters lived. Subjective perspectives of actors can point to direct causes. For instance, how the shooters understood their plight at school and why they saw the shooting as a means of resolving it may best be revealed through an interpretive approach. More indirect causes, such as why other kids thought it was appropriate to bully or why teachers did not intervene, are also conducive to an interpretive analysis. These are actions that are guided by socially constructed understandings of meaning, and it is these systems of meaning that interpretivist analysis helps us to clarify.

The remainder of this article illustrates these three objectives, looking initially at positivist and then interpretivist analysis as each might be conducted independently of the other and then looking at the advantages of combining the two. First, we describe the fieldwork conducted outside of Paducah, Kentucky, and Jonesboro, Arkansas, and give a brief overview of the school shootings. Next, we take the positivist approach of seeking “objective truth” and discuss concerns over the reliability of data from this perspective. In this light, the objective “quality” of data must be considered; we therefore demonstrate methodological strategies to manage potential biases in the data that may affect a positivist analysis of the causes of school shootings. We pay particular attention to dealing with the conflicting or contradictory responses that stem from this highly contested event.⁶ Then in the following section, we illustrate the interpretivist approach of viewing such contradictions not as problematic bias but as data revealing those webs of significance. In particular, we focus on how “contested events” can illustrate how social divisions, normally buried in the patterns of everyday life, become revealed as people project these underlying biases onto their understandings of the shooting. Finally, we illustrate how both positivist and interpretivist analysis may inform one another, by providing examples of how research questions of each type either support each other or provide information that might have otherwise been missed.

FIELDWORK ON TWO SCHOOL SHOOTINGS

We conducted in-depth qualitative case studies of the 1997 school shooting at Heath High School in West Paducah, Kentucky, and the 1998 shooting at Westside Middle School just outside Jonesboro, Arkansas. These studies were part of a National Academy of Sciences report on lethal school violence (National Research Council and Institute of Medicine 2002). Both events sent profound shock waves to the very core of these communities, both because of the heinous nature of the acts and because of the locations in which they occurred. Both were in largely rural, White, low-crime communities that many residents described as the last place they would ever have expected such a brutal crime to occur. Furthermore, the assailants were students at the schools they attacked, with no significant record of problem behavior. The shootings were planned in advance and appeared to be random killings rather than attacks against specific individuals. It was partly the senseless and unexpected nature of these events that led to disagreement and contestation, as community members struggled to make sense of what had happened and what it meant.

In May and June of 2001, we conducted participant observation and qualitative interviews with almost 200 people in the two communities, including family members and close friends of some of the shooters; school faculty and administrators; students and parents; civic, community, and religious leaders; legal and police officials; and other community members. These data were supplemented by police and investigative materials, court records and depositions, psychological evaluations of one of the shooters, the shooters' own writings, school district materials, and media reports. We briefly summarize these two shootings below, but more details can be found in Harding, Mehta, and Newman (2002); Fox, Roth, and Newman (2002); and Newman et al. (forthcoming).

As students returned to Heath High School on December 1, 1997, the morning after their Thanksgiving break, 14-year-old freshman Michael Carneal pulled a handgun from his backpack and shot eight bullets into a group of students gathered for a morning prayer in the school lobby. He killed three students and wounded five and then put the gun he had stolen from a neighbor's garage on the floor and surrendered to the school principal. Carneal, later diagnosed with a mild form of

depression and the beginning stages of schizophrenia, complained that he had been teased and picked on by other students relentlessly and said after the shooting, "People will respect me now." While he was not a social outcast and had friends and even had once had a girlfriend, he was not central to any social group at the school. Carneal had joked about bringing guns to school and taking over the school with a small group of peers and had brought a gun to school and showed it to classmates on two occasions prior to the shooting. The week before the shooting, the boy whom classmates described as a jokester and prankster warned some classmates to stay out of the lobby on Monday morning and that "Something big is going to happen on Monday." Carneal's parents, a respected lawyer and a homemaker, were heavily involved in school and church events, and his sister was of one of the school's valedictorians. The Carneal family had a long history in the community, going back several generations. Carneal pled guilty to three counts of murder, five counts of attempted murder, and one count of burglary and was sentenced to life in prison without parole for 25 years.

In Bono, Arkansas, outside of Jonesboro, students and teachers at Westside Middle School had just entered their fifth-period classrooms when 11-year-old Andrew Golden, clad in camouflage clothing, entered the building and pulled the fire alarm. Golden then joined 13-year-old Mitchell Johnson, already in position on a wooded hill almost 100 yards from the school, as the students and teachers filed out of the school through their assigned exit routes. The 87 students and nine teachers who exited the west entrance of the building were met with a hail of gunfire that killed 4 students and a teacher and wounded 10 others. Earlier that morning, Johnson had stolen his mother's van and picked up Golden, and the pair stole guns from Golden's father and grandfather. They had an elaborate escape plan but were apprehended by police 200 yards from the school about 10 minutes after the shooting. The day before the shooting, Johnson told peers he "had a lot of killing to do" and that "tomorrow you will find out if you live or die."

Johnson had grown up in Minnesota, and his family had recently moved to Arkansas. His mother, a former corrections officer, was divorced and remarried, and the family was quite poor. Johnson had been sexually abused by a neighbor as a child and had an explosive

temper that landed him in some trouble at school. Despite his occasional outbursts, Johnson was generally known by the adults at his school as an exceptionally polite boy, who did whatever he could to please adults. Golden's family had lived in the Westside area for several generations, and his parents worked for the post office. He was not considered a discipline problem at school but was known to neighbors as a menace, a boy who rode around on his bicycle with a sheathed hunting knife strapped to his leg. He was taught to hunt at a young age and was an expert marksman. Some residents claimed he tortured and killed cats. Too young for adult court, both boys were sentenced to juvenile detention until they turn 21, at which point they will be released.

POSITIVIST ANALYSIS OF CONTESTED EVENTS

There are a number of methodological difficulties related to trying to develop a positivist causal theory of school shootings, many of which stem from the fact that school shootings are such rare events. Included among these many difficulties is the lack of data points to use in adjudicating between many causal theories and the difficulty of generalizing from information gathered in a single case or cases (Harding, Fox, and Mehta 2002 [this issue]). But in addition to the problems created by the *rarity* of events like school shootings, another set of complications ensues if the rare event is also one that is *contested*. Positivist analysis must be rooted in accurate data, the "building blocks" on which any causal theory must be based. If the data take the form of a case study, then the building blocks are an accurate and comprehensive account of what happened during the event, the relevant acts that preceded it, as well as details about the shooters' past experiences and the reasons for their actions. Gathering this information is complicated by a number of problems that are common to most retrospective research but are exaggerated when the highly charged nature of an event perpetuates divergent, and often contradictory, accounts of events. The controversial and highly publicized nature of the school shootings outside of Paducah and Jonesboro magnified these problems; as a result, these case studies can elucidate processes affecting data quality that may be less apparent in other forms of causal analysis of past events.

CONCERNS OVER DATA QUALITY IN CONTESTED EVENTS

We identified three categories of problems that plagued our attempts to gather complete and accurate data.⁷ First, there were the problems of *memory*, where respondents simply could not remember crucial details about the time before the shooting. Second were the problems of *vested interests*, where respondents who were seeking to protect the professional status or personal reputation of themselves or others, or were attempting to sway the outcome of the research because of their personal or political beliefs, consciously filtered what they said. If the issue in the case of memory problems was respondents' current lack of knowledge, in the case of vested interests, respondents know but are deliberately lying, or, more commonly, filtering what they say in an effort to present what they perceive as a more favorable version of events. Third, and potentially most problematic for the researcher, are the cases that fall between the two: where respondents honestly think that they know something but are mistaken for any of a variety of reasons. We will call this the problem of *mistaken judgments*. While it is often the case that mistaken judgments are influenced by respondents' vested interests, for our purposes, vested interests problems refer more narrowly to the conscious filtering of information, whereas mistaken judgments include all unconscious errors that respondents can make, only some of which are the result of vested interests. Individuals may also reach mistaken judgements by employing "heuristics," or mental shortcuts, to reach what are often erroneous conclusions (Fiske and Taylor 1984; Bazerman 1998), yet this can be unaffected by the respondents' vested interests.

In practice, these categories of data problems may be present simultaneously, and it may be difficult for researchers to determine which type of problem is most prominent.⁸ But analytically, it is helpful to distinguish between the three types of problems because each directs the researcher to distinct strategies to try to counter the bias and improve the collection of information. We will consider each of these in turn and then propose some strategies to deal with these potential sources of bias in the following section.

Memory Problems

Perhaps the most obvious challenge to understanding an event that happened more than three years before the data collection is the simple

problem of inadequate or inconsistent memory. Many respondents simply could not remember relevant information. For example, school personnel had trouble remembering whether programs put into place to help freshman adjust to high school appeared before or after the shooting, a crucial difference. The shootings were defining moments that brought about dramatic changes in school policy, student climate, and town image. It was difficult for respondents to remember clearly the different world that prevailed before this life-changing event. To take one obvious example, students from Heath in Michael Carneal's 9th-grade class, who were in 12th grade when we interviewed them, found it hard to remember the specifics of 9th-grade peer groupings. Many of the students reported that there had been a conscious effort in the wake of the shootings to become less petty and nicer to one another, and thus while students could tell us generally that social exclusivity was higher before the shootings, the ins and outs of 9th-grade social hierarchies before the shooting were somewhat forgotten.

The ability of interviewees to recall information was also affected by the traumatic nature of the event. Many who were closely connected to the shooting—often those who should know the most about it—have been diagnosed with post-traumatic stress disorder, and it is likely that many more suffer from this condition who have not been diagnosed. The stress and emotional difficulty of reliving past traumatic events such as a school shooting can cause respondents to block information about the events from their own memories. In the Jonesboro case, for example, we interviewed one of shooter Mitchell Johnson's friends who had also been among the students to exit the building during the fire alarm and walk into the line of fire. He explained how badly upset he had been by the shooting and how it affected his behavior for a long time afterward:

Respondent: [After the shooting,] I would not sleep in my room. I would have nightmares in my room, so I slept on the couch, my couch for about six months. I would sleep on my couch in the living room.

Interviewer: Was it better if you slept on the couch because you didn't have nightmares?

Respondent: I didn't have nightmares. There was a couple times I had nightmares, but it wasn't serious nightmares. . . . I would just

lay in my bed. See, my first time laying in bed, oh my gosh, I was freaking out.

From this interview, it appears that the respondent was badly upset by the shooting in general, but it is not clear why he preferred not to sleep in his room. Later, after talking to an adult who was close to him, we found out that this respondent had been diagnosed with post-traumatic stress disorder and had repressed painful and difficult memories. Only after a long period of therapy did it come out that Mitchell Johnson had been over at his house a few days before the shooting and had told him of his plan while sitting on his bed. This was the reason he had felt unsafe sleeping there and had had nightmares, but it took him many months to remember this fact, and even after remembering, its painful recollection was enough to prevent him from relating it again to researchers. Knowing that one of the shooters had leaked his intentions a few days before may be an important puzzle piece in adjudicating between theories that account for the shooting. But the traumatic nature of the event and memories associated with it may hinder the research process.

Vested Interests

Even when respondents could accurately remember past events, sometimes they clearly had vested interests that affected the content of what they said. The most obvious form of vested interests was in which respondents were protecting themselves or the institutions that they represented from accusations of blame. Given that there were past and pending lawsuits, those who were in some way implicated in the events were concerned with defending their own actions from future accusations of blame. At the extreme, some teachers, administrators, and fellow students simply refused to talk with us because of the potential implications for legal proceedings. Among those who did talk to us, their own practical interest in a certain account of events must be a consideration. Even setting the lawsuits aside, the purpose of the research—in our case, that it was part of a congressional report that had implications for future policies—may influence the content of the responses. One school official sought to direct the interview away from a discussion of school as the root of the problem and instead put responsibility on the family. At the same time, this informant was

careful to emphasize the view that the family was not an appropriate sphere for governmental intervention:

If [something] happens at home, how is the school going to know? They're model students at school, but in the community they're not. . . . School does not mean to be intrusive into the homes unless we're asked to. We're not big brother. The home life is home life. It isn't, the government should not be sitting in the living room with them. . . . How are you going to assess the needs in schools, the needs of the student, when . . . this all started with . . . the home life.

Here, the interviewer's attempts to discuss ways that schools could identify potentially problematic children are rebuffed by a school administrator whose personal view is that this is not an appropriate role for the school.

A second type of vested interest is when the respondents are not protecting themselves or deferring blame but rather are using the interview to promote their own agendas. For some respondents, the opportunity to become part of a congressional study led them to filter information so as to influence policy. Asked for her explanation of the shooting, one educator gave a long description of how she felt school testing was creating undue pressures on teachers, which distracted from their ability to connect with their students:

There has been [sentiment] brewing that public schools are no good or not doing a good job and we are going to fix that by upping the ante and making them more accountable. They have to prove and they have to show us that they are really doing what they are supposed to do and we are going to punish them if they don't. We are going to put their names in the papers. We are going to take away their money. We're going to make them fire teachers, all that kind of stuff. It creates an attitude of fear within schools about making kids learn So teachers are under a lot of pressure and they are scared of these tests. And kids are too. Kids throw up. Kids get anxious. Kids don't want to go to school. They feel the stress of these changes, too.

There is very little evidence that this is a relevant issue in these specific schools or for these specific students. However, knowing the potential audience of the report, this respondent ties testing to school violence without any real knowledge of whether this is empirically supportable in an effort to mobilize public sentiment against testing.

Mistaken Judgments

More difficult still were cases where respondents thought that they knew something but were mistaken. One way that judgments were mistaken was when respondents were repeating second- or third-hand information that stemmed from an initially erroneous source. On a number of occasions, respondents substituted what they had read in the media or heard around town for what they actually knew, often without acknowledging as much. For instance, in Jonesboro, some of our respondents told us that there was a third shooter involved in the shooting, a fact that was not supported by any police or media account but that had spread quickly through the rumor mill. The shootings were focal events in the lives of these small communities, and stories and speculation about them circulated widely. Differentiating what people actually knew from what they had heard or read became a central problem in the research.

A second form of mistaken judgment occurred when respondents made faulty inferences based on incomplete information. Psychologists have identified a variety of heuristics, or mental shortcuts, that individuals use to make judgments under conditions of uncertainty (Tversky and Kahneman 1974). While heuristics can be an efficient way of simplifying a complex world, they can also lead to cognitive errors when individuals attempt to reach conclusions about what they do not know on the basis of what they do know (Bazerman 1998).⁹ For example, in our research, some respondents attributed a greater causal role to the factors or individuals they were knowledgeable about. In Jonesboro, where there were two shooters, some respondents ascribed the primary role to the shooter that they personally knew better. One student who knew Mitchell Johnson well but did not know Andrew Golden at all claimed that Johnson was the instigator and he got Golden involved because of his access to guns. To accurately assess the probability of who was the more likely instigator, information about one boy needs to be balanced against information about the other. But in this case, the respondent's knowledge of one of the shooters but not the other may partly weight his judgment of the probability of the shooter he knew taking the more prominent role.¹⁰

Another example of how the use of heuristics can lead to erroneous conclusions was when one student at Westside claimed that Andrew

Golden was taking the drug Ritalin, and that this probably affected his behavior during the shooting. It became clear during the course of the interview, however, that alerting the public about the negative effects of this drug was the cause célèbre of the student's mother, as well as some of their family friends. The students' willingness to assume that Andrew the school shooter must have also been a Ritalin taker is shaped by the students' prior beliefs that Ritalin usage is highly associated with negative outcomes.

MANAGING DATA BIAS IN POSITIVIST RESEARCH

There are no magical solutions to the problems raised here. The first and most crucial step is simply awareness of the various reasons why respondents may give incomplete, inaccurate, or contradictory information. If this awareness infuses the research design, the fieldwork itself, and the analysis of the data, some of these problems can be minimized, and more accurate information can be obtained. Of course, part of this process is to construct factual questions that limit people's abilities to pontificate or state opinions instead of facts. But since subjective views and vested interests will inevitably shape some of those responses, we need to consider how to manage the bias that does occur. We focus here on two complementary strategies to improve the quality of factual data: (1) contextualizing individual respondents' comments in light of everything known about the source of their knowledge, their personal or political agendas, and their social position; and (2) triangulating among various respondents and sources of data based on this specific contextual knowledge (see Table 2). These strategies can be combined or tailored to the specific nature of the data problem.

Contextualizing Responses

The process of contextualizing responses is that of framing the information given in the context of where it comes from and therefore how reliable it can be considered. This is a process of gathering supplementary data that give us additional information about the primary factual data that are our main concern. This data-gathering process, focusing on relevant background information to identify potential biases, then

TABLE 2: Biases in the Data and Suggested Approaches in a Positivist Framework

<i>Biases Found in the Field</i>	<i>Proposed Approaches</i>	
	<i>Contextualizing Responses (Data Gathering)</i>	<i>Contextually Informed Triangulation (Data Analysis)</i>
Memory problems		
<ul style="list-style-type: none"> • Inadequate memory of past event • Memory altered by impact of contested event • Memory affected by post-traumatic stress disorder 	Collect multiple sources of data, particularly written documentation or accounts given immediately after the fact (e.g., police investigation reports, media accounts).	Discover whether memory problems exist through comparing interview and noninterview data. Give greater weight to non-interview data in areas where memory is likely an issue.
Vested interest problems		
<ul style="list-style-type: none"> • Importance of protecting reputation of self and others • Attempts to influence content of study to reflect political beliefs • Psychological interests in maintaining self-esteem, self-importance, and so forth. 	Probe respondents to discover personal beliefs, interests, and relationship to topic of research. Stratify sample not demographically but theoretically so that it contains respondents with different vested interests.	Using contextual information about respondents' place in the social structure, relationship to event at hand, and other salient motivations or interests that may affect data, give lesser weight to accounts that are motivated by vested interests.
Mistaken judgment problems		
<ul style="list-style-type: none"> • Secondhand or thirdhand information stemming from erroneous initial source • Incorrect inferences through use of various heuristics 	Do not accept information or inferences at face value. Probe to ascertain <i>how</i> respondents know what they know. Trace secondhand information to its source.	Look for similarities between different interviews and between interview and media accounts. Privilege data not by its frequency but by reliability of its source.

helps the researcher determine the best course of action to analyze the data collected.

An important task for assessing the quality of positivist data is to find out not only *what* the respondent knows but also *how* he or she knows it. Often, this may be accomplished by including questions about the source of the knowledge in the in-depth interview.¹¹ For instance, in the case of the respondent who ascribed part of Andrew's problems to the taking of Ritalin, further questions demonstrated that

the respondent did not really know whether Andrew was using the drug:

Interviewer: How did you hear that Andrew was on [Ritalin]?

Respondent: I just knew because I was in his class. And I knew that he was really hyper. . . .

Interviewer: Was he always hyperactive?

Respondent: Always, yeah. I'm pretty sure he was on it because I know they would call him down to the office and he would take some medicine. I'm pretty sure that's what it was, but I'm not totally sure.

This knowledge helps the researchers recognize whether this version of events is based on circumstantial evidence rather than concrete knowledge and determine how much weight to give it until it can be confirmed or rejected.

When nothing in the interview itself reveals the source of knowledge for a given fact or set of facts, the researcher should also be aware of how closely the respondent's comments correspond to accounts in the media or from those of others in the community. On numerous occasions, respondents related details that were almost verbatim from media accounts, and therefore the fact that these accounts were reported by multiple responses did not make a stronger case for this version of events. This pattern may also occur as a consequence of rumors, especially when numerous respondents had talked to one key respondent, and thus details that seemed to be supported by multiple "observations" are more properly considered multiple manifestations of a single observation. One example was the story that there was a third shooter involved in the Jonesboro case; although not reported by the media, this story spread quickly throughout the community. We traced its source to the police investigation immediately after the shooting, where numerous children reported this account. This questioning took place after the traumatized students had spent several hours huddled together in the school gymnasium. During this time, some students revealed to teachers and each other that Mitchell Johnson had previously made threats that "something big was going to happen" and that he, Andrew Golden, and a third person were planning something. Those who were specifically asked if they had heard this report of a third accomplice directly from one of the shooters mostly revealed that they had not. But many people in the community remain convinced that

a third shooter was involved. A teacher who was with the children in the school gymnasium immediately after the shooting stated emphatically,

The boys hadn't been arrested at that time. [All the kids in the gym] were crying and they knew [who had done it]. Actually they said it was Mitchell Johnson, another person, and Andrew Golden. They said there was a third person who to this day and [as long as I live], I will believe there was a third person.

Because this account was so widespread among the student body immediately afterward, it took on credibility in respondents' minds, even though no evidence of a third shooter was ever uncovered in the police investigation.

In addition to trying to assess the source of respondents' knowledge, a respondent's comments should also be evaluated in light of everything else that can be discerned about them. This vital but peripheral information might include the respondents' political beliefs, occupational position, position in the social structure of the community and relationships with other social groups, and their relationship to the shooters or victims. Most obviously, this is a caution not to take at face value the football player's reports about bullying or the principal's reports about school climate before the shooting. In these cases, the respondent likely has a personal or institutional agenda that affects what they will and will not say. But this attention to context can also explain subtler biases such as why, for example, a student whose mother was involved in speaking out about the dangers of Ritalin might infer that Andrew Golden was taking Ritalin. On some occasions, this information will come not from the interview situation but from participant observation and immersion in the setting.

In some cases, the source of bias in an individual's account will lie not in the respondents' political beliefs or their occupational position but rather in their *relationship* to the shooter or victim. Questions that seek to probe these relationships may be important in evaluating the importance of the data. Consider, for example, the student who presented Mitchell as more responsible than Andrew for the crime. A later question revealed that this presentation of information was shaped by his greater knowledge of Mitchell:

Adult¹²: You make it sound like it was more Mitchell. I always thought that Drew was the main instigator.

Respondent: Well, I always thought that too. Drew may be, but I never talk about Drew because I didn't know Drew.

Adult: You didn't know him. OK.

Respondent: So I shouldn't talk about him.

Understanding that this respondent's perspective is shaped by his social position in relation to the shooters is important for assessing the claims he makes about the role played by each. This is especially the case because this makes it clear that, despite his focus on the leading role played by Mitchell, he is not himself convinced that Mitchell was the instigator.

The example of this respondent also illustrates how respondents' claims about one topic need to be contextualized in a deeper understanding of their motivations and interests. Why would the fact that this student knew Mitchell better than Andrew make him more likely to portray Mitchell as the shooter? Is it not more reasonable to suppose that he would blame the shooting on the student who was not his close friend? The respondent's actions throughout the interview have a bearing on this question. At various points during the interview, the other adult present would begin to provide information, and the respondent would jump in to correct her (sometimes correcting her falsely), as if to assert his authority in this interview. He seemed to view the interview as a chance to show off his unique knowledge about one of the shooters, as seen by his answer to an unrelated question that opened the interview:

Interviewer: Part of what I wanted to ask you is just about what life was like at school, at Westside . . . what it was like before all this happened, if you can remember back then?

Respondent: Okay. I remember life was good. Mitchell, one of the people that did this, was one of my best friends. We talked all the time. It was . . . OK, Spring break, me and him and a few of my other friends, we were out at the railroad tracks at [Bono], we carried this little BB gun pistol with us . . . and it was like, "Well. . . I love this gun." And [Mitchell] pointed [the gun] at us and stuff, messing around. It didn't, it wasn't filled with nothing anyway, but still, we were just messing around. And he was like, he had this death list he wrote out of who he wanted to kill. That's where like messing around with me and stuff, made me mad.

While we should not automatically conclude that this account is inaccurate, the very fact that the respondent volunteers this information without being asked about the shooter reveals how he interprets the interview setting—as a way to increase his own status by illustrating his access to important information that he assumes the interviewer will want to hear.¹³ Understanding his approach to the interview is crucial to interpreting his tendency to portray Mitchell as the instigator of the shooting despite his own suspicions to the contrary.

Contextually Informed Triangulation

The best way to avoid being misled by a single inaccurate or biased source of data is to include as many viewpoints and as many sources of data as time, money, and convenience permit. Using multiple interviews and multiple sources of data (such as police interviews, psychological reports, primary documents, etc.) to triangulate the problem—that is, to see if different sources agree on the same set of facts—is perhaps the most widely used approach in the social sciences, quantitative as well as qualitative (Zetterberg 1966; Phillips 1976; MacKay 1978; Jick 1979; Kirk & Miller 1986; Yin 1989; Miles & Huberman 1994; Denzin and Lincoln 2000). In this sense, triangulation is similar to the common rule in journalism not to report anything that is ambiguous or controversial without at least two and preferably three sources to give it additional support.¹⁴

However, when researchers (or journalists, although using different terminology) discuss the use of triangulation to reconcile inconsistent data, they often use an implicit assumption that research should privilege the side that has “more” evidence. There is perhaps some positive weighting for official sources like newspapers or police reports and a slight discounting of interview data that are secondhand or thirdhand. Yet positivist analysis that is informed by a contextualized understanding of the positions and interests of respondents can triangulate in a way that is more consistent with the goals of uncovering causation. As we have seen, a piece of evidence need not be more true because more people relate it; the greater availability of supporting testimony may derive from their all having heard it from the same source, be it media or word of mouth, or because many respondents have personal or political reasons for contributing such an account.

Contextually informed triangulation takes this understanding into account during the process of triangulation and the subsequent weighing of evidence. Rather than adjudicating a particular question on the basis of which interpretation has more evidence, the goal is to differentiate between sources of evidence, privileging data that are likely to be less subject to the known sources of bias, and holding less reliable evidence to higher standards of support from triangulation. In the analysis phase, this means understanding each piece of information within its context and tailoring the triangulation to the nature of the data, sometimes at the level of specific questions. *Contextualizing responses* is therefore a necessary first step for contextually informed triangulation, but the two processes are iterative. Contextual information about the type of bias present influences the type of supplementary data that is sought. New data should be collected that are likely to be free of this form of bias and that would receive greater credibility as different sources of data are weighed.¹⁵

To give one example, when bias results from memory problems, either stemming from the fact that the event was long ago or that it altered the way many see and therefore remember the world, particular effort should be taken to seek support from written documents of the period. The claim that a program to help freshmen adjust to high school was in place before the shooting should be supported by written documentation relating to the policy, particularly when this information comes from a respondent who seems unsure of the timing of events. Students' uncertainty about the structure of peer relations before the shooting because the shooting altered those relations may be checked against photographs from yearbooks showing candid groupings of students and membership in different school activities at the time; such a source would likely be most effective if shown to the respondents to trigger their memories or enable them to interpret the documented information (which may be misleading to the uninformed outsider).

Other biases may call for triangulation with other forms of data. The question of Andrew's alleged use of Ritalin should be somewhat discounted if the source of the information has a stake in this possibility. To determine Andrew's Ritalin use, a researcher might consider reports from both official sources such as a school administrator who would have had to administer the drug to Andrew in the school office, close friends or relatives who might be expected to know about his medical

history, the accounts of other students and teachers who do not have similar personal stakes in the issue, and written documentation. There are clearly practical limitations to these approaches: Some of these avenues may be confidential or unavailable. But contextually informed triangulation allows for an appropriate weighting of the information that is available from different sources.

Developing a contextualized understanding of respondents and the information they give and using that knowledge to shape triangulation in a way that balances potential sources of bias are important techniques for managing poor data “quality” from the positivist perspective of seeking objective facts. In the case of a highly contested rare event such as a school shooting, considerations such as these are necessary before researchers can go on to distinguish causal patterns and develop explanatory theories that, held against additional cases, may gain status as hypotheses.

INTERPRETIVIST ANALYSIS OF CONTESTED EVENTS

While hypothesis testing and causal theorizing provide a specified goal for the positivist researcher, the interpretive analyst has a no less important but much less clearly defined task. Interpretive analysis seeks to uncover the often-competing sets of social meanings held by respondents. A lengthy substantive rendering of our interpretivist analysis of these cases can be found in Newman et al. (forthcoming), but in this space we illustrate how interpretivist analysis might work with a specific example that ties the analysis to the contested event. While interpretivist analysis is not restricted to contested events, we focus here on the special value of studying such events for interpretive analysis. Contested events create a series of methodological problems for positivist researchers because of contradictory and inconsistent responses; yet for interpretive analysts, these same conflicting responses provide key data points that help us understand social meanings and underlying divisions within these communities.

THE CONTESTED EVENT AS A CULTURAL BREACH

An atypical event that is controversial can serve as a breach of the social norms of the community (Feldman 1995). Harold Garfinkel’s (1967)

work illustrated the value of breaches in identifying the norms and values of an individual or community. Researchers using Garfinkel's approach would deliberately violate simple social norms to observe the reaction of their subjects. These responses, often irritated or angry, exposed the underlying socially agreed-on understandings that govern much of daily life.¹⁶

An extremely traumatic event such as a school shooting acts as a breach of the accepted understandings of how people usually behave in these communities. Children, particularly White children in low-crime, rural communities, are not supposed to shoot their classmates. How were our respondents to make sense of this anomaly that challenged some of their most strongly held assumptions about their communities? Given the shocking nature of the shooting and lack of real information about its causes, residents were free to project their own interpretations on the events. Here, we focus on one example to illustrate how reactions to the shooting can be used to identify important aspects of the cultures of these communities.

One of the most important divisions that emerged in our discussions with respondents was not race, religion, or class, but that between long-standing community residents ("insiders") and newcomers ("outsiders"). While many communities develop a distinction between insiders and outsiders, *how* respondents defined these categories and drew boundaries between them is an important interpretive goal (Gieryn 1983; Lamont 1992, 2001). Our interviews revealed that in these communities, great salience is given to one's "generational status," which served as one of the most important stratifiers of social life.

In both communities, "insider" was not a title that could be earned by longtime membership or conformity to local cultural norms but was attributed only to those with multiple generations of family born into the community. For example, one teacher at Heath High School claimed that she would never be a "Heatheren," even though she has been teaching at Heath for 27 years, because she grew up in "the city" (i.e., Paducah). Although in the national media, Heath and Paducah are often conflated (the tragedy is often described in the press as the Paducah shooting), to locals there is a stark demarcation between the city of Paducah (population 25,000) and the rural town of Heath 20 miles away.

“Insiders” with multigenerational family histories had higher social status in the communities and were perceived to enjoy better treatment as a consequence. These hierarchies surfaced as an issue after the shootings, framed in terms of the local response to the shooters’ families. The families that had been part of the community for a long time were seen as receiving preferential treatment. In Paducah, one victim’s family objected to how positively the Carneals were portrayed within the community after Michael had shot their daughter, including a “big campaign” by their church for the community to embrace them. Asked whether he believed that the Carneals received favorable treatment by the community or the legal system because of his class status as a lawyer, one member of the Carneals’ church claimed that, “I don’t think it’s because his father was a lawyer as much as the fact that they were well-liked people and highly regarded.” However, he later explained that this high regard in which they were held in the church community at least stems from the fact that

[John Carneal’s] folks were raised here. He was baptized here. His parents still go to church here, his brother and his family still goes to church here. And they started going to church after they got married. They were even married at the church.

The extent of the “preferential” treatment they received is in dispute, but certainly the status of the Carneals and others in the Heath community is related to their history and length of connection to that community. The victim’s family, however, was extremely upset by this treatment and chose to frame the issue in terms of their insider status.

In Westside as well, Andrew Golden’s family was well established and went back many generations. Some felt their status and connections led to special protections. Well before the shooting, several dogs in the neighborhood were found hurt or shot, and Andrew’s grandfather was suspected of being responsible. A neighbor reported this to the sheriff but claimed that nothing was ever done about it. The neighbor felt that the sheriff turned his back on the complaints because the grandfather was well known and well established in the community, especially in law enforcement circles. After the shooting, Mitchell Johnson’s mother also stated publicly that the Goldens received preferential treatment in the local media coverage of the shooting because

of their higher status in the community. In a newspaper article, she claimed that the local media coverage made Mitchell look worse to detract attention from Andrew because his family was more established and she was seen as an outsider. The local newspaper, *The Jonesboro Sun*, and others in the community denied this allegation.¹⁷ But for the purposes of interpretivist analysis, what is important is not whether the community really did give more favorable coverage to the Golden family but that it was perceived to be especially friendly to the Golden because of the family's long-standing community roots. That this perception is held by a relative newcomer to the community only underscores the level of distrust between insiders and outsiders.

One teacher at the Westside Middle School outside of Jonesboro also felt that this insider/outsider dichotomy surfaced in the treatment given to the shooting victims. She noted that one girl, who had always gone to school at Westside and whose family were longtime residents, received so many gifts and stuffed animals from community members after the shooting that they had to clear her hospital room out every day. Another victim, whose family had only just moved to the school that year, received little attention. This differential probably developed partly because the newcomer knew fewer people in the community, yet the fact that the teacher brought it up in these terms reveals her concern over the unequal status given to members of the community.

In these examples, an understanding of the fault line in the community between longtime residents and newcomers was revealed explicitly through their reactions to the shooting and its aftermath. But this interpretation was also buttressed by answers to a series of questions that had no relation to the shooting. For example, when we asked what made students popular at school, one Heath student explained that this was related to family status:

Popularity, first thing, at Heath is based on how long your family has been in the community. That's pretty—and how much money you have—but it really was an issue [of], like how long did your great-grandparents go to Heath? And then you're popular. And if they didn't, then you're probably not.

At Westside as well, students who had been in the community for many generations were well known within the school and were more often popular.

Thus, respondents could vocalize this wide-reaching stratification between insiders and outsiders without reference to the shooting. However, from the interpretivist perspective, the shooting is a breach that forces people to confront social divisions that are already present but are sometimes submerged in the course of their everyday lives. That interpretations of the community's response to the shooting were framed in terms of this hierarchy of generational status is but one example of how interpretivist research can uncover the presence and importance of particular value systems to community life. It may be possible to uncover these themes without an intervening contested event, but using the shooting as a window into the communities' cultures gives the researcher particular analytical leverage in understanding how much weight to give these themes.

*POSITIVIST AND INTERPRETIVIST ANALYSIS
AS COMPLEMENTARY PROCESSES*

Up to this point, we have considered positivist and interpretivist analysis on their own merits, as two separate but equally important goals that a researcher can pursue using a single set of data. Here, we argue that these approaches can additionally inform one another in ways that further the goals of each. In the following section, we offer a nonexhaustive discussion of some of the ways that these approaches contribute to one another.

USING POSITIVIST ANALYSIS IN THE AID OF INTERPRETIVISM

All interpretivist analysis is informed to some degree by relevant factual information. Understanding the interplay of social and economic change and individuals' lived experiences of these changes is one of the primary tasks of sociology, and thus most good interpretivist work is informed by a factual understanding of the broader context. In Rieder's (1985) study, for example, patterns of Black encroachment onto formerly White areas as well as the growth of social policies that favored the poor during the Great Society period are two crucial pieces of positivist data that inform his interpretivist conclusions.

Yet our research showed a more specific way that positivism can inform interpretivism: Using conflicting responses to factual questions can help uncover previously hidden social structures and value systems. Thus far, we have treated inconsistencies in the accounts of our various respondents as underbrush that needs to be cleared away to get onto the real work of answering important questions in a positivist framework. But from the interpretivist vantage point, many of these inconsistencies reflect differences in the community that are themselves of central analytic interest. What were problems of data quality become data points of their own right when we don the interpretivist hat. What is important is not whether the information is objectively true but rather whether there is a way to make meaning of the subjective truths that respondents present.¹⁸

Consider the rather specific question that we asked of most of our respondents in Jonesboro: Who was primarily responsible for the shooting—Mitchell Johnson or Andrew Golden—and what evidence would support that conclusion? In response to what we had intended as a factual query,¹⁹ we often received some of the most revealing statements about how our respondents understood their communities. Consider this lengthy response from a third-generation Westsider and teacher at the school about which boy was more responsible:

I'll tell you what my perspective of it is. You know the Oklahoma bombing? . . . You know, of course that woke up America and shocked America. And I'm just like anybody else. When I first heard it, I thought, "Okay. This has got to be somebody from another country. It couldn't be an American. It couldn't be." And when they started saying, you know, that day, the next day that they were looking at Americans, charging, I was just in shock. I thought there is no way. I couldn't accept that someone from America, where we're from, [could do] that.

And that's kind of the way it is with the shooting because when it happened, it was like, "Okay. Someone didn't like Westside." You know, "There's something, some foreign person from another school or whatever must have done this." And then when they started talking about someone from Westside doing it, I was, it's like the Oklahoma thing. I just thought this can't be. You know, I just thought this can't be somebody from Westside because we're all like a family. You know, we all help each other. We're, everybody from Westside is a person from Westside, you know.

And I mean, I don't know, and I don't want to say anything against anybody, but that Mitchell Johnson, you know, he, I consider him to be

an outsider, I now say. And maybe I shouldn't even think of it like that, but I do. I can't help it. And Andrew, . . . I mean, I went to school with his [uncle], you know, thought they were good people and everything. And I, in my mind, I guess, I feel like that Mitchell Johnson was the one that thought it up and maybe influenced the other one. I mean, I know he's got a troubled background with his family and everything. And I just think he's the instigator. I mean, not that Andrew, I mean of course he did some of the shooting too, but I still can't rationalize that someone from Westside, you know, thought of doing that.

As this teacher and member of the Westside "family" tries to make sense of the shooting, she reveals that she perceives an important difference between those from Westside and those who are not.

By asking a question about the causes of the shooting, we have opened a window onto the issue of how respondents interpret social divisions in the community, a sensitive topic that we might not have been able to understand by broaching it directly.²⁰ This teacher expresses some reluctance to think of someone as an outsider, either because of a desire to be inclusive or because of concern over how this may sound to others, but her true feelings about her community overpower this concern. Her beliefs about insiders and outsiders, and the differences implied by these titles, become clear in her interpretation of the shooting and reveal the presence of this cleavage in the community life in general.

*USING INTERPRETIVIST ANALYSIS IN THE GENERATION
OF CAUSAL THEORIES*

Interpretivist analysis can provide crucial information to inform positivist causal theories that might otherwise have been missed. Here, we explore two ways in which knowledge of the subjective understandings of community members can improve causal analysis: (1) by improving data collection and analysis, using what we call *interpretively informed triangulation*; and (2) by allowing for a more informed understanding of the worldviews of the shooters and those with whom they interacted.

Interpretively Informed Triangulation

Geertz himself noted that our knowledge of objective facts, which might lead to causal theories, is compromised by subjective interpretation. Yet others argue that we should not let this fact lead us to

abandon our efforts to approximate objective knowledge (Shankman 1984b; Farrer 1984). We should consider, then, what techniques can help us manage or control for such subjective understandings.

The example of Westside residents' opinions about which shooter was the instigator illustrates how answers to factual questions may inform an interpretivist understanding of those residents' worldviews. Alternatively, those worldviews also serve as another form of positivist bias, albeit one that is particularly difficult to determine without a simultaneous interpretivist analysis. Using this same example, respondents who believed strongly that insiders were less culpable than outsiders were likely to bias not only their opinions about who was the leader but also factual information that portrayed the insider boy in a more positive light. This may occur unbeknownst to the respondent, through psychological processes whereby the respondent believes a certain objective truth because they are in some way invested in that version of events. In the passage from the Westside teacher quoted above, the belief that no Westside insider would want to harm the community because Westside is the kind of place where everyone helps and cares about one another is precisely the sort of belief system that this respondent goes to great lengths to defend. From a positivist perspective, this "worldview bias" is another way that respondents may distort information but one that will not be rectified by the strategies suggested above. A new strategy—interpretively informed triangulation—is needed.

Interpretively informed triangulation builds on contextually informed triangulation yet adds to it an explicit effort to try to understand respondents' (socially influenced) worldviews and how these worldviews influence their responses to data questions that seek objective truth. A respondent's understanding of her world and culture is a fourth and, for our purposes, most illuminating form of bias that is not captured by our previous categories of memory, vested interests, or mistaken judgments.²¹ This understanding is a lens through which respondents perceive the world, and they may go to great lengths to uphold interpretations of events that support this belief system. Triangulation must therefore be shaped to take this worldview bias into account, much like the other forms of bias discussed. This strategy is compared with contextually informed triangulation and traditional triangulation in Table 3.

TABLE 3: Three Forms of Triangulation

	<i>Traditional Triangulation</i>	<i>Contextually Informed Triangulation</i>	<i>Interpretively Informed Triangulation</i>
Description	Relies on multiple sources of data or multiple accounts by different individuals to give greater credibility to a version of events.	Weighs information collected from different sources and individuals by knowledge of the information's context, its reliability, and potential biases.	Weighs information collected from different individuals by knowledge of respondents' worldviews or value systems and how they may shape respondents' interpretations.
Method	Combines information from as many different sources of information as can be obtained; typically privileges the side with "more" evidence.	Tailors the collection of supplementary data to address suspected biases; uses this information about the nature of the data in weighing of evidence.	Stratifies respondents based on cultural perspective or social positions derived from specific social cleavages that interpretive analysis reveals.
Example: Which Jones-boro shooter was the leader of the pair?	Asks all respondents for information about which boy was the instigator and favors the account with more support. Seeks external sources of data (e.g., police reports, school records, the shooters' writings) to give an indication of which individual had greater leadership qualities, history of deviance, or motivation and uses this information to increase confidence in an interpretation.	Weighs information from respondents based on their knowledge of the shooters, their social position and vested interests in a particular interpretation, how they learned the information they report about the shooters and how reliable it is or how much it conforms to media reports or rumor, and their stake in the interview situation. For example, information that Andrew was the leader that comes from members of Mitchell's church is viewed as potentially subject to a vested interests bias, and information to confirm or deny is sought from others with a different relationship to the shooters.	Seeks responses from both "insiders" and "outsiders," after this is revealed to be an important dividing line in the community that influences respondents' interpretations of events; weighs responses based on knowledge of respondents' social positions or their cultural understanding of the positions of insiders versus outsiders; specifically, factual information from insiders suggesting the outsider shooter was the instigator would be held to higher standards of confirmation from noninsider sources.

Interpretively informed triangulation may take the form of explicitly stratifying the sample into groups of people who possess different worldviews or it may mean considering interpretive biases in the weighing of evidence. At its best, the process will be iterative, moving back and forth between decisions of whom to interview and the emerging interpretive analysis. A self-aware researcher will have sought out a cross section of divergent views in her initial list of interviewees, yet the emerging understanding of the culture of the community allows her to redefine the categories that comprise the relevant viewpoints. Our sample might, for example, have to be explicitly stratified on the basis of insiders and outsiders to gain a wide range of perspectives. Furthermore, recognizing that this is an important (socially constructed) dividing line within the community enables the researcher to more easily understand future responses that are filtered through this lens.

A detailed example illustrates both how interpretively informed triangulation functions and how it builds on the process of contextually informed triangulation and everything learned from our efforts to contextualize responses. Consider the contentious issue of whether Michael Carneal was bullied. This proved to be a model example of a contested event, with different accounts coming from all sides. The media provided extensive reports that Carneal *was* bullied. Community members reaffirmed these assumptions in our initial interviews, as those who were at some distance from the case concluded on the basis of the media reports and Carneal's small physical stature that he must have been bullied. Yet when we began to talk with other students in Carneal's class, many reported that Carneal picked on other kids as much as he was picked on himself. We spoke with teachers, thinking that perhaps their greater age and maturity would give them needed perspective. However, teachers were largely unaware of the pervasiveness and seriousness of bullying in general and were unaware of serious bullying in Carneal's case. Finally, we obtained access to Michael Carneal's psychological reports, in which Carneal explicitly detailed harassment going back to elementary school, which had intensified in the year leading up to the shooting. However, the reports also stipulated that Carneal suffered from a "schizotypal personality disorder with . . . paranoid features," which meant that he sometimes saw things that were not there, such as snakes coming through the vents in his house. What were we to conclude?

Our initial approach was to contextualize the information we received by determining our various respondents' social positions, vantage points, and firsthand knowledge of events. We asked our informants about their personal knowledge of Carneal, the source of their information about him, and their own position within the social structure of the school. Using contextually informed triangulation, we assigned lesser weight to the reports of community members on the basis that they were the ones who were farthest from the situation and had the least specific knowledge. The teachers, we concluded, were quite unaware of the high prevalence of bullying in general reported by students and thus were also unlikely to be good sources of information about Carneal specifically.

Next, we considered the vantage points of the students who told us that Carneal was *not* bullied and how this might affect their accounts. Were these more popular kids, less able to see the corrosive effects of bullying and teasing? Using our contextual knowledge of students' places in the social hierarchy, we endeavored to stratify student respondents with respect to their position. We sought out other students who were more likely to have been teased themselves, but these students, perhaps by virtue of having come through the gauntlet of bullying themselves, were if anything even more dismissive of the notion, arguing that lots of kids were picked on, and Carneal's torment was nothing special. We considered whether there was variation in the assessments of bullying from students who sat in different "seats," which might, consciously or unconsciously, affect their view of bullying. But as we talked to boys and girls, 9th graders and 12th graders, weaklings and athletes, those who knew him well and those who knew him less well, what stood out was the constancy of the reports—bullying was overblown, everyone deals with it, why couldn't he?

It seemed that the most important divide was between all of the other students on one hand and Carneal on the other. As we examined the transcripts more carefully, we realized that these two groups agreed on the facts—that he was called gay in a school newsletter, was routinely called "faggot" and "four eyes," and was occasionally physically tormented by bigger boys—but that they ascribed different meanings to these facts. Other students did not see these slights as unusual or excessive, comparing them instead to the ones that they and other students had experienced. Yet Carneal, already psychologically fragile

and socially marginal, did not contextualize these perceived affronts in a similar way. His reaction was to internalize them until they built up and became one justification for the shooting. Thus, for those who were equally likely to know, our analysis needed to be informed by an interpretivist consideration of how Michael and others understood the events.

Interpretively informed triangulation here involved a balancing of accounts from these different perspectives, enabling us to call into question the concept of bullying as an objective phenomenon. What started as a factual research question resulted in a deeper understanding of events and their interpretations, leading to the need to ask both factual and subjective questions. By employing contextually informed triangulation and interpretively informed triangulation together, we develop both a factual conclusion in the positivist framework (the actual events that took place, how Michael was teased, etc.) and multiple subjective conclusions in the interpretivist framework (how Michael and others made sense of these events).

Interpretively Informed Causal Theorizing

Perhaps the most important contribution that interpretivist analysis can bring to a study of the causes of events like school shootings is the recognition that locally available cultural frames are not only relevant for issues of interpretation after the fact by all members of a community but also shape the lived experience of those responsible for the event. This recognition allows us to explore how the shooters understood their place in their school or broader community and why going on a rampage killing seemed like the best solution to the problems that they perceived.

We illustrate how interpretivist analysis can be central to understanding a shooter's motivation, using the example we have traced throughout this article—the valuation of generational status. This point is best illustrated with evidence about Michael Carneal. Evidence from Carneal's psychological reports, conducted after the shooting, as well as an interview with his psychologist shed light on how this cultural stratification in his community may have shaped his interpretation of the bullying and social marginality that other students thought were par for the course and why he believed that he had no other

options to his dilemma, such as telling his parents and getting help. In a community that prized belonging and insider membership very highly, Michael was at the fringes of every group he tried to join (see Harding, Mehta, et al. 2002 for details; Newman et al. forthcoming). He had attempted to find a niche for himself in several different social groups, but each attempt was rebuffed. He even tried to buy his way into membership in a social clique by giving gifts and other favors, with limited success. Michael had difficulty forming close relationships and as a result had very contingent social ties when everyone else around him had incredibly strong ties. To make matters worse, Michael came from a family of insiders. By right, he should have belonged in this community, and the constant reminder in every interaction that he was not accepted despite his family's position and his own generational status made his quest for acceptance close to an obsession. Several psychological reports confirm that Michael saw the shooting as a way of impressing people and gaining acceptance and admission into a social group at school.

Michael also believed that telling his parents about his fears, the psychological reactions that he recognized as abnormal, or the extreme anguish he suffered from his treatment at school was not an option. Michael's psychologist from the period after the shooting explained how Michael had recognized he was having problems but tried to hide them because of his concern for his family's status in the community.

Respondent: One of the reasons he didn't ask for help was the fact that people thought that they were this perfect family, and if he let people know that he was struggling and needed help, then that would blow that away.

Interviewer: I'd like to hear more about that . . . that there's this public perfect family, but inside . . .

Respondent: And I don't think [there was] a lot of turmoil going [on] inside the family.

Interviewer: Just that Michael is not perfect?

Respondent: Yeah, and Michael was very aware that he wasn't perfect. But I think he didn't want other people to know he was messing up that perfection.

Michael did not alert others to the fact that something was wrong because he felt compelled not to ruin the myth of his idyllic family in

this idyllic community. The family's position at the top of the hierarchy based on generational status was a large part of that myth.

Without an understanding of the importance of maintaining one's reputation within the community, particularly among longtime residents, it would be very difficult to make sense of why admitting his problems to his mother, with whom he was very close, did not seem to be an option. This is simply one example of a more general point, that if the goal is to understand social action, particularly action that is heavily dependent on individuals' subjective perceptions, an interpretivist understanding of these social meanings is central to any understanding of a causal theory or process. Locating the school shooter in his cultural or symbolic milieu helps us understand the positivist causes of the event as well as their interpretivist meaning.

CONCLUSION

The process by which positivist and interpretivist analysis inform one another is iterative. An understanding of the local webs of significance alters how positivist research is conducted; yet the positivist inquiry can also show us where those webs of significance lie. The value of moving interactively between these types of analysis, redefining research questions and design accordingly, cannot be underestimated.

Just as it raises questions about the nature of truth, the film *Rashomon* illustrates the benefit of each approach to the idea of "truth." The viewer is bound to be left wondering which version of the terrible rape and murder is "correct," and the film encourages the viewer to ask this question. Some argue that the director intends for one version of the story to be taken as objectively true, suggesting that the film is not about the relativity of truth at all but about the lies that individuals will tell themselves to maintain their most important possession—their self-image.²² Yet had *Rashomon* been presented as an ordinary whodunnit tale, it probably would not have ascended to the classic status it now holds. Instead, it reveals to us that we can know both things: who killed the nobleman and why these characters believe what they do about this event. It gives us a glimpse into the culture of this time and place and

how the ideals the characters present in their different accounts of themselves—shame, honor, masculine bravado, feminine virtue—are valued in their world, even as it establishes an objective truth of the events. Here, as in social research about contemporary contested events, both kinds of questions can be asked, and we benefit more from knowing both kinds of answers.

NOTES

1. Fabian (1984) pointed out that Geertz is often incorrectly identified as the founding father of interpretivism. The development of this approach should be traced back at least as far as Franz Boas.

2. While Geertz (1973) was insistent that an interpretivist analysis should apply only to its own time and place, many sociological studies tend to choose their cases as microcosms of broader phenomena. In Rieder's (1985) case, the broader phenomena was the turn of "Middle America" against the Democratic party, and while he notes that there are lots of subpieces of Middle America, his work is in part intended to provide an explanation of this large shift.

3. For example, Lin (1998), a political scientist who explicitly calls for an integration of positivist and interpretivist approaches, adopted a different understanding of these two frameworks. While she defined positivist analysis as determining a causal relationship that can be tested or identified in other cases, she viewed interpretivist analysis as producing "detailed examinations of the causal mechanisms in the specific case" (p. 163). Using her example, positivist analysis might be used to discover a positive relationship between previous work experience and current employment, while interpretivist analysis would be used to discover the causal mechanism in this relationship—that employers believe those with previous experience will be better workers. While determining the causal mechanism can indeed be an important aim of qualitative research, Lin's concern with how to explain a causal association between two factors need not delve into the webs of significance that are central to Geertz's definition of interpretivism. The example she selected illustrates this point; employers' logic that applicants with previous work experience would make better employees could be based on little more than the latest industry reports about worker efficiency. No deeper cultural perspective is necessarily implied. Research of this kind that focuses on establishing generalizable causal arguments is still basically positivist; incorporating mechanisms into the causal theorizing makes for better research (Hedstrom and Sweberg 1998) but does not necessarily make it any more interpretivist.

4. Many writers in the interpretivist tradition in sociology implicitly take this position and treat objective facts and events as potential influences on interpretive understanding (e.g., Hochschild 1997, 1989; Newman 1988, 1993; Rieder 1985).

5. We do not seek to contribute here to the extensive debate about the meaning of the word *culture* or the role that culture plays in social action. See Kuper (1999) for a good introductory overview of theorizing on culture over the past century. We use culture, subjective understandings, and social meaning interchangeably as a way of talking about how our respondents made sense of the social lives of their communities.

6. In this article, we focus on methodological problems confronting positivist analysis rather than the analysis itself, which may be found in Newman et al. (forthcoming).

7. This is not an exhaustive list. However, it does represent the three most common sets of problems in our fieldwork.

8. This is particularly the case in distinguishing whether a response that is influenced by one's vested interests is conscious or unconscious.

9. Social psychologists have identified a variety of specific heuristics (Fiske and Taylor 1984). Our purpose here is not to explore how each of these heuristics may have influenced our respondents' testimony but to address the general problem of data inaccuracies due to mistaken judgment, through the use of heuristics or otherwise.

10. We believe that this example also displays elements of a "vested interests" problem, but one that is related more to psychological than material interests—in this case, a psychological desire to be an important source of information about a central event in the town. This example illustrates how several biasing influences can be present simultaneously in a given response.

11. In a small community, it may be possible to determine which respondents have spoken with each other about these issues and from whom they may have heard the accounts they relate. In theory, it would even be possible to conduct a network analysis of which people in the community have talked with one another about the event (or about the interview itself) and how this affected their responses.

12. This "adult" is not the interviewer but was present at the interview because the primary respondent was a minor.

13. The respondent's assumptions about what the interviewer wanted to hear may have been influenced by the context of students' previous experience being interviewed by the media. After the shooting, numerous media agencies flocked to Jonesboro and aggressively pursued interviews with students who knew the shooters (Freedom Forum 1998). Students were even known to compete over the number of interviews they could conduct. Emphasizing his involvement with and knowledge of one of the shooters therefore allows this student to demonstrate his authoritative position to the interviewer.

14. The comparison to journalism is instructive because the newspaper's job is *not* to discover truth but rather to present the best truth it can find in limited time, in a way that is responsible enough to protect the paper from libel lawsuits.

15. Of course, the new data might have different sources of bias and could be discerned through the process of contextualizing responses, which would in turn direct further data collection.

16. These experiments were usually performed by Garfinkel's students on their friends, family members, and spouses, without the knowledge of the subjects. A typical exchange taken from Garfinkel (1967: 44) follows, beginning with a friend waving a cheerful hello to the experimenter:

(S) How are you?

(E) How am I in regard to what? My health, my finances, my school work, my peace of mind . . . ?"

(S) (Red in the face and suddenly out of control.) Look! I was just trying to be polite. Frankly, I don't give a damn how you are.

As with much of Garfinkel's work, the violation of the common understanding of a simple question lends insight to the importance of unvoiced social conventions.

17. *The Jonesboro Sun* claimed that it was not focusing attention more on any one party than another but was simply trying to give thorough coverage to what it saw as the important stories. Another explanation for any difference in media portrayals of the two shooters may be that the media focused more on Mitchell Johnson because they had access to more information about him and because his family was more cooperative. Little information was available about Andrew Golden because his family refused to talk to the media.

18. An interpretivist analysis can also focus on providing a meaningful account of inconsistencies within a single respondent's worldview (Hochschild 1989), but in this case we are

more interested in providing a coherent account of how a variety of actors understood a single contested event.

19. In this case, it is not the respondents' views about which boy was the leader in the duo that is taken as a factual query (as our discussion of contextually informed triangulation should make clear) but rather the specific details they could provide about their experiences with each boy or their firsthand knowledge of the shooters' past actions that would contribute to an understanding of what role each played in the shooting.

20. Good interpretivist researchers might ask such factual or causal questions without consciously intending to combine these two analytical approaches. When this occurs, interpretivist research is implicitly combined with positivist analysis to aid interpretivist goals. Increased awareness of this process, as well as the benefits to incorporating a positivist approach, should improve the quality of interpretivist work.

21. This "worldview bias" does have some similarities to the problem of heuristics, discussed above. The salient difference is that heuristics are more focused on individuals' limitations in making accurate inferences, whereas here we are more concerned with how collectively held understandings can systematically affect inferences.

22. Solomon (1981) argued that the final account of the rape and murder, related by the person who was not a party to the crime but simply an observer, is meant to indicate the objective truth in the director's view. This is indicated by his use of sophisticated film techniques that distinguish this account from the other versions of the events.

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