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Crime Waves by the Numbers

his chapter is concerned with the statistical meaning of crime waves. Of course, one of the major ways in which we "know" a crime wave is under way is when crime statistics tell us so. Crime statistics, like many forms of social (and other) statistics, appear to us as objective facts. We contrast them in our minds with opinions or beliefs. Statistics, after all, are rich in scientific meaning (Pfuhl & Henry, 1993).

Most of us, however, have an uneasy relationship with social statistics. While we recognize numbers as facts, we also seem quite willing to dismiss statistics out of hand. "Figures don't lie," we sometimes say. But we also like to recall British statesman Benjamin Disraeli's observation that there are "lies, damned lies, and statistics." How this ambivalence is expressed with respect to crime statistics is an important issue and part of what concerns us in this chapter.

Our discussion of crime statistics parallels themes that are explored in other chapters. The most important of these themes concerns the issue of social constructionism. In contrast to the view that emphasizes statistics as objective reflections of the empirical world, we need to appreciate crime statistics as social constructions. Like other cultural products, they are outcomes of social processes. What do we count? Who counts? When do we count? How do we count? None of these questions has a preordained answer. Instead, our answers reflect social decisions. This is crucial. Crime statistics that reveal to us that a crime wave is under way are social constructions in precisely the same way that a nightly newscast about rising crime is a social construction.

Thus, crime statistics matter, as crime stories in the newspaper matter, because they encourage perceptions about the levels of crime in our society. There is an important difference, however. Most studies of crime news proceed from the assumption that to some degree public estimates of the amount and type of crime in society reflect the amount and type of crime we encounter in the news. The implication of such arguments is that we are all our own accountants. We make crude calculations about high or rising crime levels based on the amount of raw material the media present to us. By implication, the more

crime we find in the news and other media, the more likely we are to think that crime is rising. But as Dennis Howitt (1982) argues, maybe we don't "do the math" ourselves. Rather, we need to recognize that one of the more common kinds of news story involves the routine reporting of crime statistics. In the most direct way, statistical news—about a "new threat" or "rising crime levels"—provides the members of the public with the most immediate evidence that crime is on the rise.

In general, then, it is essential that we understand where crime statistics come from. Moreover, since most of us who do encounter crime statistics do so in the mass media, it is important as well for us to appreciate how crime statistics become news and what kinds of news they become.

Numerate and Innumerate Consumers

Our starting point in this discussion, though, is the end point of the process the "average" consumers of crime statistics. For many observers, the love-hate relationship with social statistics of all kinds is rooted in the high levels of innumeracy among members of the general public. The term *innumeracy* connotes a condition comparable in many ways to the more familiar concept of illiteracy (Paulos, 1988). Most of us pride ourselves on being literate and understand the serious problems likely to befall anyone who is not literate. Innumeracy, however, is less well understood as a problem. Still, many (if not most) people lack even a rudimentary understanding of how social statistics are generated, how they need to be interpreted, or what we can or cannot learn from them. As mathematician John Allen Paulos (1988) has written, "The same people who can understand the subtlest emotional nuances in conversation, the most convoluted plots in literature and the most intricate aspects of a legal case can't seem to grasp the most basic elements of a mathematical demonstration" (p. 118).

Innumeracy can take many forms. One of the most problematic is what some analysts have referred to as "number numbness" (Dewdney, 1993). This can be defined as a widespread inability to make sense of numbers that are very large or very small. Number numbness can create problems when we attempt to make sense of crime levels without a proper context. For instance, according to Bureau of Justice Statistics data, in the year 2000 there were 1,949 homicides in the United States involving victims 50 years of age or over (Bureau of Justice Statistics, 2002). On its own the number is huge. Indeed, it is about 50% of the homicide figure we find for the group for whom we might naturally expect murder to be a much more serious problem—those aged between 18 and 24. For this group, the number of homicides in 2000 was 3,933.

In the case of older Americans, the figure represents untold amounts of pain, suffering, and grief on the part of family members left behind. It describes

almost 2,000 lives cut short, plans uncompleted, and dreams unfulfilled. The tragedy implicit in such a number is not in question. However, tragedy is relative, and when we contextualize this number with reference to the size of the population involved, we get a somewhat different perspective. If we ask how many homicides this represents in a relative sense, the number is, as these things go, a relatively small one. One thousand nine hundred forty-nine homicides of people 50 years of age or over represents a rate of 2.5 homicides for every 100,000 people in this age group. Those aged between 18 and 24 have a murder rate that is six times higher: 14.9 per 100,000. To focus only on the size of these (large) numbers without a sense of their context is to lose any understanding of relative risk. Even when numbers are carefully compiled (as homicide statistics usually are), they rarely tell the whole story (Best, 2001a).

Our innumeracy creates confusion in many different ways. On the one hand, we are suspicious when arguments are made to us without statistics (Crossen, 1994). At the same time, we tend to lack the tools that might allow us to react with appropriate skepticism. As Paulos (1988) notes, mathematical certainty (even if unfounded) can be invoked to "bludgeon the innumerate into a dumb acquiescence" (p. 67). Minimally, our innumeracy makes it difficult for us to appreciate the complexity or nuances of arguments about how much crime there is or about how much the levels are changing.

Several factors can be used to explain contemporary levels of innumeracy. Critics point, for instance, to the lack of rigorous mathematical education in schools (Paulos, 1988). Many people have never taken even a basic statistics course, which would teach the skills necessary to evaluate statistical information (Crossen, 1994). In addition, while most people would feel extreme embarrassment about being illiterate, no such stigma seems to adhere to innumeracy. Indeed, people (even many professors) often speak with pride about their inability to use or understand statistics. In fact, it is not the innumerate, but the highly numerate who are often stigmatized in our society when we speak, for instance, of the "math nerd" (Dewdney, 1993). As well, many people have trouble with the impersonality of mathematics. In the mass media, we are encouraged to think about the personal and the emotional. In our news and in our public rhetoric, we often seem much more comfortable with drama and emotion than with statistics (Cohl, 1997). In part, this reflects a widespread sense that there is something fundamentally impersonal, or even dehumanizing, about social statistics (Paulos, 1998). As a consequence, we are free to interpret an inability to come to terms with statistical arguments as a healthy indicator of the depth of our humanity.

The Statistics of Crime Waves

Arguments about crime waves are, in one sense, arguments about how crime waves change over time. Can we say with some degree of statistical certainty

that crime has gotten worse? Of course, "gotten worse" is a highly problematic phrase. It might mean that crime is becoming more violent or that the violence is becoming more vicious. It might mean that crime, however violent or vicious, has begun to victimize more vulnerable victims. Usually, though, the claim that crime is getting worse is a claim about how crime levels are increasing. But this too is problematic. Whether we think about crime rates as higher (or lower) depends on the comparison point. During the 1990s, for instance, overall crime rates were falling but they were still higher than they had been at the midpoint of the 20th century (Mosher, Miethe, & Phillips, 2002). Although the data are somewhat unreliable, the best estimates of long-term trends suggest that, at least since the 17th century, American crime patterns have been cyclical, with a major peak in the middle of the 19th century (Brantingham & Brantingham, 1984). Resolving arguments about crime level changes over time turns out to be a rather complicated business. It is not a surprise, then, that the average consumer of crime statistics as found in mass media or in political speeches (or shoddy pop scholarship) is often confused.

Statistics in the Raw

We have already seen how dangerous it is to make casual interpretations of raw numbers. It follows logically that efforts to determine whether a crime wave is under way will be undermined if we rely unduly on such numbers, yet errors in this respect are easy to make. A relatively small number of very high visibility crimes can occur within a rather short period of time. If our observations are not grounded in some broader perspective, it may appear that some problem is indeed rapidly deteriorating.

Consider, for instance, the celebrated cases of road rage that occurred during the 1980s and again in the 1990s (Best, 1991; Fumento, 1998; Glassner, 1999). While the "epidemic" nature of the problem was taken as a given in many quarters, researchers were hard pressed to find careful and systematic evidence of more aggressive driving on the nation's roads, especially when account was taken of the numbers of drivers on the road and the number of miles driven. It might even be argued that the celebrity crimes of corporate offenders in the early years of the 21st century suggest similar phenomena. The rapid discovery of crimes involving Enron, Global Crossing, "domestic maven" Martha Stewart, and others within a very short period of time, led many to argue that a "corporate crime wave" was under way. While the designation had a certain rhetorical flair, its substantive meaning remains uncertain. We might ask, after all, about the rate of such crimes relative to the number of corporations and about whether such a rate had changed during the period in question. As we will see in our discussion of crime news in the next chapter, it is easy to come to such

conclusions. It is, after all, the rarity of events that makes them noteworthy and newsworthy. While a school shooting, for instance, might attract widespread attention, two school shootings (an even rarer event) will attract even more attention and become the subject of even greater public discussion.

There is a further ironic twist to the use of raw numbers as indicators of crime wave trends. It can be argued that even if the actual rate at which some phenomenon occurs is in decline, some will read the data as indicating a worsening problem. "Worse" in this sense might mean that the problem continues (even though it does so at reduced levels). It is not therefore the relative rate at which incidents occur but the fact that cases continue to occur at all that can promote the conclusion that a crime problem is deteriorating, even while it might be improving. So, for example, we might learn that 10 murders occurred in our city last year and 5 occurred this year. While the reduction might indicate a shrinking problem, some will be less struck by the relative rate of occur-

Some psychologists have noted our tendency to discern clear patterns in randomly occurring events. When we flip a coin, for instance, we expect heads and tails to alternate more often than they actually do. What we observe are clumps of heads or clumps of tails. While these clumps, or runs, of head or tails are perfectly consistent with a notion of randomness, the fluctuations appear more patterned than they are. In the same way, the chance or purely random fluctuations in the stock market, for instance, can look to uninformed observers like a disturbing or promising trend. The occurrence of a small number of unusual or particularly aberrant crimes might not indicate any real statistical trends, no matter how much we talk about these crimes or how confidently or how loudly journalists declare the existence of such a trend. As Gilovich (1991) notes, this tendency to recognize patterns in empirical phenomena is a very important skill. It is, after all, the way in which great scientific advances are made. However, the discovery of patterns when none exist can easily lead us astray (Paulos, 1988).

Small, raw numbers can also create serious problems when they are converted to percentages. This is because percentages can hide unimportant or random differences. So, for example, if one attack on a tourist in a resort town occurred last year and two occurred this year, we have two ways of expressing what we have observed. On the one hand, we might say that one additional person was attacked (and that the differences between the two years can be attributed to chance). On the other hand, we might state boldly that attacks to the resort town increased by 100%. The second statement is much more ominous than the first.

Barry Glassner (1999) demonstrates the problem with reference to an American Automobile Association study of road rage. According to Glassner,

the study concluded that during the 1990s, road rage incidents were increasing at a rate of 7% per year such that by 1997, the rate had increased almost 50%. The problem, however, is that the study actually compares two relatively modest absolute numbers. The number of such events was 1,129 in 1990 and 1,800 by 1996–1997. The difference is a grand total of 671 incidents, and these incidents are spread over millions of drivers in 50 states over a 7-year period.

Jacobs and Henry (1996) have provided a similar critique of data offered in support of claims about a "hate crime wave." The authors analyzed New York City police department data that purported to show that for the first 4 months of 1990 there was a 12% increase in hate crimes when compared to the same period of 1989. Of perhaps greatest concern, it was argued, was that the number of hate crimes directed toward Asians almost doubled between 1989 and 1990. The authors maintain that a closer examination of the data tells a more complicated story. According to Jacobs and Henry, there were 11 bias crimes against Asians in the first 4 months of 1990 as compared to 22 reports for all of 1989. The question posed by Jacobs and Henry is a provocative one: Is an increase of 11 incidents really all that alarming in a city that for 1990 was home to 512,719 Asian residents and the setting for 710,222 index crimes?

Another questionable use of raw numbers in the tracking of crime waves involves the presentation of such numbers in ways that suggest they have somehow been standardized when in reality they have not. One of the major devices used in the creation of this misimpression is the *crime clock*. The crime clock is a method of data presentation that purports to show the frequency of crime in a way that takes the timing of the offences into account. While crime clocks are widely used by the FBI and many other policing organizations, they have a rather deceptive character.

The crime clock described in Figure 3.1, for instance, indicates that in the United States in 2002 there was a violent crime committed every 22.1 seconds. How is this figure arrived at? The estimate involves two quantities. One is an estimate of the police-reported violent crimes. For the United States in 2002 that number is 1,426,325. The second figure we require is a count of the number of seconds in a year. This figure is easily calculated (365 days \times 24 hours \times 60 minutes \times 60 seconds) as 31,536,000. Dividing the former figure into the latter yields the estimate of one violent crime every 22.1 seconds.

While this number looks suspiciously like a "crime rate," it really is not. A crime rate counts the number of crimes relative to the variable size of some at-risk population. Rates are usually expressed per 1,000 or per 100,000 members of the population. In the present case, the rate of violent crime in the United States would be calculated as

1,426,325 violent crimes

_____× 100,000 (constant)

288,368,698 people in the population



2002

Every 2.7 seconds: One Crime Index Offense Every 22.1 seconds: One Violent Crime Every 35.3 seconds: One Aggravated Assault Every 1.2 minutes: One Robbery Every 5.5 minutes: One Forcible Rape Every 32.4 minutes: One Murder Every 3.0 seconds: One Murder Every 4.5 seconds: One Property Crime Every 4.5 seconds: One Larceny-Theft Every 14.7 seconds: One Burglary Every 25.3 seconds: One Motor Vehicle Theft

Figure 3.1 Crime Clock

The rate of violent crime for the year 2002 is 494.6 crimes per 100,000 members of the population.

It may appear that crime rates and crime clocks are telling us the same things but they are not. The reason is simple. The size of the population is a variable, and as we calculate changes in the crime rate from year to year we are taking into account not only how the number of crimes changes, but also how the size of the population changes. In contrast, the number of seconds in a year is not a variable but a fixed quantity. To see what difference this makes, compare the data from the year 1983 with the data from the year 2002.

In 1983, there were fewer violent crimes measured in an absolute sense (1,258,087) and a smaller population (233,791,994), but of course the same number of seconds in the year (31,536,000). The rate of violent crime per 100,000 members of the population is quite a bit higher (538.1). The crime clock, however, would suggest that we can expect a slightly longer gap between violent crimes, at every 25 rather than every 22 seconds. Clearly, the crime clock misleads us into thinking that we are seeing the data in some way that standard-izes these numbers, when in reality all we are seeing are raw numbers presented in a more rhetorically impressive manner. Clearly, we can think of circumstances in which the crime rate might remain the same from year to year (because the

number of crimes and the size of the population grow in proportionate ways) while the crime clocks suggest that a major crime wave might be under way.

Emergent Problems

Sometimes it is useful to make a distinction between established and emergent crime problems. The differences have to do with the relative newness of the category in question. Crime problems like homicide or vandalism or white-collar crime have relatively long cultural and legal histories. In contrast, crime categories like "home invasion," "carjacking," "cyberstalking," or "road rage" are relatively recent inventions. Of course, many of the behaviors to which these labels apply might predate the labels themselves by many years. What is new is the socially constructed character of the category to which the label applies. As Best (1999) has shown, the last couple of decades of the 20th century saw the creation of a number of categories of new crimes and new victims. When we speak of these categories in ways that assign them a kind of taken-for-granted reality, we often lose sight of their socially constructed character. It is important for us to recognize that these crime categories exist as ways of classifying experiences, assessing moral worth, and as objects of public discussion only because claims about the need to recognize these problems have been effectively made.

As argued in the Chapter 1, the successful construction of a new social problem depends upon the ability of claims-makers to impress upon audiences of lawmakers, journalists, and the members of the general public that the problem is serious and deserving of attention. One of the ways this is accomplished is through statistical arguments that provide dramatic and compelling evidence that the problem is a sizeable and growing one.

Such arguments might provide the first occasion on which most of us ever hear about the problem or about its dimensions. Often we are asked to draw an implicit kind of contrast between the present and some sort of idealized past in which the problem was less serious or did not exist at all. Of course, such implicit comparisons require critical scrutiny. Jacobs and Potter (1997), for instance, argue that in the case of hate crime we are asked to believe that rates are at an all-time high. This is difficult to accept, however, given the history of near genocide of native peoples and racist violence against African Americans.

One problem facing those who attempt to make the statistical case for new crime problems is that these compelling statistical data often do not exist. Indeed, a lack of statistical information can be interpreted as a kind of proof that no one is bothering to take the problem seriously. In other words, we tend to document problems that concern us and ignore those that do not. Yet even in the absence of trend data, claims-makers still need to be able to argue that this problem is either as bad as it has ever been or that it is getting worse.

Where will such numbers come from? In some cases, they are simply "guesstimates" provided by those who seek to establish the problem's legitimacy (Best, 2001). As Neil Gilbert (1997) notes, in the early stages of social problems construction it might be only those who are most deeply interested in the problem who bother to think about and try to convince others regarding the frequency or growth of a crime problem. Victims groups and victim advocates of various sorts may be those who are expected to speak to the statistical dimensions of the problem to which they seek to direct our attention. This sort of vested interest in a problem's development can be accompanied by a real interest in the production of numbers that are big and growing and very little interest in the production of numbers that might be correct (Reuter, 1984).

In the case of the missing children crime wave of the 1980s, an early estimate by Jay Howell, executive director of the National Center for Missing and Exploited Children, estimated that between 4,000 and 20,000 children were abducted by strangers each year (Forst & Blomquist, 1991). Other estimates placed the number of missing children at between 1.8 and 2 million (Best & Thibodeau, 1998). Many individuals involved in law enforcement critiqued these estimates and suggested that the number of children abducted by strangers might be much closer to 100. Indeed, they argued that the very large numbers simply did not make sense in terms of personal experience. Over fifty thousand Americans died in Vietnam, and most people knew someone whose family was affected by the war in this way. But how many of us know someone whose child was abducted by a stranger? Despite such objections, these large estimates of the number of missing children were widely accepted as correct (Forst & Blomquist, 1991).

While guesses sometimes serve to give emergent problems statistical form, another approach is to reconfigure existing data in ways that provide the needed numbers. Perhaps the best example of this phenomenon in recent years was provided by Philip Jenkins's (1994) discussion of the serial killer crime wave in the 1980s. Early estimates of the size (and hence the seriousness) of the serial killer problem estimated that as many as 20% of all American homicides in any given year might be the work of serial killers. But where did this number come from? Unlike some early social problem estimates, it was not just made up. Rather, it came from a skillful if curious reinterpretation of official homicide data.

Using police-reported crime data, some justice officials estimated that between 1976 and 1985 about 17% of all homicide circumstances were listed as "unknown." During the same period, 29% of all homicides indicated that the relationship between the victim and the offender was "unknown." In a further 16% of cases, it was revealed that the offender was a stranger to the victim. For the year 1983, then, these officials made the unwarranted assumption that most of the unknown and stranger homicides were the work of serial killers. As Jenkins argues, the essential problem here is the implicit assumption that an

unknown homicide circumstance is the same as "no apparent motive," and that no apparent motive is the same as "motiveless." Such statistical sleight of hand meant that missing information could be imaginatively transformed into information of a particular kind, and the result was an estimate of the number of serial killer victims in the 4,000 to 5,000 range.

Why are large and increasing numbers so important to those who seek to establish a beachhead with respect to an emergent crime problem? Most obviously, they show that a problem is important *because* it is widespread. When the numbers are large, those who have been personally affected by the problem can believe that they are part of a larger social dynamic. Those who are not personally affected (and have no basis for judgment) are likely to be impressed by estimates of the widespread and worsening problem (Best & Thibodeau, 1998). Often the impact of large numbers can be personalized through rhetorical forms that indicate that "1 in 10," or "1 in 4," or even "1 in 2" people will experience the problem.

There is a further ideological benefit that derives from large and increasing numbers. They tend to move the search for the causes of crime waves away from individuals and toward broader social, economic, or historical factors (Gilbert, 1994). Often those who seek to formulate new problem definitions also seek to promote social change and to avoid victim-blaming. Of course, large numbers are useful in this respect in that they encourage the search for depersonalized explanations of crime waves.

Big numbers are important not only for putting an issue on the agenda for public debate and discussion but also for keeping it there (Gilbert, 1997; Nelson, 1984). The inability to show that a problem is getting worse, or at least as bad as it has always been, can cause relevant parties such as journalists or lawmakers to lose interest. According to Cook and Skogan (1990), this is exactly what happened in the case of the elderly victimization crime wave of the 1970s. Early research, which employed very inadequate sampling and measurement techniques, suggested that the elderly were the most frequently victimized group in society. Starting in 1972, however, data from the methodologically rigorous National Crime Survey began to show with remarkable consistency that this was not the case. In fact, these data showed year after year that the elderly were the least—not the most—likely to become victims of crime. In the presence of such a statistical onslaught, arguments for a crime wave against the elderly began to collapse.

Of course, sometimes the opposite happens. Initial problem estimates can be quite resistant to challenges from more carefully conducted, statesponsored research. This process is an interesting one. Claims-makers who have a direct interest in the development of a new social problem tend to promote large estimates of the problem. In the absence of other estimates, these numbers become the only game in town (Best, 2001). Moreover, such numbers are typically understood by their advocates and by audiences as underestimates. Because it is always easy to show that there exist cases that we don't learn

about, these often inflated numbers gain additional credibility. As these numbers gain legitimacy (and are the only numbers available for a period) they can become resistant to challenge. When later, more carefully conducted, and often more disinterested research is undertaken it may provide considerably lower estimates. These revised estimates are sometimes read by critics as an attempt on the part of government officials to deny the gravity of the problem.

More generally, as Gillespie and Leffler (1987) argue, data collection methods always have political overtones and the burden of proof will always rest with those whose research challenges the status quo. Their methodologies will be subject to greater scrutiny by those who are proponents of the definitions of the problem the new results challenge.

Statistical Record Keeping as a Social Process

The collection of any kind of crime data can be understood as a social constructionist process. What ends up in any kind of crime tally is a product of a large number of interlocking decisions made by a wide variety of actors involved in the process.

This is true with respect to both of the two major data sources used by criminological researchers: the Uniform Crime Reports and the victimization survey (MacKenzie, Baunach, & Roberg, 1990; Mosher et al., 2002; O'Brien, 1985). The Uniform Crime Reports (UCR) are often referred to as "police data." UCR data are gathered and collated by individual policing agencies according to a standardized set of reporting rules. The data are submitted to the FBI and made available to criminal justice agencies and other interested users nationally on an annual basis. The crime clock (discussed earlier) represents one of the most famous outputs of the UCR system.

The other major data source is what is known as the victimization survey. Such studies attempt to generate counts of crime by asking people directly about their experiences during some specified period of crime (e.g., during the previous 6 months). Many researchers claim that since the counts are generated directly from the members of the general public (rather than by the police), they are more accurate measures. This is because they are unaffected by the vagaries of criminal justice system processing. The best-known example of the victimization survey is the National Crime Victimization Survey, which has been an important data source since its inception in 1972 (Bureau of Justice Statistics, 2002).

The point we need to appreciate is a more general one—in either case, the production of crime data must be understood as a social activity. Rather than passively reflecting some objective world of crime, they actively construct a subjective world of crime. It is of course in the nature of social constructions that we often end up thinking of the worlds we have constructed as having an independent existence (Brownstein, 1996). In other words, we reify these

statistics and relate to them as though they have a much more rigorous existence than they actually have.

What does it really mean to say that social statistics are social constructions? There is really nothing mystical or mysterious about this process, although it is complicated and involves many different elements (Coleman & Moynihan, 1996). Consider, for instance, the UCR counts of assault. If a woman is struck by her husband, does she, in the first instance, think of the incident as a legal infraction that should be reported to the law? Perhaps not. Certainly there have been strong cultural pressures that have encouraged women and men to think about assaults of this sort as somehow "different" or more normal than other kinds of assault. If she does think of it as an assault, does she phone the police? Maybe, but maybe not. Perhaps she might be worried that the police won't really protect her and that her actions might put her at greater risk in the future. Or maybe she is too ashamed or blames herself for what has happened. If she phones the police, do they send a squad car? If they do send a squad car, do they decide a "crime" has been committed? If they decide a crime has been committed, do they decide to treat it officially? If they do treat it officially, can we be confident that this piece of data won't get lost in the police information system?

All of this is to say that crime levels end up being what they are as a result of a very large number of interlocking decisions of this type. This does not imply that these decisions are simply made in some random fashion, since this is clearly not the case. Citizen reporting, police deployment, and police discretion, for instance, are themselves socially patterned and predictable (Gottfedson & Gottfredson, 1988). Nor is it to say that there is never any sort of relationship between the number of crimes objectively occurring and the number of crimes that end up in our statistical tallies. In the case of legally defined homicides, for example, the counts in UCR records quite closely approximate the number of murder victims in society. But even in this case, our decision to treat some kinds of killing (but not other kinds) as murder or the judgments made by coroners in mysterious circumstances point to a social constructionist process (Box, 1981; Douglas, 1967). It is important to add, as well, that these processes are largely organizational in nature. How police, victim interest groups, statistical agencies, or other criminal justice bodies construct crime depends on the cultures and the structures of these organizations. The implication is important. Statistical crime waves come and go at least in part because of the manner in which these organizational process change over time. There are several interesting complications in this respect.

REDEFINITION

If our legal definitions of crime can be thought of as categories, then statistical record keeping, at a very fundamental level, involves sorting

experiences into such categories. If the categories change over time, then of course so will the number and the kinds of experiences that get sorted into them (Maxfield & Babbie, 1995). Several authors, for instance, have pointed to the highly variable ways in which important concepts like "gang" and "gang behavior" are defined over time or across jurisdictions for policy and therefore for statistical purposes (Katz, 2003; McCorkle & Miethe, 2002; Peterson, 2000).

Such a situation helps explain, in some cases, why measured levels of crime shoot upward rapidly. Barry Glassner (1999) argues, for instance, that as time went on, the conceptual category of "road rage" became wider and wider. Eventually, it included incidents that did not even involve violence or happen on highways. At one extreme, he points out, is labeling as road rage an incident in which one individual engaged in tailgating before being involved in an accident. Joel Best (2001) makes a similar point with respect to the growth of child abuse during the 1960s. The deterioration of the problem, advocates said, was evident from the fact that the number of reported cases grew from 150,000 in 1963 to 3 million in 1995. Importantly, Best points out, over that period the definition of child abuse broadened to include not only physical violence but also emotional abuse and neglect. In a similar way, Chasteen (2001) notes, feminist redefinitions of rape have encouraged an understanding of the crime as involving an increasingly wider range of behaviors that share as a common element the violation of a woman's nonconsent.

TOLERANCE

How much crime we end up counting depends to some degree on the level of tolerance for crime. In this regard, we can think about tolerance as an individual as well as a community-level phenomenon (Horowitz, 1987). Thus, individuals might differ from each other with respect to how severe an offense must be before they are willing to call the police, and communities might have very different standards regarding what does and what does not offend local standards of conduct.

In this respect it is useful to distinguish between reactive and proactive policing (Black, 1970). In simple terms, the former refers to those instances in which police get involved in the lives of citizens as a reaction to a request from a member of the public that they do so. Proactive policing, on the other hand, refers to the kind of citizen contact that police personnel themselves initiate. Most kinds of crime come to the attention of the police as a result of the former type of mobilization. In other words, at least with most standard forms of victimization, the police become involved because someone—usually a victim, a victim's relative, or a witness—phones the police or flags down a squad car (Gottfredson & Gottfedson, 1988).

Research suggests that victims often don't call the police because they assume (quite correctly) that there is really very little the police can do in

particular situations. Often as well, they tell victimization researchers, they do not call the police because the crime was a relatively minor one. In addition, people may be less interested in calling the police if they have other options available to them for dealing with the situation. In the case of wife assault and sexual assault, women often do not call the police for other kinds of reasons. They fear the offender or the misogynist stigma traditionally associated with these crimes.

Clearly, the willingness to report crimes to the police can vary over time. For instance, greater public discussion of various kinds of victimization might encourage more victims to come forward. To the degree that the police take special care to encourage reporting, through public relations efforts or through the development of special programs, reports to the police could escalate (Sacco & Silverman, 1982). In this sense, we can imagine how a rising crime rate could fuel further reporting (Loseke, 1999). Calling the police is in a sense a form of censure and as the willingness to tolerate crime at an individual level decreases, our crime statistics may increase.

Proactive policing suggests a parallel set of issues at the community level. In this case, we need to recognize that crime counts can reflect the eagerness or the aggressiveness with which policing agencies pursue particular kinds of tasks. Crimes involving drug sales, for instance, are unlikely to be reported by the buyer or the seller. It is really up to the police to discover such crimes, and how many they discover will depend on the way in which they utilize available human and financial resources.

Programs of so-called zero tolerance in schools, for instance, demonstrate easily the point being made here. Such policies are characterized by the corporate decision to treat troublesome behavior officially. In other words, in the school system, the policy of dealing with school violence informally is replaced by a policy stating that the police will be called in ALL cases. It seems pretty obvious that one immediate consequence of such a policy would be a rapid increase in the number of cases entering the official record.

BOOKKEEPING QUALITY

Any systematic attempt to collect large amounts of data will be plagued by errors. This will happen despite the best intentions of all concerned. Cases will be overlooked or recorded incorrectly. In complex data systems, there are problems of "case attrition." Simply put, cases that enter the system get lost somewhere along the way. We can expect more problems to occur the larger the amount of data that needs to be processed. It has also been argued that the errors might be most acute with respect to the cases that occur least frequently. In other words, a few serious cases buried in the midst of large numbers of nonserious cases might more easily be lost. Of course, improvements in data collection can reduce dramatically the number of errors that occur. A hallmark of highly professionalized policing agencies is the tendency to take collection and record maintenance very seriously. Again, a consequence of better and more faithful record keeping could be an increase in the rate at which crimes are recorded.

THE MANIPULATION OF STATISTICAL RECORDS

There are all kinds of reasons why state (and other) agencies in society might seek to manipulate crime statistics in a deliberate fashion. As some scholars have argued, it is helpful to think about the statistics maintained by social agencies as a kind of bureaucratic propaganda (Altheide & Johnson, 1980). Accordingly, such statistics serve to convince others of the legitimacy of the organization in question.

For instance, the police might wish to create a public impression that they are doing a good job, or that particular policies that are intended to control crime are working effectively. It has been argued that in the 1970s, crime rates in many major American cities fell as a result of deliberate efforts to make the statistical case that the crime control policies of the Nixon administration were working well (Mosher et al., 2002). Alternatively, there may be strong bureaucratic pressure to keep the numbers high or even to show them increasing. In such circumstances, statistics can be used to make a powerful argument about the need for new resources to combat a problem that appears to be spiraling out of control.

Of course, crime statistics also reflect on the prestige and reputation of the area or organization for which reports are made. In this respect, Maier (1991) reports that some New York City police precincts used to deliberately suppress their crime statistics to protect the reputation of particular neighborhoods. In a somewhat different way, Mosher and colleagues (2002) describe how statistical reports of university and college crime have been manipulated in order to protect the reputation of particular educational institutions. Although state and federal governments mandate the collection of such data, it is obvious that high university or college crime rates will worry the parents of potential freshman and embarrass the alumni. One very obvious case of such manipulation is evident in the actions of University of Pennsylvania officials in 1996. In its federally mandated report, the university indicated that 18 robberies had occurred, whereas the police reported 181. The university was able to keep the numbers down by not reporting incidents that had taken place on streets that crossed the campus or in buildings that it did not own.

The notion that "numbers speak for themselves" is true only to the extent that we fail to exercise critical judgment. Often, the graphs and charts that are supposed to unambiguously show particular kinds of trends are themselves

forms of manipulation. Consider Figure 3.2, which shows a dramatic upward shift in a hypothetical rate of homicide over a 5-year period. The visual image is striking but its meaning is unclear for obvious reasons. While the graph shows the period over which the change occurs, it does not show the units of measurement of the homicide rate (Huff, 1954). Are Points A and B 10 and 25 incidents per 100,000?; or 10 and 10.2 respectively? There is no way to tell.



Figure 3.2 Hypothetical Crime Levels Over Time

James D. Orcutt and J. Blake Turner (1993) show how drug use data were presented in *Newsweek* magazine in ways that lent statistical credence to the magazine's claim that a "coke plague" was under way in America. While the authors did not dispute the reality of a drug problem, they did question the relationship between the data with which the graphic artists were working and artwork they produced for the magazine.

Statistics in the Media

The media have the ability to take claims that are issued elsewhere in the society and diffuse them widely. In the process, however, the media turn those claims into various forms of news and entertainment.

One consistent feature of this transformation is the detachment of statistics from the research methods that produce them. An interesting noncriminological example of this problem is the "one rat for every person"

statistic (Sullivan, 2004). In short, it is widely believed and frequently reported that in large cities the rat population is approximately equal to the human population, yet few people know the source of this statistical estimate. It origins are to be found in a study of the rat population in England conducted in 1909 by an investigator named W. R. Boelter. He surveyed the English countryside (leaving out towns and cities) and concluded that there was roughly one rat for each acre of cultivated land. At the time, there were about 40,000,000 acres of cultivated land in England, thereby yielding an estimate of about 40,000,000 rats. As well, by historical coincidence, the population of England at the time also happened to be about 40,000,000. Thus while in England in 1909 it made a certain amount of sense to talk about the parity of the rat and human populations, there is nothing generalizable about this statistic. While numbers can assume lives of their own, the methodology that generates them is less well known. Of course, it is difficult to critique a statistic when its origins are unknown.

In a related way, we learn from watching television or reading the newspaper that crime problems are big and getting bigger. We tend to find out relatively little, by contrast, about how we know what we know about the statistical dimensions of crime problems. The claims-making that surrounded the emergence of the problem of elder abuse in the 1980s is a good case in point. As the problem was being established, many advocates argued that "one million elderly people are abused in America every year." As Best (1999) has noted, there is something magical about the one million figure, and it is surprising how many social problems seem to reach this benchmark. But where did the figure of one million abused elders come from? According to Steven Crystal (1988), the estimate came from a survey mailed out to 433 elderly residents of the Washington, D.C., area. Respondents to the survey were asked about several types of abuse including physical, psychological, material, and medical abuse as well as neglect. Seventy-three people or about 17% of the total sample responded. Of that number only 3 people (or 4%) reported abuse. Advocates argued that if that 4% figure were extrapolated to all elderly Americans it would represent one million victims. The problem, of course, is that the estimate is too unreliable to allow such an inference to be made with any degree of confidence: Each victim in the sample would have to represent 333,333 people.

Two broad questions need to be addressed in an analysis of media treatments of crime statistics. First, how do such statistics enter the news flow? Second, how are statistical reports packaged so that they are consistent with our understanding of what news is? Each of these questions is addressed below.

WHERE DOES STATISTICAL NEWS COME FROM?

The origin of statistical crime news is potentially quite diverse. In practice, however, most news of this type seems to emerge out of the pronouncements

issued in one form or another by state agencies (Sacco, 2000b). It is sometime argued that any kind of unsubstantiated statistical claim can find its way into news. While this is true, journalistic practices tend to favor "official statistics" for the same reasons that journalistic sources tend to favor official news of all sorts (Ericson, Baranek, & Chan, 1989; Gans, 1979). Like other kinds of "official news," official statistics are widely perceived as authoritative and objective, and they can be easily accessed by journalists (Brownstein, 1996). Those involved in news production, however, like most members of society, lack the training and background that allow them to dissect the methods that produce crime statistics (Cohl, 1997). Not surprisingly, therefore, they prefer numbers that many members of their audiences will perceive as being above any type of partisan fray. Journalists feel little inclination to look elsewhere for alternative statistics—especially when the resolution of any such debate might necessitate a side trip into arcane methodological topics that journalists aren't qualified to address and in which audience members are not really interested (Crossen, 1994). Federal and state agencies, policing services, and university researchers, for instance, have well-articulated relationships with media agencies and are important sources of "official numbers" (Fishman, 1978).

One of the reasons official statistics dominate the news has to do with the more general nature of crime coverage. By and large, the kinds of crime problems to which news media attend are those that are already on the public agenda. Thus, the media tend to be more involved in problem maintenance than in problem construction (Nelson, 1984). The official (and quasi-official) agencies assigned the responsibility to collect routine crime information become the major source of statistical news.

Of course, in those circumstances for which no other data are available, journalists must turn elsewhere for statistical estimates. Their sources in such cases are likely to include members of victim advocate groups. Alternatively, journalists might access frontline workers whose estimates of the size of the problem are are drawn from experience with, for instance, victims in shelters for battered women or abuse hotlines (Gilbert, 1994).

STATISTICS AND THE NEWS FLOW

On its own merits, a statistical report might not be the most newsworthy of items. How, then, do crime statistics become news? Like other kinds of claims about social problems, statistics need to be hung on some kind of news hook. Research suggests that crime statistics enter the news flow in three distinct ways (Sacco, 2000b).The first involves the data release. On an annual or other regular basis, federal, state, or municipal agencies release data that describe crime trends or data on new crime problems. Typically, the agency will make available a press release with key findings and user-friendly charts and graphs. Such new stories often concern trends, shifting crime patterns, or emerging problems.

A second major news hook involves articles or news items that question existing beliefs about rates of crime (Gilbert, 1994). For instance, a researcher might release the results of a study that causes us to ask whether rates of rape or sexual assault or abuse are as low as they have sometimes been made out to be. Best (1988) showed, for instance, how the *Denver Post* and other newspapers covered the "missing child" issue in the early days of problem construction in ways that seriously questioned the estimates put forth by advocates. In a similar way, Anthony Doob (1995) discussed how Canadian media critiqued the high estimates of violence against women yielded by a national survey by calling into question the motives and the methods of the researchers.

A third type of news hook involves the use of statistics as "background" information with respect to some more substantive theme. A feature magazine or newspaper article about rising rates of road rage, for instance, might include, as a sidebar, a graph showing recent increases in the size of the problem. Typically, these data might be presented with little comment regarding either the sources of the data or the variety of interpretations that might be made of them.

STATISTICAL NEWS AND NEWS VALUES

Like other kinds of news, stories about statistics need to polished and molded in order to fit the demands and the conventions of the medium in question. This can be accomplished in a variety of ways.

Statistical News Can Be Entertaining

As stated, there is a widespread view among both journalists and members of the general public that statistics are not all that interesting. It is necessary, therefore, to dress such stories up in ways that increase their entertainment value. In this respect, journalists might, for instance, make use of irony and humor. News articles dealing with a national study on car theft, for instance, might talk about which city will be awarded the "car theft crown." Graphics can also be used to intensify the dramatic feel of a news presentation. In the study of drug use trends described by Orcutt and Turner (1993), the data described patterns of use but the graphic purported to describe a "coke plague."

One major strategy is to turn statistical stories into human interest stories. This is accomplished by putting a "human face on the figures." A report of a study of child abuse, for instance, might begin with a narrative about the abuse of one particular child. The focus of the story is then on the ways in which the case is typical of a larger problem that is described by the study.

Statistical News Is Important

Statistical claims become important news when journalists emphasize the significance of the findings. A study of violence against women, we are told, is

a "landmark study" with wide-ranging implications. Research pointing to "a national shame," as it was claimed the early studies of elder abuse did, or that "confirms our worst fears," as studies of gang violence are sometimes claimed to do, are packaged as more than mere social science.

Statistical News Is Objective News

If statistical news tends to consist largely of government pronouncements, how are media able to construct themselves as objective? One way this is accomplished is through efforts on the part of journalists to promote a selfcritical style. In a way that seems to suggest real disinterestedness, news articles often speak of the "hype" (which they themselves generate) that exaggerates the threat that crime poses. In this respect, journalists often call upon academic and other experts to provide "perspective." Objectivity can also be manifested though the routine coverage of party politics by which "administration" studies can be critiqued by interest groups or by a competing political factions. In this way, journalists are seen as not committed to a particular version of the story but as engaged in the same kind of detached and objective reporting that is involved in the reporting of other kinds of stories.

Conclusion

The investigation of crime waves necessitates an understanding of how crime statistics are shaped, formed, and made available to consumers. The words we use to describe the phenomena in which we are interested—epidemic, flood, torrent—and of course *crime wave* itself, are terms that clearly lend themselves to statistical expression (Jacobs & Henry, 1996).

Crimes statistics must therefore be seen as one of the central means by which crime waves are constructed. It is when we learn that crime statistics are rising that we come to understand that a crime wave is under way. As we have seen, however, our observations in this respect might be less straightforward than at first appears.

Crime statistics, like all forms of statistics, are subject to considerable potential distortion. Some of this distortion results from the vagaries of any form of data collection. The counting of crime is a complex undertaking. There are always unresolved questions about how crime is to be measured and how populations are to be sampled for research purposes.

There are also intentional sources of distortion. Statistics are often a site of social conflict in our society. Arguments about escalating rates of crime can easily be turned into arguments about how resources are to be employed and about who is most deserving of our attention or even our sympathy. Claimsmakers, in order to draw attention to what they see as a problem condition, 03-Sacco-4650.qxd 4/18/2005 9:58 AM Page

provide extreme estimates of the size of the problem and the rate at which it is growing. In a related way, policing agencies (and other bureaucratic organizations) have sometimes played fast and loose with the statistical facts in order to gain bureaucratic advantage.

All of these problems are compounded by the high level of innumeracy in the general population. Many—or perhaps most—people in the population lack the skills to think critically about statistical evidence. The consequences of this state of affairs are not always uniform. On the one hand, we are made vulnerable to statistical arguments because we possess no natural defenses. On the other hand, we are often suspicious of numbers and believe that they cannot be trusted. The problem, of course, is that these positions do not correlate with the quality of statistical evidence in any consistent way. We are, it seems, as likely to be impressed by faulty statistical logic as we are to be dismissive of robust statistical evidence.

Crime statistics are themselves social constructions. Whether we end up seeing a crime wave in our tables, charts, and graphs depends not only on what is going on in the world that we intend to represent numerically, but also on how we do the counting. The parallels between statistical work and news work need to be carefully considered. The latter process is discussed more fully in the following chapter.