INTRODUCTION

The Worst Social Statistic Ever

The dissertation prospectus began by quoting a statistic—a "grabber" meant to capture the reader's attention. (A dissertation prospectus is a lengthy proposal for a research project leading to a Ph.D. degree—the ultimate credential for a would-be scholar.) The Graduate Student who wrote this prospectus* undoubtedly wanted to seem scholarly to the professors who would read it; they would be supervising the proposed research. And what could be more scholarly than a nice, authoritative statistic, quoted from a professional journal in the Student's field?

So the prospectus began with this (carefully footnoted) quotation: "Every year since 1950, the number of American children

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* For reasons that will become obvious, I have decided not to name the Graduate Student, the Author, or the Journal Editor. They made mistakes, but the mistakes they made were, as this book will show, all too common.

gunned down has doubled." I had been invited to serve on the Student's dissertation committee. When I read the quotation, I assumed the Student had made an error in copying it. I went to the library and looked up the article the Student had cited. There, in the journal's 1995 volume, was exactly the same sentence: "Every year since 1950, the number of American children gunned down has doubled."

This quotation is my nomination for a dubious distinction: I think it may be the worst—that is, the most inaccurate—social statistic ever.

What makes this statistic so bad? Just for the sake of argument, let's assume that the "number of American children gunned down" in 1950 was one. If the number doubled each year, there must have been two children gunned down in 1951, four in 1952, eight in 1953, and so on. By 1960, the number would have been 1,024. By 1965, it would have been 32,768 (in 1965, the FBI identified only 9,960 criminal homicides in the entire country, including adult as well as child victims). In 1970, the number would have passed one million; in 1980, *one billion* (more than four times the total U.S. population in that year). Only three years later, in 1983, the number of American children gunned down would have been 8.6 billion (about twice the Earth's population at the time). Another milestone would have been passed in 1987, when the number of gunned-down American children (137 billion) would have surpassed the best estimates for the total human population throughout history (110 billion). By 1995, when the article was published, the annual number of victims would have been over *35 trillion*—a

really big number, of a magnitude you rarely encounter outside economics or astronomy.

Thus my nomination: estimating the number of American child gunshot victims in 1995 at 35 trillion must be as far off—as hilariously, wildly wrong—as a social statistic can be. (If anyone spots a more inaccurate social statistic, I'd love to hear about it.)

Where did the article's Author get this statistic? I wrote the Author, who responded that the statistic came from the Children's Defense Fund (the CDF is a well-known advocacy group for children). The CDF's *The State of America's Children Yearbook—1994* does state: "The number of American children killed each year by guns has doubled since 1950."[1] Note the difference in the wording—the CDF claimed there were twice as many deaths in 1994 as in 1950; the article's Author reworded that claim and created a very different meaning.

It is worth examining the history of this statistic. It began with the CDF noting that child gunshot deaths doubled from 1950 to 1994. This is not quite as dramatic an increase as it might seem. Remember that the U.S. population also rose throughout this period; in fact, it grew about 73 percent—or nearly double. Therefore, we might expect all sorts of things—including the number of child gunshot deaths—to increase, to nearly double just because the population grew. Before we can decide whether twice as many deaths indicates that things are getting worse, we'd have to know more.* The CDF statistic raises other issues as

* For instance, since only child victims are at issue, a careful analysis would control for the relative sizes of the child population in

well: Where did the statistic come from? Who counts child gunshot deaths, and how? What do they mean by a "child" (some CDF statistics about violence include everyone under age 25)? What do they mean "killed by guns" (gunshot death statistics often include suicides and accidents, as well as homicides)? But people rarely ask questions of this sort when they encounter statistics. Most of the time, most people simply *accept statistics without question*.

Certainly, the article's Author didn't ask many probing, critical questions about the CDF's claim. Impressed by the statistic, the Author *repeated* it—well, meant to repeat it. Instead, by rewording the CDF's claim, the Author created a *mutant statistic*, one garbled almost beyond recognition.

But people treat mutant statistics just as they do other statistics—that is, they usually accept even the most implausible claims without question. For example, the Journal Editor who accepted the Author's article for publication did not bother to consider the implications of child victims doubling each year. And people repeat bad statistics: the Graduate Student copied the garbled statistic and inserted it into the dissertation prospectus. Who knows whether still other readers were impressed by the Author's statistic and remembered it or repeated it? The article remains on the shelf in hundreds of libraries, available to anyone who needs a dramatic quote. The lesson should be clear: *bad statistics live on; they take on lives of their own.*

the two years. We also ought to have assurances that the methods of counting child gunshot victims did not change over time, and so on.