SEVEN TIPS TO KEEP YOUR COPY NUMBER-FREE AND FAIR

Once, there was broad acceptance in newsrooms that reporters – and their editors – can't handle math. It was a badge of honor, perhaps marking the writer as an accomplished wordsmith or observer of the human condition. No more. It's no longer considered cute. Now, the fear of numbers marks a reporter as one who can only do part of the job. Reporters who give into that fear will have difficulty reporting on a complex story if they can't overcome it. But how? Here are some simple tips to tame numbers and help you improve stories that depends on them.

1. KEEP THE NUMBER OF DIGITS IN A PARAGRAPH BELOW EIGHT

Reducing the number of numbers in our copy can actually improve how we use the ones we're allocated. One suggestion, adapted from others, is to reduce the number of digits in a paragraph to eight.

Don't cheat by stacking paragraphs with eight digits on top of one another. Separate any number-packed paragraphs with anecdotes, sources' explanations, quotes or observations before you allow yourself more numbers.

This exercise, borrowed from William Blundell's Art and Craft of Feature Writing is geared at forcing you to choose your numbers as carefully as you choose your quotes. It also forces you to find simpler ways to describe the numbers using words like "double" or "nearly" or "more than." And it forces you to demand that your sources simplify their numbers enough for you to summarize them.

Why eight? This usually gives you the ability to fit one year and two substantive numbers into a paragraph. Look for a way, though, to reduce this number of digits by simplifying to stress the most important point.

Here's an updated version of Blundell's example. You'd be over your allocation with a sentence like this:

> The Office of Redundancy's budget rose 48 percent in 2013, from $700.3 million to $1.03 billion.

Think about how it could change:

> Over the past year, the Office of Redundancy's budget grew by nearly half, to $1 billion.

If you follow this exercise, you'll find your copy reads more smoothly and conveys more meaning. You also may find yourself working more closely with the copy desk and your graphics department, using the space you save to convey information more effectively through graphics.

2. MEMORIZE SOME COMMON NUMBERS ON YOUR BEAT

The hardest part of dealing with numbers is answering the question, "Is it big or is it small?"

You can start to answer this question by memorizing some common numbers on your beat and keeping them in mind as you report.

For instance, U.S. reporters have to know its population (about 317 million at this writing), the size of its economy (estimated at $16.2 trillion in 2012) and the income of the typical household in the country (about $51,000).

Each beat also has its own specialized numbers.

In education, they might include teacher salaries, the budget of the school district and the pass rate of students in the top and bottom performing schools. In medical reporting, you might need to know the annual number of deaths each year in the U.S., the number of smokers or the leading causes of death. And in government reporting, the typical campaign war chest and the local budget are crucial.

John Allen Paulos calls this "building a sense of scale." You can call it knowing the difference between a big number and a small number. It gives you the all-important "compared to what?" in a story. If nothing else, it reduces errors.

For instance, an editor reduced Wal-Mart's sales from $1.2 billion to $1.2 million over the weekend without calling the reporter. She later said she thought "billion" sounded too big. This was a case of failing to understand scale in retailing. If she'd known that $1 billion in sales wasn't particularly large, or that Wal-Mart had

sales of 100 times that amount when this mistake occurred In the 1990s, she'd have never made the mistake.

How can you memorize these numbers? It's not so hard, and you don't have to pull out an almanac and start memorizing. Just start by paying attention to the numbers you have to look up all the time. Try guessing before you look it up. It might cement the right answer in your head.

3. ROUND OFF – A LOT

Notice the numbers quoted so far: They're far from exact.

In fact, you can afford to be less exact early in your reporting. You'll need the most precise number before you characterize it in your story. But "characterize" is the important word here. Philip Meyer, in Precision Journalism said it this way: "Decimal points are for meaning, not emphasis." Only use extra precision when it matters.

In fact, while reporting, it would be perfectly respectable for you to know that the population in the U.S. is more than 300 million. That's close enough to evaluate whether any other number is big or small. It also makes it easier to do some figures in your head.

This exercise reduces your dependence on exact numbers. It reduces the hair-splitting that many people find themselves in when dealing with numbers that don't deserve it. It also stops you from focusing on meaningless differences.

4. LEARN TO THINK IN RATIOS

Most of the math we use in the newsroom revolves around ratios of some kind: A percentage, a percentage difference, a rate or a value per person.

The reason is that we can't think clearly about very big or very small numbers. For example, you can picture the number 5. It might be fingers or toes, it might be a Supreme Court majority, or it might be the number of runs scored in a baseball game. But change it to 355, and the picture gets fuzzier. Maybe it's a movie theater. Change that to 317 million, and you can't picture it at all. The same thing happens when numbers get really small. Once you've gone below about one-quarter, you will have a hard time picturing what it means.

So make the numbers you deal with understandable by learning to think in simple ratios.

Let's take an example: The estimates of fixing the Year 2000 computer bug. A widely quoted estimate was $50 billion for U.S. companies. How big is $50 billion? At the time, it was smaller than Bill Gates' net worth. It was the cost of two hurricanes. It was the income of people living in the Portland, Ore., area.

This isn't to say that the problem wasn't newsworthy. The possible widespread effect and the uncertainty surrounding it made the problem significant and newsworthy. But it wasn't a financial disaster.

5. USE DEVICES FROM EVERYDAY LIFE

Sports fans have an advantage when it comes to working with numbers. Basketball players think in terms of "1 for 10" or "2 for 8." Baseball fans already know how to calculate a rate – either an earned run average or a batting average.

But even if you're not a sports fan, you usually have some arithmetic you perform instinctively. You might figure out how many hours until deadline, or how much a $20 item ought to cost if it's offered during a 10 percent off sale.

If you shop on sale, invest in your retirement, follow sports closely or tip at a restaurant, you know how to do most of the math that we use in daily reporting. Simply convert your reporting questions into this scale.

For example, if you know that Hispanics make up more than 15 percent of the U.S. population, it doesn't take too much work to figure out how many people that is. It's like figuring a small tip on a restaurant bill.

6. ENVISION YOUR DREAM NUMBER AND CALCULATE IT IF IT ISN'T GIVEN TO YOU

Journalist Drew Sullivan recommends that reporters "envision success" when struggling through one of the hardest parts of computer-assisted reporting. This trick works when you're away from the computer, too.

Write your sentence, leaving out the key number. It helps if you have some clue what that number would be – 10 percent or 90 percent, $2 or $300,000. Now track down or calculate the number you need to fill in the holes.

You may find that the numbers don't support your preconceptions. Or you may find that the numbers you've been given so far don't answer any question you care about. That's frustrating. We all, at times, want to dump our notebooks onto the page. But it will help you figure out what's missing early enough to do something about it.

7. LEARN FROM ONE ANOTHER

We all have different strengths.

Visual journalists and broadcasters instinctively understand their viewers' inability to focus on too many numbers at once. Narrative reporters often work well with their graphics departments and web developers to remove important numbers from copy and put them into charts. Take advantage of the specialties in your newsroom or your colleagues in a different medium. Ask for help if you are working on your own by seeking out experts in different specialties, including other IRE members.

GOOD HABITS FOR REPORTING WITH NUMBERS

Part of our fear of numbers comes from the good habits required to avoid embarrassing corrections and mis-pitched stories. These habits are boring. But if you get used to them, you'll often find yourself working quicker at the end of a story.

USE THE TOOLS AVAILABLE TO YOU

There are tools to help us with arithmetic. Use them. All of the common computer operating systems come with a calculator

If you learn a little about spreadsheets, you'll find it's a particularly powerful calculator that repeats your formulas over and over with a single mouse click. That's good.

As Ronald Campbell, who taught math to journalists at The Orange County Register says, you were never good at it anyway. So use the help that's available.

CHECK YOUR ANSWERS, THEN CHECK THEM AGAIN.

Whenever you do take out a calculator, be prepared to compute each answer at least twice. Not enough reporters do this.

You should do it. Always do it. And if you don't have time to do it, don't calculate any numbers.

For spreadsheet users, be prepared to manually spot check your formulas, double-check any numbers you type, and confirm simple summary measures with any totals you can find and the raw numbers from a printed report.

Some reporters print out a draft of the story, then circle every number (and every name) in it and double-check it. This includes years, numbers given to you by a source and numbers you calculate yourself. Try it. It might frighten you into good habits when you discover how often mistakes are buried in your copy.

Although it's not always possible, it helps if you can work with another reporter, a copy editor or someone else you trust during the math phase of your reporting.

ASK YOURSELF IF THE ANSWER MAKES SENSE

Always force a gut-check on your numbers. Use them in a couple of sentences. Ask yourself whether you'd believe them if a fellow journalist (rather than a math-savvy expert) gave them to you.

If you can't figure out if you believe them, then it's time to go back to some of the other tips in this book – working out ratios, rounding off, or looking up some general numbers on the topic.

In a letter to The Washington Post in October 1998, a reader challenged an op-ed piece describing the Census Bureau's plans to estimate information for 27 million people in 78,000 households. The letter writer surmised something was wrong with the published numbers. The reader was right. Such an estimate would lead to almost 350 people in each of the affected households.

Some numbers, like this one, simply don't stand up to common sense. If yours don't, make sure you haven't misunderstood the calculation, mistyped the numbers, or misread the results.

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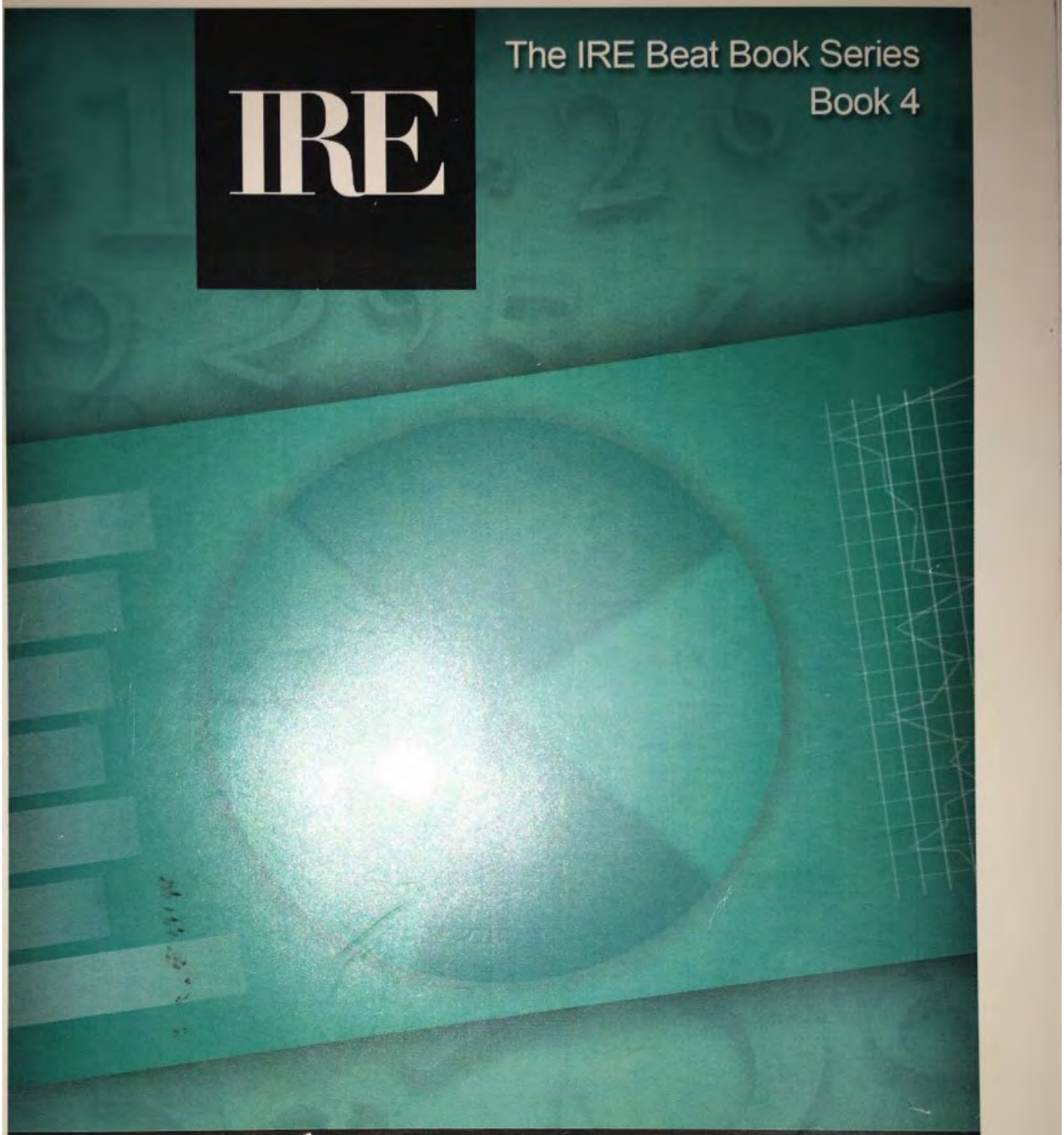

Numbers in the Newsroom

Using Math and Statistics in News

SECOND EDITION

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