

Whoa, Dude! Did You See That Clown?

By Kenneth D. Keith



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It is approaching dusk at the end of another pleasant day in San Diego as I walk toward the Old Town station to catch the train for my homeward-bound commute. As I approach the intersection, a large sedan rolls up to the stop sign. And then, as I step into the crosswalk in front of the car, the driver accelerates. Although no one would ever use the word *nimble* to describe my footwork, I manage to jump out of the way before the big Mercedes can roll over me. My panicked eyes meet those of the equally bug-eyed driver, and it's then that I see it: she's talking on her mobile phone. She doesn't interrupt her conversation, but she does manage a feeble wave of apology.

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It's a compelling thing, this fascination we have with telephones. We have all stood in busy retail checkout lines, only to wait even longer when, just as we reach the cashier, the phone rings and the unknown caller suddenly becomes more important than a face-to-face customer with money in hand. The obsessive interest of my long-ago

farm-country neighbor, Mrs. Morrill, in the conversations of others made her a constant eavesdropper on our local party line. Yet in those days, the innocent era of my childhood, we all shared the phone line with others, and the idea of having a second extension would have seemed an unnecessary, pointless luxury. Detective Dick Tracy's two-way wrist radio was science fiction, a futuristic pipe dream confined to the comics page.

In fact, we all knew people who simply didn't have a telephone—a fact that wasn't especially noteworthy then, but would be unthinkable today. And Harry Truman won the 1948 election after telephone pollsters had famously predicted a Dewey victory—an error based, at least in part, on an underestimation of the power of voters who were not connected.

These days, the designers of polls face the problem of gathering data from the millions of people who no longer have so-called landlines, but use only cell phones, rendering traditional telephone directories virtually useless. The electronic era has revolutionized life as we know it, with one of the benefits being that we can all be connected 24/7. We have become multi-taskers who can use mobile devices to tend to business and family needs, play games with our friends, keep up with neighborly cross-country gossip, and read the latest news—all the while continuing to work, converse, or drive. But *ay*, as Hamlet said, *there's the rub*.

Writing late in the 19th century, University of Wisconsin researcher Joseph Jastrow (1891) showed the

limits of multi-tasking. Jastrow engaged research participants in such tasks as rhythmic finger-tapping while they simultaneously solved mental mathematical problems. As you might imagine, this proved difficult—the distraction impaired performance, even for fairly simple tasks. In fact, we might conclude that Jastrow, although he had certainly never seen a mobile phone, and had probably not seen an automobile, knew before 1900 that you should not talk on your cell phone while driving.

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We have all heard the horror stories. The Wisconsin mother who, in December 2013, lost control of her SUV while using her phone for a Facebook chat, resulting in the deaths of her daughter and two other young children; the Los Angeles-area Metrolink railway engineer whose on-duty texting culminated, in 2008, in a head-on train wreck and 25 deaths; or, more recently, the Omaha woman who, while standing behind her own parked car, died after another driver smashed into her while searching for a dropped cell phone. These are tragic stories, but single-case stories are anecdotes, and as a scientist I prefer data to anecdotes. So let's consider some data.

According to the National Highway Traffic Safety Administration (NHTSA, 2013), in 2011 10 percent of fatal motor vehicle crashes and 17 percent of injury crashes were reported as distraction-affected. And some studies (e.g., Dingus et al., 2006) have suggested that the cause of more than three quarters of crashes and near crashes may fall into the general category of driver inattention. In 2012, more than 3,300 people were killed and 421,000 injured in crashes involving distracted drivers. Twelve percent of these deaths and five percent of the injuries were attributed to reported cell phone use by drivers; however, according to the National Safety Council (NSC, 2013), phone use is significantly under-reported as a factor in automobile accidents.

Under-reporting occurs for a number of reasons:

1. Police often must rely on the reports of drivers, who may not be forthcoming in self-reporting phone use, or who may have been severely injured or killed in the wreck.
2. Memories of witnesses may be faulty (Researchers know, for example, that eyewitness memory can be notoriously unreliable; Loftus, 2013).
3. Police may not concern themselves with possible cell phone use if it is not a violation in their jurisdiction.
4. If later investigation or a court case reveals cell phone use at the time of a crash, records of the event may not be updated after the fact.
5. Telephone records that would substantiate phone use at the time of a wreck may be difficult to obtain from the phone company.

When investigators do obtain phone records, the accident will not be linked to using a phone unless the time of phone use agrees precisely with the time of the accident, but that may be difficult or impossible to determine.

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The Safety Council, in a study of a sample of verified cell phone-related fatal crashes occurring from 2009 through 2011, examined the agreement of their data with official reports recorded by the national Fatality Analysis Reporting System. Although the veracity of the official reports seems to be improving, the results were not pretty; for 2009, official records implicated cell phone use in only 8 percent of cases identified by the Safety Council. For 2010, the agreement was 35 percent, and for 2011, 52 percent.

How, you might wonder, did the Safety Council identify cell phone use that did not appear in official reports? In addition to driver admission of cell phone use, cases were verified by:

1. report of a cell phone caller or texter on the other end of the call;
2. passenger reports of driver cell phone use;

3. police discovery of an unfinished message on the phone, or a caller still on the line;
4. coroner or other reliable non-police report of cell phone use; or
5. court documents or testimony (including wireless records) occurring in a subsequent legal action.

Interestingly, agreement was better between official reports and the Safety Council data in jurisdictions in which police used a checklist or coding system that included cell phone use as a relevant factor—probably because such a structured format would prompt police to think of causes that they might not spontaneously suspect.

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The use of cell phones by drivers is clearly associated with increased risk of injury or death. But we might still be left with some interesting questions.

Is using a phone different from talking to a passenger or listening to the radio?

Although using your hands to manage a phone while driving might seem like an obvious hazard, wouldn't a hands-free phone be safe?

Even if we can see the danger in using a phone while driving, perhaps the most compelling question is "why?"

Researchers have studied all these questions, and some of the answers are fascinating.

Using both a simulator and a real automobile, University of Utah researcher David Strayer and his colleagues (2013) have studied the magnitude of several distractors. Listening to the radio or an audio book created *small* cognitive distractions; cell phone use (whether hand-held or hands-free) and talking with a passenger each produced *moderate* levels of distraction; and a speech-to-text e-mail task produced a *high* level of cognitive distraction. The latter finding (effect of speech-based e-mail) is consistent with the results of other researchers, who found that this technology produced a 30 percent increase in driver braking time (Lee, Caven, Haake, & Brown, 2001). And of course ordinary texting creates an even larger distraction.

Although the level of cognitive distraction is similar for phone use and conversing with a passenger, related studies have shown that talking with a passenger is safer than talking on a cell phone, especially when the passenger is in a position to see potential hazards and help the driver. For example, in one investigation, drivers talking to passengers showed no decline in navigation accuracy, whereas those using hands-free phones missed their exits 50 percent of the time (Drews, Pasupathi, & Strayer, 2008).

So, in answer to our first question, *Yes*, using a cell phone while driving is more dangerous than listening to the radio or talking with a passenger (if the passenger can see what the driver sees).

And in answer to the second question, *No*, hands-free phones are not safer than hand-held models—the key factor is *not* use of a hand, but rather the cognitive load and distraction engendered by phone conversation. And, lest we be left wondering just *how* dangerous phoning and driving may

be, we need only look to another study by Strayer and his colleagues (2006)—a laboratory experiment showing similar levels of impairment in drivers with blood alcohol levels of 0.08 percent and those using cell phones (whether handheld or hands-free). Using your phone while driving is akin to driving drunk.

These studies describe the nature and degree of the effects of mobile phones on drivers. But perhaps the most interesting question remains: *Why* do these effects occur?

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In trying to answer that question, we should remember that those effects are not limited to drivers. Pedestrians using their phones regularly tangle with utility poles, stairs, and such obstacles as shopping mall fountains. According to researchers' estimates, the number of people showing up at emergency rooms and confessing such altercations was around 550 in 2004, but had increased to 1,500 or more by 2010 (Nasar & Troyer, 2013), and yet another 35 % by 2014 (Henderson, 2014). This increase, by the way, contrasts with an overall decline in the number of injured pedestrians turning up at ERs over the same time period. Researchers expect that the number of phone-using pedestrians seeking ER treatment may have doubled from the 2010 figure by the end of 2015 (Mirsky, 2013). And a field study of more than 500 pedestrians crossing traffic showed that those who used cell phones, compared to those who did not, walked more slowly and were less likely to look for traffic or to wait for traffic (Hatfield & Murphy, 2007).

It may seem all too predictable that people looking at their phones would not look for such things as traffic or other pedestrians, but some remarkable research has also shown that, even when they *are* looking, people literally may not *see* objects or people, even when their presence should be obvious. Let's try an example. Consider these playing cards; quickly pick one, then rehearse it mentally, so you will remember it.



Now I will try to remove your card:



Did I successfully remove your card? It might be fun to think I have ESP and could somehow read the mind of each reader, but of course you know it's a trick. In this little exercise, I wanted to get you to focus your attention on a single card; if you did that, you probably didn't really *see* the other cards, even though you were looking right at them. So you may not have noticed that *none* of the cards in the first set appeared in the second. This tendency to pay attention to a relevant object, and as a result fail to really see others, or to notice when they change, is known as change blindness or *inattentional* blindness (Mack, 2003).

In a more dramatic illustration of inattentional blindness, research participants viewed a video in which people passed a basketball back and forth. Viewers received instructions to count the passes in particular ways, and then, after a few minutes of this, were asked whether they'd seen anything unusual. Nearly half reported seeing nothing unusual, despite the fact that either a person in a gorilla suit or a woman carrying an umbrella had moved through the basketball-passing group; while focusing on their assigned task, the observers had simply paid no attention to—and hence did not see—these striking figures passing through the scene (Simons & Chabris, 1999)!

By now you can anticipate what this has to do with cell phones, multi-tasking, and the real world. In a busy area of their university campus, Ira Hyman and his colleagues (2010) found that, of pedestrians talking on a cell phone, 75 percent did not notice passing a colorfully-dressed clown riding a unicycle. In other words, while using their telephones

most people were blind to a highly visible, highly unusual event happening within their field of vision.

Failing to see a clown riding around a university campus might be harmless enough. But being blind to hazards while driving can be fatal, and it is the same phenomenon, inattentional blindness, that researchers have concluded causes the impaired performance of drivers using mobile phones (Strayer, Drews, & Johnston, 2003). The phenomenon has also been observed in airplane pilots, who may become sufficiently absorbed in reading their instruments to fail to see another clearly visible plane blocking their intended runway (Carpenter, 2001). Researcher Arien Mack, one of the pioneers in study of inattentional blindness, says that conscious perception does not exist without attention. So now we have answered our third question—Why is distracted driving so dangerous?

“Distracted driving” was the 2009 Word of the Year of *Webster's New World College Dictionary* (Hanowski, 2011), and currently in the U.S. each day distracted driving kills an average of nine people and injures more than 1,100; further, more than two-thirds of drivers admit using cell phones and about a third report texting or e-mailing within the past 30 days (Centers for Disease Control & Prevention, 2014). And, as we have seen, the data for deaths and injuries may well be significantly under-reported. Finally, although most people who have written about distracted driving have focused on cell phone use, it is not the only culprit. Phone use is the most frequently reported distraction among surveyed drivers, but is closely followed by eating or drinking and by reaching for an object in the car (Huff et al., 2013).

Let's not be like the Las Vegas woman who, while driving 65 mph in a 45-mph zone, swerved around a line of cars, ran a red light, and continued until she ran a second red light, this time smashing into another car, killing two of its occupants and seriously injuring a third—all the while talking on her cell phone. After she was charged with a felony, her attorneys said it was an accident (ABC News, 2003). According to my *Shorter Oxford English Dictionary*, an accident is an event occurring without apparent cause. Let's stop calling these pointless wrecks “accidents,” and follow the lead of Mothers Against Drunk Driving, who insist on using the term “crash” instead of accident; after all, the causes are apparent and they are avoidable.

We might be tempted to think that distracted driving crashes happen to other people, careless people, but not to us. However, before drawing that conclusion, we should perhaps familiarize ourselves with the phenomenon known as *self-serving bias*. It seems to be a normal occurrence that we behave in ways intended to make ourselves look good—to be more willing to accept responsibility for our successes than

our failures, or for good deeds rather than bad, and to see ourselves as above average on a wide range of dimensions (Sommers, 2011).

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Thus, we tend to think we are more considerate, fair, charitable, kind, cooperative, sincere, loyal, and so forth, than the average person (Epley & Dunning, 2000). We even see ourselves as less susceptible than average to the self-serving bias (Pronin, 2007)! But, more to the immediate point, drivers may show the same bias, with the majority assuming they are more skillful and less risky than the average driver (Svenson, 1981). For many of us, it's a Lake Wobegon world, at least when thinking of ourselves: All the women are strong, all the men are good-looking, all the children are above average, and we are all superior drivers. Yet, in our more rational moments, we know we can't all be above average.

So consider this: while driving, think twice before picking up the phone or activating your car's Bluetooth technology. Ask yourself whether this call, this text message, or this e-mail is worth dying for. Because, after all, none of us wants to be the clown that nobody saw coming, and we *certainly* don't want to be the clown who didn't see the pedestrian or the other car until it was too late.

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