

# I CRASHED IN A "TEST TUBE"

By RONALD M. DEUTSCH



PHOTOGRAPHS BY GENE TRINDL



"Look out!" cries Mrs. Deutsch (photo left) as author swerves in effort to avoid "collision." A researcher (above) points out driving errors.

This writer drove in a head-on collision and a plunge off a cliff—but, thanks to laboratory science, all he got was a lesson in why such things happen

WHY DID MORE than 40,000 men, women, and children die on America's roads last year? What could they have done to survive?

Recently, I learned some of the newer answers to these questions as I drove, without danger, in two deadly crashes. My "fatal accidents" took place in a remarkable driving-research tool—the Driver Simulator. It is located at the Institute of Transportation and Traffic Engineering at the University of California at Los Angeles.

The Simulator was built to "create" accidents in the controlled world of the laboratory. What has it proved?

"Many people believe speed causes most accidents," says psychologist Dr. Slade Hulbert. "But our team of engineers and psychologists finds it to be driver inattention. Let's take a drive and I'll show you what I mean."

Dr. Hulbert led my wife Patricia and me into a high-ceilinged room cluttered with scientific gadgetry. In the center was a new sedan with its rear wheels sitting on rollers. Curving around the front and sides of the car was a great screen. Behind the car was another screen.

I took the wheel, and Patricia crawled into the passenger's seat. An assistant snapped a belt around my chest to measure breathing and attached a wire to my left ankle to pick up electrical skin changes. These devices, similar to a lie detector, register emotional reactions.

Dr. Hulbert slipped into the back seat, wearing a headset. "Ordinarily," he told us, "the driver is alone. He merely responds to what he sees during the drive."

The room went dead black. "Start the engine," Dr. Hulbert said. Until then, I'd been skeptical. Bring the road into the laboratory? Impossible. There might be a few clever effects, but . . .

"Shift into drive," Dr. Hulbert said. I shifted. All was still black. "Accelerate to 40, please." I watched the speedometer climb. It was eery. Forty miles an hour in utter darkness.

"Now," said Dr. Hulbert. Suddenly I blinked.

Before, around, and behind us was the road—and we were moving!

I turned the wheel—and the car, cleverly linked to the picture on the screen, turned from side to side on the road. I stepped on the gas—and the scenery moved past faster. We were whizzing over a California highway, seeing nothing but the road, mountains, and sky. The illusion, created by a special projector lens invented by Carl Williams and Dr. Richard Vetter of the UCLA faculty, was incredible.

After a few minutes, our test seemed like a Sunday drive. As we cruised along, Dr. Hulbert told us something of the Institute's findings about inattention. At the speeds the average driver often travels, a car can easily move into a trouble zone while he is turning to look at scenery, road signs, or even a pretty girl. Police often explain such accidents by speed. But careful interviewing usually turns up a brief diversion—sometimes of a very subtle kind—which can mean disaster.

As Dr. Hulbert talked, I became engrossed in what he had to say. I began turning my head to speak to him.

"Look out!" Patricia cried. I spun around. Two cars were coming toward us on the narrow mountain road. One was pulling out to pass. "There's no room," I shouted.

I COULDN'T BELIEVE IT. The passing car was picking up speed, headed straight for us on our side of the road. Suddenly, I realized what was going to happen. I braked hard. I spun the wheel. But it was too late. There was no place to go. We were going to crash!

There was a kaleidoscopic rush of images, and suddenly the car was gone. But my heart pounded.

"You have just had a fatal accident," Dr. Hulbert said. Then he analyzed the crash. It began with the simplest kind of inattention: I wasn't looking. Then, after I had seen the problem, I wasn't able to respond to what I saw.

"Your judgment was blocked psychologically," Dr. Hulbert pointed out. "Experience told you

the other driver would do the sensible thing—that he would turn back into his own lane. So you paid no attention to the cues which called for immediate action. You waited.

"Our engineers stage actual car crashes. They find that in the last three to five seconds before most head-on crashes, maneuvers make no practical difference."

But had I not lost seconds during my inattention, I could have braked sooner and thus left a longer track for the oncoming car to return to its proper lane.

How can this common and often tragic trick of the mind be avoided? "Our staff men," Dr. Hulbert said, "all practice what they call defensive driving. They never assume the other fellow will do the right thing. They assume he may well do the wrong thing—that he may judge or steer badly, even be sick or drunk. That way, they can protect themselves by responding to danger in time."

We continued our drive, though I was warned I might soon be shown another form of inattention. Then another car came up behind me. No matter what I did, he stayed there, much too close for safety. It was darned annoying.

"Why don't you just speed up and get away from him?" asked Dr. Hulbert.

The road was twisting, and we were doing 50. I shook my head. But after 10 minutes that car was a nerve-racking nuisance. Then I saw a straight stretch of road ahead. In annoyance, I gunned the engine to 60, then 65. And then the road was curving again, and I began to slow.

Suddenly, there was a bang—a blowout! The car yawed off course as I hit the brakes and tried to straighten out. We skidded toward a cliff, and I turned with the skid, braked again, and finally stopped— inches from the guardrail. My mouth was very dry.

"Just made it," Dr. Hulbert said. "The control room reports that, as that car stayed close behind you, you became steadily more emotional—until your emotions blocked your judgment and attention. Your reaction to the blowout was

slow. And anyway, if you hadn't been angry, you never would have been driving so fast, would you?"

I shook my head. I'd never had a blowout at high speed. I was unnerved. "Had you been driving defensively," said Dr. Hulbert, "you would have pulled over and stopped, allowing the other driver to go on. Then your attention would not have been blurred."

As we resumed driving, Dr. Hulbert told me my handling of the blowout could have been better. Researchers find that, contrary to popular belief, a blowout does not usually throw a car out of control; the driver does. In a blowout, the car's wheels usually continue to follow the path of the car. But sudden braking or panic twisting of the wheel can produce a nightmare. The correct answer usually is gentle braking and steering to a stop. Dr. Hulbert concluded by saying, "Let's stop for a drink."

HE WASN'T JOKING. We stopped, and I had two cock-tails. Then I drove again—better than before, I thought. "Your co-ordination has slipped," he warned, after getting a report from the control room.

I couldn't see anything different about my driving. We were back on that mountain road again, chatting. And again there was that ominous bang.

Another blowout. I hit the brakes and at once remembered that was wrong. The car skidded for the guardrail. I tried to correct the steering, but couldn't.

"Same curve," said Dr. Hulbert. "Same blowout. But last time you made it. This time . . ." he shook his head. "Your reactions were poor. You never realized that the alcohol had sharply reduced your driving attention."

Clearly, the Simulator can provide scientists with many answers to the urgent questions of driving safety.

"We are beginning to believe that preventing inattention may be the most important of all safety devices," says Dr. Hulbert. "Every time you slip behind the wheel, ask yourself this question: *Am I alert enough to drive safely?*"

If not, perhaps you should simply let someone else drive or wait a while before you set out. Psychologists believe that in certain cases simply reminding yourself of the potential hazard may snap you back to alertness.

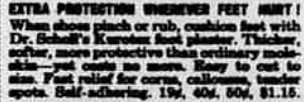
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