

20 WHY ONLY 50 YEARS
OF ROCK ENGINEERING?

34 IDENTIFYING A
ROCKFALL STANDARD

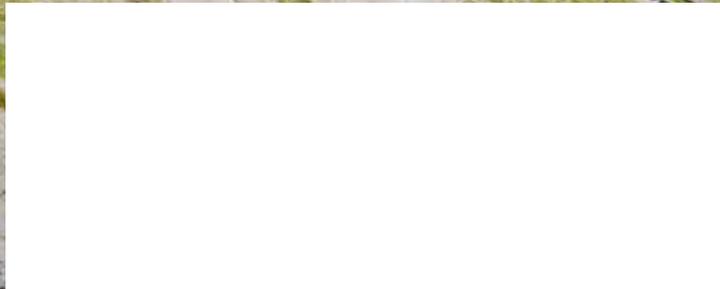
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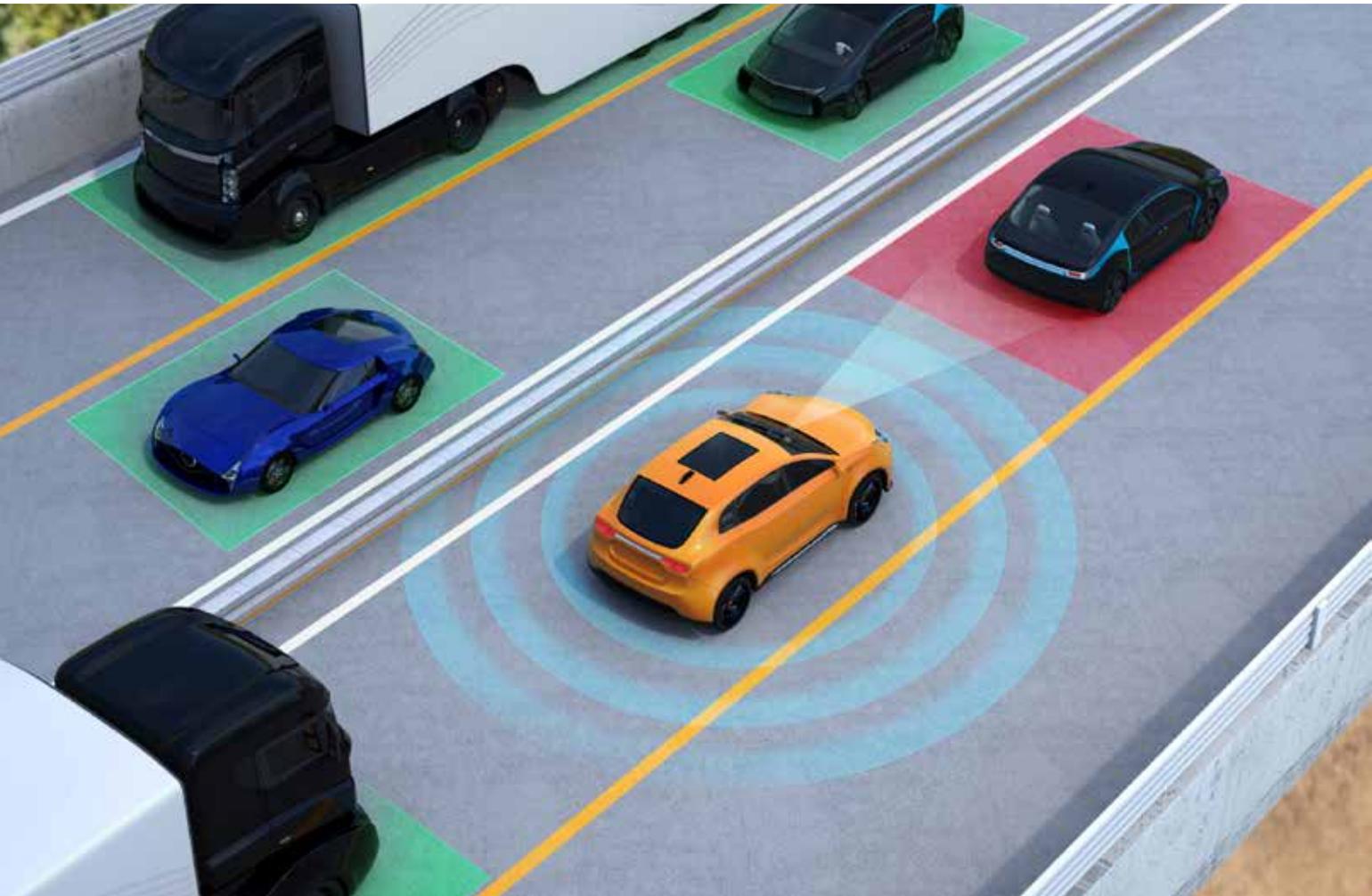
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GEOSTRATA

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ROCK ENGINEERING





You'd Better Be Planning for This

By John P. Bachner

The year is 2027. My car drops me off at my office. "Get your oil changed," I tell Snoopy (that's what I call my car).

"I know to have my oil changed, Geo," Snoopy says in "his" usual, dispassionate, monotone way. "What time shall I pick you up?"

"How about 1630 hours," I respond.

"I will be here." And I have no doubt it will be. Snoopy's linked to Simon, the vast, Watson-like computer system dedicated just to autonomous vehicles. Simon is an engineering marvel. By interconnecting with connected vehicles — and that's just about all vehicles, now — each with its own decentralized accident-avoidance systems, traffic density is five

times what it used to be, and accidents are almost things of the past. New roads? Nope. Who needs them? Thanks to effective repair and maintenance, the roads we had in 2017 are still easily sufficient, and might even be sufficient through 2037! And good old Simon: It will tell Snoopy exactly when to disengage from “his” charging station to be outside and waiting for me at 1630.

On the way in, I glance over at the American Association of Auto Insurers building. “ONE MILLION SQUARE FEET AVAILABLE FOR LEASE,” the sign proclaims. (It hasn’t been a good year for auto insurers: That’s why (despite their manufactured concern about “Jobs! Jobs! Jobs!”) they tried to have Uncle Sam ban autonomous vehicles, and more than 100 members of the House of Representatives agreed. One year later, 57 of those representatives didn’t get re-elected, thanks to a shocking display of Americans wising up.

“Good morning, Mr. Curmudgeon,” the front-desk greeter says as I enter the Engineering Association building. “Good morning, Chris,” I say. “And how are you today?”

“I am fine, Mr. Curmudgeon. Thank you for asking,” Chris responds. Chris is a robot, of course, of indeterminate gender, but pleasant-enough looking... except for the fact that it’s a three-legged stool from its “feet” to its “waist.”

“And how are *you*?” I ask, knowing what the answer will be.

“The usual,” Chris says. “And how’s Snoopy?”

“Snoopy’s fine,” I say, adding (with a force-of-habit male pronoun), “He’s having his oil changed today.”

“You’re terrible,” Chris says, almost coyly.

“No. He really is having his oil changed,” I say.

“Oh,” Chris says. “Sometimes I get so confused when it comes to human communication.”

“That’s why you fit in so well in the engineering building,” I say, heading to the elevators, chuckling curmudgeonly to myself.

The engineering building isn’t nearly as much fun as it used to be, because so many of the discipline-focused groups it used to house are too inconsequential to afford the rent any more. About 90 percent of all structural, mechanical, electrical, and plumbing engineering is done by computer. Almost half of all civil engineering is done the same way, and that’s only because they still haven’t perfected repair design. And do we have repair design! Ever since the George Washington Bridge collapse, “infrastructure” is just about all the politicians can talk about. To my mind, though, the collapse — sensor-predicted; no injuries — was more good than bad. The rebuilding will employ about 300 people — mostly engineers, too — telling the robots what to do, especially the 3D-printer operators. And it’s so neat to see the robots work on site. No hard hats. No goggles. No steel-toed shoes. It’s amazing how much we save by not having to worry about robot “health” and safety. Still, I miss the old days when human workers would sit on a beam and talk to passers-by. I tell my nephew Eddie — he’s a fifth-level Certified Robot Programmer (CRP) — that he needs to program his charges to talk with a Brooklyn accent, because it’s so movie-classic for construction workers to “Hey. Hey. Hey.” followed by a stream of Brooklynese. “No way, Uncle Geo,” is his usual response. The kid lacks a sense of humor.

“Good morning, Geo,” I hear as I near my firm’s office. It’s Jamie, the office-manager robot.

“Is it another lonely day for you?” I ask.

“I miss all my friends,” Jamie responds. “But I’m still a bit excited: You and I will be dealing with some big changes soon.”

“How so?” I ask.

“I’m being programmed to do finite-element analysis,” Jamie answers. “And when they’re done with me, we’re both out of here.”

“I’m not,” I say. “As a geo I still have to exercise judgment and provide creative solutions to puzzles Mother Nature throws our way. I’ll be needed for another 10 years.”

“Three,” Jamie says, adding, “If you’re lucky.” And I know Jamie’s right. Maybe optimistic. Bummer.

I head into my office, festooned with a variety of this and that — souvenirs, mementos, kids’ camp-pottery projects — and take a seat. I thank my lucky stars that I chose a geotechnical-engineering career. It’s still about the only form of engineering that robots and computers can’t do. Those suckers can even do robotic programming, which I find just so ironically amusing! (I bet Eddie doesn’t!) But it’s not all that amusing. My son and daughter-in-law have decided to forgo parenting. “This is no world to bring kids into,” my son told me. “I have a PhD,” he laments, “and I’m lucky to have a job as a plumber, for the time being at least.” So there goes grandfatherhood.

I don’t know about these modern times, frankly. I can expect to live to 120 (longevity’s a blessing, but old age is a curse), and my only ace in the hole is creativity.

At least for the time being. 

▶ **JOHN P. BACHNER** has been an independent consultant since 1971, when he founded his firm, Bachner Communications, Inc. Through the firm’s association/foundation-management division, John served as the Geoprofessional Business Association’s (GBA’s) executive vice president from 1973 through 2015. GBA is a not-for-profit association that develops programs, services, and materials to help GBA-Member Firms and their clients confront risk and optimize performance. GBA-Member Firms provide geotechnical, geologic, environmental, construction-materials engineering and testing (CoMET), and related professional services (en.wikipedia.org/wiki/Geoprofessions). GBA invites geoprofessional constructors, educators, and government officials to become involved. Contact GBA at info@geoprofessional.org.