

16 RISQUÉ
GEOPHYSICS

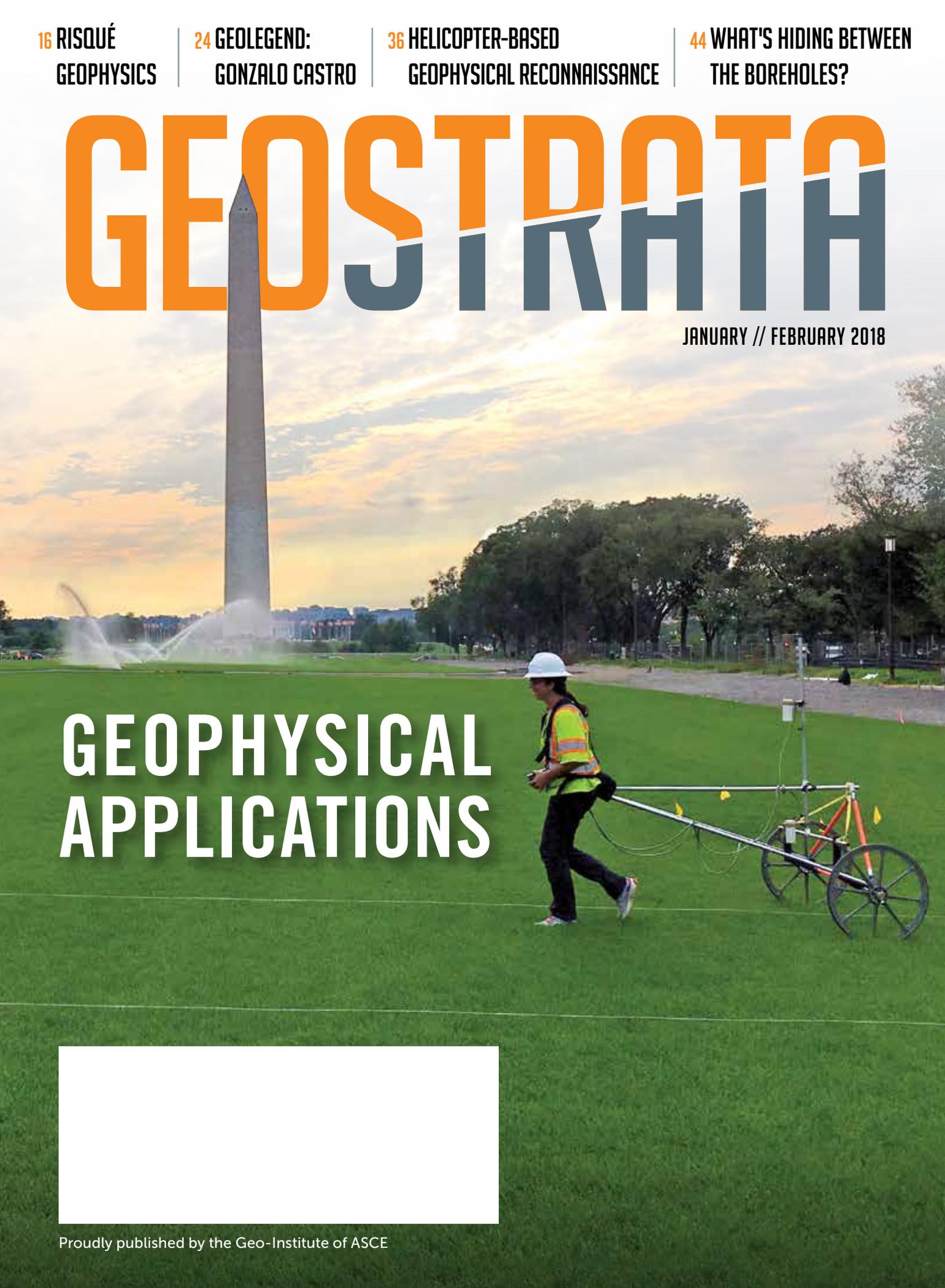
24 GEOLEGEND:
GONZALO CASTRO

36 HELICOPTER-BASED
GEOPHYSICAL RECONNAISSANCE

44 WHAT'S HIDING BETWEEN
THE BOREHOLES?

GEOSTRATA

JANUARY // FEBRUARY 2018



**GEOPHYSICAL
APPLICATIONS**





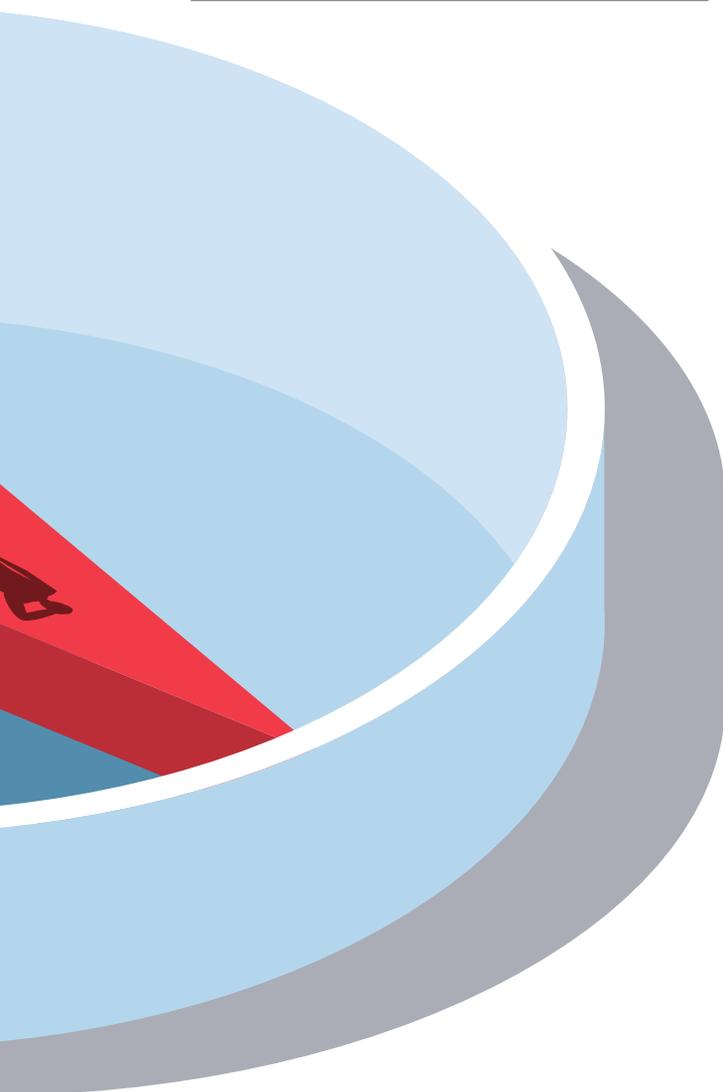
Ambiguity and the Humble Hyphen

By John P. Bachner



If you're familiar with project-related lawsuits, you know that a plaintiff's attorneys will often retain one or more experts to find fault with the work of as many project participants as possible. They do so because, when a plaintiff's court-recognized expert opines that some other party's negligence has damaged the plaintiff, the court almost invariably allows the plaintiff to proceed with its lawsuit. While filing

a suit can be a quick-settlement-inducing tactic to wring money from one or more defendants, and/or a divide-and-conquer technique for turning project-team members against one another, it's more than that: What the lawyers want most to do is review *every project-related document* they can, and they can do just that after they file suit and then initiate the discovery process.



Step 1 of that process is issuing subpoenas duces tecum that, with the court's permission, require each defendant to submit to the plaintiff just about every scrap of material related to the project: *every available version of every proposal, contract, report, field-representative's notes or journal; every available calculation; every hard-copy document, including hand-written notes; every e-mail, text, or social-media post; and every version of all project-related electronic files.* What do the plaintiff's lawyers look for? You might think they'd want to find out what really happened and who really was at fault, but that's not the case. What they really look for is vulnerabilities, especially those project participants *with a lot of money*, be it their own or their insurer's. This only

makes sense, of course, given that lawyers are not retained to get to the truth of a matter; that's not how our common-law civil-justice system works. Instead, lawyers are duty-bound to advocate for their clients and, when those clients claim they have been damaged, to gain as much money for them as they can.

You have many options for protecting yourself and your firm. In deciding which to employ, consider this time-honored saying in law: The best evidence is what's in writing, with "best" having more meaning than one, depending on one's position in the dispute. If you're looking for vulnerabilities, however, there's often a gold mine to be found in ambiguity. Example: "I observed the excavation." That's actually what a field representative wrote, meaning that the engineer to whom the representative reported was 100 percent responsible — and liable — for every word. So, where's the ambiguity? Well, the word "excavation" can mean either a hole in the ground or the process of making said hole. In this case, the defendant engineer said it was the hole in the ground. The expert for the constructor — the plaintiff in the case — said it was the process of making the hole, and the field representative said nothing about the constructor doing it wrong until the constructor was done, forcing a costly do-over that was wholly avoidable. Whom did the jury believe? The constructor's expert. Damages: \$1.5 million.

Geoprofessionals are particularly vulnerable because they write so much — more than any other professionals I'm aware of — and they're not particularly good writers. That assessment stems from geoprofessionals' overreliance on the passive voice (not the passive *tense*), which nurtures ambiguity, in part, because there's no need to identify who or what did something; e.g., "The hole was observed." It nurtures more ambiguity still because, frequently, expressing something in the passive voice results in some of the strangest sentences you'll ever read. (I've read thousands of them. I know!)

Geoprofessionals' writing challenges also arise because, generally speaking, they've never liked to write and so avoided the task as much as possible. As such, they can have a difficult time dealing with ambiguity, because they never learned about the tools available to do it or, if they did, they didn't retain the knowledge.

Obviously, I can't dedicate this column to teaching you everything you need to know about writing unambiguously; there's too much. Three fairly easy things you can do are, first, use the passive voice sparingly. Write in the active voice, using a simple subject/verb/object construct; e.g., John hit the ball.

Second, learn about personal pronouns — like he, him, his — each one of which must have an antecedent and agree with that antecedent in gender and number. It may sound simple, but I advise that you use them sparingly, because correct use

If you're looking for vulnerabilities, however, there's often a gold mine to be found in ambiguity.

requires a thorough understanding of grammar; e.g., "Bill or Mary will take their vacation next week." makes no sense.

Third, and here's where I'll focus because it sounds so odd: Learn how to manage multiple modifiers, especially by learning how to — of all things! — hyphenate.

Consider this sentence: "Betty has dirty blond hair." Does that mean Betty hasn't shampooed in a while, or that her hair's color is dirty blond? How to cure the ambiguity? Easy. Two adjectives modifying the same noun are separated by a comma. Note, however, that an adjective cannot modify another adjective; only an adverb can modify an adjective and, to make things clear (unless the adverb ends in "ly"), a risk-aware writer will hyphenate. As such, to indicate hair cleanliness (or the lack thereof): "Betty has dirty, blond hair," where both "dirty" and "blond" are adjectives that modify "hair." To address color: "Betty has dirty-blond hair," where "dirty" is an adverb modifying "blond," and the hyphen is used to make it unambiguously clear that "dirty-blond" is a compound modifier.

Do note that the hyphen is used for more than just two-word compound modifiers, as this strange-looking-but-nonetheless-correct compound modifier illustrates.

 **DON'T MISS THE PREMIER EVENT FOR STRUCTURAL ENGINEERS.**

SAVE \$
REGISTER BY 2-14

STRUCTURES CONGRESS 2018

Fort Worth, TX | April 19-21 • Fort Worth Convention Center
www.structurescongress.org

 **JOIN US!**

- Participate in the Premier Event for Structural Engineering
- Learn from the experts
- Network with 1,200 of your colleague
- Earn PDH's
- Enjoy fun, social events with friends old and new...and much more

 **EARN UP TO 14 PROFESSIONAL DEVELOPMENT HOURS**

While a hyphen is not mandatory for every compound modifier, I have gotten into the habit of employing one whenever it's appropriate, because it's a good habit to get into if you are concerned about risk and vulnerability. I have also become an advocate for using a hyphen to designate compound nouns, even those that include an adjective, when the failure to do so (by following the so-called rules of grammar) could lead to ambiguity. For example, you've certainly seen signs bearing the words END SCHOOL ZONE. Were one to insert a hyphen between END and SCHOOL, we'd conclude that folks in the area opposed education, because they live in an END-SCHOOL ZONE. By contrast, END SCHOOL-ZONE would make it clear to motorists that they have left an area subject to special rules of the road, even though school, as used in the brief sentence, is an adjective.

Writing unambiguously is not easy; so many issues need to be known, and lawyers typically know more about those issues than geoprofessionals do. Your best bet: Keep your writing simple and easy-to-understand. If a seventh-grader cannot figure out exactly what you are — and are not — trying to say, chances are you can do better. And if you don't

have a seventh-grader handy, or just for a second opinion, try a fellow geoprofessional with decent writing skills. "Tell me what I need to make unambiguously clearer," you could request, and you just may get some good guidance. "Why not write, 'I observed the excavation about an hour after the contractor completed it,'" may have been the suggestion back when. Too bad it didn't happen. **BS**

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 helps its Member Firms and their clients confront risk and optimize business performance by delivering unique professional resources, programs, and services that make them stronger, smarter, and more successful. GBA-Member Firms provide geotechnical, geologic, environmental, construction-materials engineering and testing (CoMET), and related professional services (en.wikipedia.org/wiki/Geoprosessions). GBA invites geoprofessional constructors, educators, and government officials to become involved. Contact GBA at info@geoprofessional.org.



Better Information. **Better Decisions.**
We investigate conditions below the earth.



GEOTECHNICAL SERVICES

- Cone Penetration Testing: CPTu, seismic, gamma, resistivity, full flow, UVOST/ MIP/ LIF
- Dilatometer testing (DMT, SDMT)
- Electric Vane Shear Testing
- Pressuremeter Testing
- Drilling and Sampling
- Instrumentation Installation
- Geophysical Testing
- Instrumentation
- Cloud based data management

SECTORS SERVED

- Infrastructure
- Environmental Investigations
- Mining
- Power Generation
- Transportation
- Dams and Levees
- Property Development
- Ports & Harbors

Now providing service to California through CPT Inc.



CONTACT US

Western North America: 1-800-567-7969
 Eastern North America: 1-800-504-1116
 Central America: 1-800-567-7969
 South America: 51-(1)-719-2404

conetec.com

insitu@conetec.com
insitu@conetec.com
guatemala@conetec.com
conetecsa@conetec.com