

complicated behavior out of simple cues, which he propounded beginning in the 1950s, owed something to Cold War thinking. The U.S. military funded a key 1953 conference on animal behavior, encouraging myrmecologists to seek the practical applications of ants. This is just one instance in which myrmecology influenced broader currents of thought. The seemingly minor discipline cast a long shadow, particularly through cybernetics, the study of communication principles common to machines and living things.

At every turn, Sleigh's inquiry leads back to intelligence and instinct, the opposing underlying principles often invoked to explain complex ant behavior. Those terms, used in bewilderingly contradictory ways by scientists in different disciplines, often obscure more than they explain. Some, for example, saw "instinct" as a compilation of learned behaviors that could be inherited; others used it as a synonym for "drive."

Six Legs Better is full of far-flung connections. Sleigh looks into such surprising matters as the poetry of Ezra Pound and T. S. Eliot, the criticism of I. A. Richards, movements for international languages such as Basic English, popular science writing, disciplinary boundaries in academe, and the dystopias of George Orwell and Aldous Huxley. Her digressions are not, as is too often the case in the work of lesser scholars, random samples of her latest reading, but necessary stops on a rich and rewarding journey.

—Gordon Grice

Truth Be Told

IMAGINE INVESTIGATING a homicide. As you assess the situation, a shifty-looking character who was seen fleeing is dragged in, but he protests, "I found him dead and ran away!" Lacking other evidence, what do you do?

If you live in prehistoric times, you make the runner swear he's telling the truth and hand him a red-hot iron. The gods will pro-

tect a truth teller from harm. If you're investigating the crime in Europe in the 1100s, the higher power invoked is Almighty God, and the Ordeal, as it's now called, may also require immersion in cold hallowed water (liars float) or retrieval of a ring from boiling water. The new insight is that everyone who touches hot things is harmed, but the wounds of truth tellers heal cleanly.

Skip several centuries, in which confession under torture is considered a guarantee of honesty, to 1940s America. The suspect is wired to a machine that graphs blood pressure, pulse and respiration rates, and galvanic skin response, and you ask, "Did you . . . ?" If he falsely denies it, the stress of lying registers as a spike. Case solved. Or maybe not. As this informative and entertaining history of the polygraph's invention makes clear, Americans are every bit as eager as the superstitious folk of earlier ages to embrace simplistic solutions to the complex problem of how to arrive at the truth.

Ken Alder, a Northwestern University historian, focuses on the two main players in the development of the polygraph. There is John Larson, a young Berkeley, California, cop with a Ph.D. in physiology who hoped to introduce scientific methods to police work. After Larson saw an article on blood pressure and deception by lawyer and psychologist William Marston, he developed the first operational polygraph in 1921 and, over a dozen years, refined it and the methods for using it. And there is Leonarde Keeler, a one-time colleague of Larson's who saw in this amazing machine the opportunity to make his mark on the world. Tireless marketer of the "Keeler Polygraph" and owner of a lucrative polygraph firm, he teamed up with his wife to solve headline-making crimes, the two of them becoming a real-life Nick and Nora Charles.

The introduction of the polygraph into 1920s and '30s America, where political corruption and police brutality were common-

THE LIE DETECTORS: The History of an American Obsession.

By Ken Alder. Free
Press. 334 pp. \$27

place, had some predictable repercussions. Police and politicians quickly rejected the device, realizing it could be used against them. And the technology pitted Larson, who had envisioned it as a humane alternative to institutionalized abuse, against Keeler, who used any means to flack the machine to the news media and readily told suspects that the “lie detector” was showing them to be lying—even when it wasn’t. Larson would come to call his invention “a Frankenstein’s monster,” and fight its use to the end of his life. But it was Keeler who triumphed.

It’s hardly surprising that a populace hooked on true-crime stories became enthralled by a machine alleged to wrest the truth from criminals, or that business and the federal government enthusiastically employed the polygraph to expose such un-American traits as dishonesty or disloyalty, communist or homosexual leanings, and other threats to the Republic. Lie detection became a thriving industry that denied or cost people jobs and

ruined lives. In 1988 Congress forbade most businesses to use lie detectors, but Alder traces the U.S. government’s dismaying persistence. Until last year, some 20,000 employees of the Department of Energy were required to submit to polygraph exams; though the practice has been scaled back, it continues at many federal agencies.

Psychologists have argued from the start that the brain is too complicated to yield its secrets to a mere stress detector; since 1923, judges have objected to the polygraph’s lack of scientific credentials, and many states ban the use of polygraph evidence in court. All to little avail. In the American psyche, the myth endures that truth is within the reach of a machine that senses the outward manifestations of a living brain.

Americans are as eager as the superstitious folk of earlier ages to embrace simplistic methods of arriving at the truth.

—Evelin Sullivan

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