THE $38 MI BOMB-DETEC GOLF BALL FINDERS

BY ADAM HIGGINBOTHAM

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On Dec. 9, 2009, Major General Jihad al-Jabiri, head of the Iraqi Ministry of the Interior's bomb squad, held a press conference at the ministry officer's club in Baghdad. Car bomb attacks in the city had killed 127 people and wounded at least 400 more the previous day, and al-Jabiri had come to answer criticism of the explosives-detection devices deployed at the city's 1,400 checkpoints. To prove the effectiveness of the equipment, known as the ADE 651, al-Jabiri had arranged a live demonstration before the world's TV cameras. Standing with him at a lectern bristling with microphones was Pierre Georgiou, the retired Lebanese general who had helped bring the device to Iraq. Alongside stood the manufacturer, a portly Englishman. His name was James McCormick.

Arranged on a table nearby were examples of household items Iraqi citizens often complained had set off the bomb detectors: bottles of shampoo and hot sauce; a plastic jar of pickles; two tubs of cream; and a box of tissues. A uniformed member of al-Jabiri's bomb squad walked slowly forward, holding in his hand an ADE 651—a swiveling telescopic antenna mounted on a black plastic pistol grip and connected by a cable to a pouch on his belt. As he passed the table once, the antenna continued to point straight ahead. But after two hand grenades had been placed on the table, the bomb technician made a second pass, and the antenna slowly turned left and pointed directly at the explosives. Afterward, al-Jabiri assured the press that the ADE 651 had similarly located "hundreds of roadside bombs and car bombs." McCormick dismissed U.S. military assertions that the detectors were worthless. "We've created a product that fits a demand here in Iraq," he explained. "Just not necessarily in all countries."

What McCormick failed to mention was that the device was not, strictly speaking, his own invention, or that he knew very well it wouldn't detect explosives. The ADE 651 was modeled on a novelty trinket conceived decades before by a former used-car salesman from South Carolina, which was purported to detect golf balls. It wasn't even good at that.

By the time police in Britain raided his offices nine days later, McCormick had spent three years selling the Iraqi government these devices, sometimes for more than $30,000 each. The best estimates suggest that the authorities in Baghdad bought more than 6,000 useless bomb detectors, at a cost of at least $38 million.

Few of the tales of graft and theft that emerged from the Iraq War—U.S. troops being sold $45 six-packs of soda or entire pallets of vacuum-sealed U.S. currency disappearing into the night—can match that of James McCormick, whose exploits were so preposterous they would seem purely comic if it weren't for their lethal consequences. The ADE 651, and similar devices sold by McCormick over the decade or so he spent in the explosives-detection business, owe their existence to Wade Quattlebaum, president of Quadro in Harleyville, S.C. At the beginning of the 1990s, Quattlebaum—a sometime car dealer, commercial diver, and treasure hunter whose formal education ended in high school—began promoting a new detection technology he called the Quadro Tracker Positive Molecular Locator, which he claimed could help law enforcement agencies find everything from contraband to missing persons. Quattlebaum said he originally invented the device to find lost balls on the golf course but had since refined it to locate marijuana, cocaine, heroin, gunpowder, and dynamite by detecting the individual "molecular frequency" of each substance.

The Tracker consisted of a handheld unit, with an antenna mounted on a plastic handgrip, and a belt-mounted box slightly smaller than a VHS cassette, built to contain "carbo-crystallized" software cards programmed, Quattlebaum said, with the specific frequency of whatever the user wished to find. No batteries were necessary. The Tracker was powered by the static electricity created by the operator's own body; when it found what it was looking for, the antenna automatically turned to point at its quarry. Prices for the device varied from $395 for a basic model to $8,000 for one capable of locating individual human beings, which required a Polaroid photograph of the person to be loaded into the programming box. Quadro's golf ball-finding variant, the Gopher, was available by mail order for just $69.

That Quattlebaum's gizmo operated independently of any known scientific principles didn't hurt sales. By the end of 1995, distributors across the U.S. had sold about 1,000 Quadro Trackers to customers including police departments in Georgia and Illinois and school districts in Kansas and Florida. When Ronald Kelly, the agent in charge of the Federal Bureau of Investigation's office in Beaumont, Tex., learned that a local narcotics task force had bought one, he attended a demonstration in which a Tracker was used to find a brick of cocaine. He wasn't impressed. "I paid reasonable attention in eighth grade science," Kelly says now. "I pronounced this bulls---."

Kelly instructed his agents to bring in an example of the device, ran it through the X-ray machine at the Beaumont courthouse to see what was inside it, and sent it to the FBI labs in Washington. "They said, 'This is a car antenna and a plastic handle. It doesn't do anything.' "

Further analysis by the FBI and Sandia National Laboratories in New Mexico established that Quadro's programming cards were small squares of photocopy paper sandwiched between pieces of plastic. Dale Murray, who examined the device at

Sandia, discovered that the Quadro programming method was to take a Polaroid photograph of the desired target—gunpowder, cocaine, or on one occasion, an elephant—blow up the image on a Xerox machine, cut up the copy into fragments, and use these to provide the card with its "molecular signature." "They had a very naive explanation of how it worked," Murray says. "They were fascinated by Polaroid photographs."

Although Kelly is unequivocal about the Quadro principals' fraudulent intent—"They were con artists," he says—Murray feels that Quattlebaum, at least, genuinely had faith in it. "I think he did believe in it—it was his invention," he says. Quattlebaum could have fallen victim to the ideomotor effect, the same psychological phenomenon that convinces users of dowsing rods and Ouija boards that they are witnessing the results of a powerful yet inexplicable force. In response to suggestion or expectation, the body can produce unconscious movements, causing a sensitive, free-swinging mechanism to respond in sympathy. "It's very compelling, if you're not aware of what's causing it," Murray says.

In January 1996, a federal judge in eastern Texas enjoined the manufacture and sale of the Quadro Tracker and all its variants across the U.S. Kelly issued a bulletin warning law enforcement agencies to beware of the device, and the U.S. Attorney's Office began criminal proceedings against Quadro's four principals. At the trial, the prosecution fielded numerous expert witnesses to demonstrate that the Quadro Tracker had no scientific validity and that the device didn't contain any electronics but was simply an empty box. Yet the jury failed to find the men guilty of intent to commit fraud, and three of the principals were acquitted. Company secretary Malcolm Stig Roe—an irascible 68-year-old Englishman who claimed to be an electrical engineer and to have performed secret work during military service in the Middle East—jumped bail before the trial began.

In 1997, Roe resurfaced in the U.K., where he established two companies: Detection Laboratories and Detection Devices International. In the years that followed, as the War on Terror triggered a gold rush for the security industry, further dowsing rod detectors with numerous names and designs—Sniffex, Alpha 6, GT200—spread gradually across the globe, marketed by a carousel of frauds and con artists. James McCormick turned out to be the most enterprising of them all.

McCORMICK AND THE GOPHER ▼

OPENING SPREAD: KARIM KADIM/AP PHOTO; MCCORMICK: YUI MOK/AP PHOTO

Born in Liverpool in 1956, McCormick didn't stand out as an adolescent. Described by one contemporary as a quiet boy reluctant to make himself heard in conversations with friends, he left school at 18. In the mid-1970s he joined the Merseyside Police and spent two years as a trainee, but quit before formally becoming an officer. Soon after he left for the U.S., joining his father, who had settled in New Jersey. When he returned to Liverpool more than a decade later, the shy teenager had disappeared, replaced by a slick, confident salesman specializing in communications equipment, such as pagers and police and military radios. In 2000, McCormick contacted a childhood friend then serving in the Merseyside Police force and invited him to a demonstration of a new technology.

At the headquarters of the British Army's Corps of Royal Engineers in Chatham, in Kent in South East England, the two men watched as troops demonstrated the capabilities of the Mole Programmable Substance Detector. (His colleague, who later traveled to Africa with him, asked not to be identified.) Using a swiveling antenna mounted on a plastic handle and a set of software cards, the manufacturer claimed it could locate explosives, drugs, ivory, and human beings. The Royal Engineers put on an impressive display, successfully using the device to find explosives and other ordnance at their barracks. McCormick signed up to become an international agent for the device. It wasn't cheap—as an agent, he later told the police, he had to pay the manufacturer £10,000 ($14,900) for a single unit—but, using his contacts from the communications industry, McCormick began to organize demonstrations of the Mole for customers around the world, from Mexico to Uzbekistan.

In 2001 one of McCormick's associates from the two-way radio business, Robert Balais, approached the Rocky Mountain regional office of the National Law Enforcement and Corrections Technology Center in Denver, wanting to sell them the device. Balais said he would be happy to come in and provide a demonstration of the Mole's capabilities. Officials at the center agreed and said they would conduct their own test. Then they called Sandia National Laboratories, with which they had a partnership, to help assess the technology.

When Dale Murray arrived in Denver a few weeks later, he knew he'd seen the Mole before. It was identical in every way to the Quadro Tracker—down to the patterns of stippling on the plastic handle. "It looked like someone had taken the injection molding from one location to another and just put a different label on it," he says. Although he was confident the Mole was as ridiculous as its predecessor, Murray subjected it to a carefully devised double-blind experiment, with Balais seeking a sample of C4 explosive hidden in the offices. "I knew that without doing a rigorous scientific test, there would be people that would be unconvinced," Murray says. "So we treated it exactly the same way we would any other piece of scientific gear."

Only Balais seemed surprised when the Mole failed. At the start of the trial, when he could see where the C4 had been placed, the equipment scored perfectly; once the double-blind sequence began, it performed no better than chance. When Sandia published its results, Balais, McCormick, and the manufacturers in the U.K. were furious. They protested that the experiment had been mishandled. Balais lost his franchise arrangement, and the manufacturers withdrew the Mole from sale soon afterward. But another detector just like it soon appeared on the market under a new name, the GT200.

McCormick wasn't discouraged. Moving with his wife and two children to Somerset, a rural county in South West England, he began work on his own detector business. From his converted farmhouse at a bend in a picturesque lane, McCormick started a new company, Advanced Tactical Security & Communications, or ATSC, with a new line of products. His devices, marketed under the brand name Advanced Detection Equipment, looked remarkably similar to the Mole and the Quadro Tracker but used a "proprietary application of electrostatic ion attraction" and sported

even more extraordinary capabilities than their predecessors. According to sales brochures, the equipment could locate explosives, narcotics, cash, diamonds, gold, ivory, and, using a "human recognition card," missing persons—even underwater, underground, or from an aircraft flying up to three miles overhead.

McCormick traveled the world to demonstrate his devices, usually in countries where government was weak and procurement processes slack. In 2003 he and Balais conducted training on the devices in the Dominican Republic; in video footage seen by British police, McCormick gives a presentation in which he boasts of his equipment detecting elephants in Africa from 30 miles away. In May 2004 he made his first sale of a device, now called the ADE 650, to security forces in Kenya. The following year he made contact with sales agents in the United Arab Emirates, Vietnam, and Syria; he sold a single device in Singapore and another in Japan.

As sales grew, he consulted British industrial designers and plastics manufacturers to discuss the next generation of ADE detectors and ordered a few dozen of a new, slightly larger device with a more robust pistol grip. "It was just more plastic molding to us," says Ian Low, director of Merriott Plastics, a supplier of industrial components in Somerset, with whom McCormick discussed large-scale production of the devices. "He seemed like any other businessman."

In the meantime, McCormick approached Minnesota Global, a mail-order business in Minneapolis, the manufacturer of the Lil' Orbits doughnut-making machine and the distributor of the remaining stock of the Gopher golf ball finder. At the end of 2005 he ordered 100 golf ball detectors from Minnesota at $19.50 each and, a few months later, 200 more. In his garage in Somerset, he later told police, he programmed these for "electrostatic ion attraction" using a collection of jam jars and spice pots that contained samples of drugs and explosives. In each jar, he placed small colored stickers and left them for a week to absorb the vapor of whatever substance his customers might wish to detect. The samples included cannabis; folded fragments of a Japanese 1,000 yen note; and a piece of gauze McCormick had used to staunch a nosebleed, which he later explained was used to aid in human detection. After a sticker had spent a week absorbing vapor, he glued it inside the Gopher. He then removed the plastic badge that identified it as a golf ball finder, and replaced it with one bearing ATSC's logo. This became the ADE 100—sold for the first time, in March 2006, to McCormick's agents in Lebanon. Price: $3,000 each.

In 2006, McCormick and his contacts in Lebanon and Jordan saw a chance to take advantage of the funding then flooding Iraq. The country was being engulfed by civil war, and bombs—improvised explosive devices—were everywhere. Detection at the checkpoints that choked Baghdad relied almost entirely on searches conducted by hand. Scientists at Massachusetts Institute of Technology were working on a sensitive sniffing device, but it would only detect TNT and was a year away from completion. In his garage in Somerset, however, McCormick said he'd perfected a handheld device that could find the most elusive and powerful explosives, including C4 and RDX. The ADE 651 came equipped with a card reader and a selection of laminated cards, programmed with the appropriate molecular signature for each substance. Without the proper training package, he explained, technology as finely calibrated as this would be almost useless. It was the cost of this vital instruction that pushed up the price for the now top-of-the-line ADE 651, sometimes to more than $30,000 each.

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McCormick's claims might have seemed far-fetched, but his equipment was marked with the insignia of the International Association of Bomb Technicians. In January 2007 the Iraqi Interior Ministry awarded the first of five no-bid contracts to ATSC and its agents for a total of £11 million. Back in Somerset, Merriott Plastics began tooling up for the largest production run yet of the ADE 651.

When the first alert about McCormick came across Detective Sergeant Steve Mapp's desk in 2007, he paid little attention. At the time, Mapp—burly, scruffy beard, meaty handshake, just shy of 30 years on the force—was in charge of the financial investigation unit of Avon and Somerset Police's Serious and Organised Crime Team. A specialist in money laundering, Mapp receives about 3,500 pieces of intelligence every year. Many are generated by the U.K.'s Suspicious Activity Reporting System, which requires banks to pass on information about questionable income coming in from abroad.

In the summer of 2008 the system raised a second warning about McCormick's accounts, noting large amounts of money wired from the Middle East and account transfers with no obvious business purpose. Mapp asked one of his officers, based near McCormick's home in Somerset, to look into ATSC. By then a handful of bloggers had dedicated pages to the failings of the company's products, and a few hours on Google revealed there might be more to McCormick's business than a few financial irregularities. The officer called banks, tax and customs services, explosives experts, and the Ministry of Defence, and found McCormick and his devices were connected not only to the Middle East but also to other salesmen of similar equipment in Britain. In October 2009, Mapp took his findings to a meeting in London at the headquarters of the Serious Fraud Office, the British government department dedicated to investigating complex financial crimes. But the office thought the evidence was too thin. Mapp returned to Avon and Somerset Police headquarters just outside Bristol and, early the following month, met with a handful of colleagues to formally convene the investigation into McCormick and ATSC. They needed evidence, so they began planning a raid.

By the end of 2009, McCormick owned a holiday home in the Mediterranean; a Range Rover; a dressage pony and stables for his daughter; a million-dollar yacht named *Blue Crystal*; new houses for his father and mother-in-law; and a large extension to the family home in Somerset. He had also spent £3.5 million on an elegant Georgian townhouse in Bath, purchased from the actor Nicolas Cage.

Yet when a dozen officers of the Avon and Somerset Police entered the McCormick home on a bitterly cold morning a few days before Christmas that year, it was strikingly ordinary, cramped and cluttered with bric-a-brac; the recently finished rooms in the new extension contained nothing but a gigantic flat-screen TV and a pair of leather-upholstered lounge chairs. It was almost as if McCormick couldn't imagine how to spend his money once he had it. When the police simultaneously raided the nearby ATSC offices, they found he'd made little effort to ensure the operation lived up to its billing as a transglobal security concern: ADE 651 devices worth thousands of dollars lay tangled in open cardboard boxes on the floor, and the company accounts defied rational explanation. A few weeks later, McCormick was arrested, and the British government banned the export of the detectors to Iraq and Afghanistan.

In her 18 years as a fraud investigator, Detective Constable Niki White has met a lot of confidence men; she knows one when she sees one, and McCormick was no different. "A little bit arrogant, full of himself. Didn't like it when he was pushed into a corner. And when you challenged his ideas, he had one of those sardonic laughs, as if to say 'You stupid woman,' " she says. "Typical fraudster, really."

From the beginning, Mapp and White faced the same challenge that had defeated American prosecutors in the Quadro Tracker case: They had to provide evidence not only that the

PHOTOGRAPH BY PAULINE BEAUDEMONT FOR BLOOMBERG BUSINESSWEEK

THE ADE 651 IN USE AT CHECKPOINTS IN IRAQ ▼

2009





2010



2011



2012




AP PHOTO (4); GETTY IMAGES (5); REDUX (3); REUTERS (6)

Some authorities still believe in the detectors—"In Kenya they said, 'No, we know about Mr. McCormick's conviction, but we're really glad we've got them—and they do work'"

devices didn't work, but also that the individuals selling them *knew* they didn't. The first part was relatively simple: Experts at the explosives research department of the Ministry of Defence tested and cut open examples of each of ATSC's products and established that they were essentially toys. Even if the purported principle of molecular detection powered by static electricity was to be believed, the components of the ADE 651 didn't make sense: The connecting wires inside stopped short of making contact, and the pistol grip was molded from plastic and could never conduct a current; the antenna, one scientist later testified, was "no more a radio antenna than a nine-inch nail." The detectives found McCormick had abandoned the programming idea as soon as his order book swelled, and the wands sent to Iraq didn't even have his colored stickers inside them. Instead, he had invested in more convincing packaging, shipping out each device with packs of cotton gloves and hand sanitizer in an expensive Pelican carrying case. "All cosmetic," Mapp says. "The case is worth more than the contents."

Mapp and White spent two years trying to prove McCormick knew his products didn't work. They made inquiries in more than 20 countries and went to Belgium, France, Georgia, Lebanon, and Bahrain. They discovered he had sold more than 7,000 devices to agencies including the Hong Kong police, the Romanian airport authorities, the United Nations, and the Mövenpick hotel group. Most had been sold to Iraq, where an Interior Ministry investigation would eventually show that corruption on a titanic scale had made the ATSC contracts possible. In a 2011 Report to Congress, the Special Inspector General for Iraqi Reconstruction estimated that 75 percent of the value of McCormick's sales had been spent on bribes. Officials including the bomb squad's Major General al-Jabiri would be imprisoned for their part in the procurement process.

Few of the sales elsewhere were so obviously explained by kickbacks. The Belgian police paid at least €20,000 each for four devices, only to have them revealed by trials at a military test center to be worthless. On those occasions when he was challenged about the detectors, McCormick responded in the same way: The operators weren't properly trained; the tests were faulty; the environment was contaminated. If you asked him how a device worked, he'd tell you he didn't know exactly—it just did.

Throughout the 10 years he peddled his equipment, McCormick never wavered on this point. The detectives could uncover no evidence that he ever confided to anyone, in correspondence or conversation, that he had anything but the greatest confidence in the effectiveness of his products. He came close to cracking in 2008 on a trip to provide training on the ADE equipment to police and army officers in Niger. He was with the friend who had attended the Royal Engineers' demonstration. During the 10 days they spent in Africa, McCormick's colleague—who until then had believed the devices were legitimate—heard complaints about them from his African students and became suspicious. As they left Niger on an Air France plane, he raised his concerns with McCormick, who, offended, assured him the complaints were idiotic. The two men argued so heatedly that the cabin crew separated them. Deplaning in Paris, the colleague explained that if the equipment they were selling didn't work, he would have nothing more to do with it; people's lives were at risk. "Suit yourself. But you're walking away from millions," McCormick replied. "It does exactly what it's supposed to do," he said. "It makes money."

In the end, the British detectives couldn't find a single damning piece of evidence that made the case against McCormick. Instead, they pieced together 10 years of lesser falsehoods. He claimed to have a doctorate in psychology, which he didn't; he pretended to be a member of the International Association of Bomb Technicians, which he wasn't; and when he was told by Sandia Labs that the so-called technology was useless, he just gave it a new name and went on selling it. "All those little things, they're all a bit of the picture," Mapp says. "If you believed in your device and knew that it worked, you wouldn't need to do that."

When his six-week trial began in London in March, McCormick continued to insist the devices were all that he said they were. He had never received any complaints from his customers, he told the court. The prosecution was unable to prove conclusively that the ADE 651 caused specific deaths in Iraq—although evidence submitted in writing from the Iraqi Inspector General's office showed that, at one point, insurgents loaded a vehicle with rockets and explosives and successfully drove it through 23 checkpoints in Baghdad where the device was used. But it made no difference to the jury. McCormick was found guilty of three counts of fraud and in May sentenced to 10 years in prison.

"I am wholly satisfied that your fraudulent conduct in selling so many useless devices for simply enormous profit promoted a false sense of security, and in all probability materially contributed to causing death and injury to innocent individuals," the judge told an impassive McCormick. "You have neither insight, shame, nor any sense of remorse. Even now you insist they work, in a vain effort to minimize your culpability. You fought the case in the teeth of overwhelming evidence. In a last desperate gamble, you rolled the dice with the jury and lost."

It was the first time in either of their long careers that Mapp or White had heard a judge hand down the maximum sentence in anything other than a murder case.

A week later, in an interview room in a drab and unmarked concrete office building beside a canal in the center of Bristol, I ask detectives Mapp and White if they know of anywhere that McCormick's devices are still in use. "Try Iraq, for starters," Mapp says. Despite the trial and the continuing investigation by the Inspector General of the Iraqi Interior Ministry into the ATSC fraud, the ADE 651 is still being used at thousands of checkpoints across Baghdad. Elsewhere, authorities have never stopped believing in the detectors, says Mapp. "In Kenya they said, 'No, we know about Mr. McCormick's conviction, but we're really glad we've got them—and they do work.'"

According to Sandia Labs' Murray, the ideomotor effect is so persuasive that for anyone who wants or needs to believe in it, even conclusive scientific evidence undermining the technology it exploits has little power. "It's very easy for a person to convince themselves that it works," he says. "It's been around for many centuries, and I don't see that going away."

Since McCormick's conviction, British authorities have attempted to prosecute other manufacturers of similar devices, with mixed success. The individual behind the Alpha 6 was acquitted of fraud in June; the trial of Gary Bolton, who sold the Mole and the GT200, is continuing. Malcolm Roe, now in his eighties, is no longer wanted by the FBI, but spends much of his time in the contested territory of Northern Cyprus, where British police have found him hard to reach. "He's a very old man now," says Roe's former solicitor. "He's wary of certain very powerful organizations, shall we say."

Even so, the devices themselves continue to resurface. One of the first actions McCormick took while on bail after his first arrest was to find the tooling he'd had made to produce the ADE 651 and ship it out of the country. The last the British police knew, it was headed to Bucharest. "It's still out there somewhere," Mapp says. "And it's probably still making moldings." B