ON MONDAY July 15th 1907 an unusual bus picked up its first passengers at London's Victoria Station before gliding smoothly off to Liverpool Street. It was the beginning of what was then the world's biggest trial of battery-powered buses. The London Electrobus Company had high hopes that this quiet and fume-free form of transport would replace the horse. At its peak, the firm had a fleet of 20 buses. But despite being popular with passengers the service collapsed in 1909. The history books imply that the collapse was caused by technical drawbacks and a price war. It was not. The untold story is that the collapse was caused by systematic fraud that set back the cause of battery buses by a hundred years.

Indeed, the London electrobus trial remained the largest for the rest of the 20th century. Only recently has American interest in keeping city air clean encouraged trials on anything approaching the same scale. For the past 15 years Chattanooga has had a dozen battery buses. Today the world's biggest fleet, excluding minibuses, is in Santa Barbara, California. The city has 20 buses and is buying five more.

The replacement of horses by internal-combustion engines may now look to have been inevitable, but it certainly did not seem so at the time. At the beginning of 1906 there were only 230 motor buses in London. They were widely reviled for their evil smells and noise. At any one time a
quarter of them were off the road for repairs. In 1907 The Economist predicted “the triumph of the horse”. The future of public-transport technology was up for grabs.

The paradox at the heart of the electrobus story is that the electrobuses themselves were well engineered and well managed. All battery buses have a limited range because of the weight of their batteries. The electrobus needed 1.5 tonnes of lead-acid batteries to carry its 34 passengers. It could travel 60km (38 miles) on one charge. So at lunchtime the buses went to a garage in Victoria and drove up a ramp. The batteries, slung under the electrobus, were lowered onto a trolley and replaced with fresh ones. It all took three minutes. “It just goes to show there’s nothing new under the sun,” says Mark Hairr, of the Advanced Transportation Technology Institute. “That’s almost exactly what we do here in Chattanooga. And we knew nothing about this.”

In April 1906 the London Electrobus Company floated on the stockmarket. It wanted £300,000 to put 300 buses on the streets of the capital. On the first day the flotation raised £120,000 and the share offer was on course to be fully subscribed. But the next day some awkward questions surfaced. The firm was buying rights to a patent for £20,000 (£7.5m, or $15m, in today’s money) from the Baron de Martigny. But the patent was old and had nothing to do with battery buses. It was a scam. Investors asked for their money back, and the firm had to return £80,000. The investors would have been even less impressed had they known the true identity of the “Baron”, who was a Canadian music-hall artist.

Martigny was only the front man. The mastermind behind this and a clutch of subsequent scams was Edward Lehwess, a German lawyer and serial con-artist with a taste for fast cars and expensive champagne. After this initial fiasco the London Electrobus Company struggled to raise money. But Lehwess had set up a network of front companies to siphon off its funds. Chief among these was the Electric Vehicle Company of West Norwood, which built the buses.

The London Electrobus Company paid the Electric Vehicle Company over £31,000 in advance for 50 buses. Only 20 were ever delivered. The buses were hugely overpriced. Eventually the London Electrobus Company went into liquidation. Even then the scams continued. Lehwess bought eight buses for £800 from the liquidators and sold them to Brighton for £3,500—a mark-up of 340%—where they ran for another six years. At the time, the life of a motor bus was measured in months.

Whether the fraud was truly a tipping point for electric vehicles is, of course, impossible to say. But it is a commonplace of innovation—from railway gauges to semiconductors to software—that the “best” technology is not always the most successful. Once an industry standard has been established, it is hard to displace. If Lehwess and Martigny had not pulled their scam when they did, modern cities might be an awful lot cleaner.