

CHAPTER

1

No One Sells Miracles

It's not a lie if you believe it.

—George Costanza

In the late 1980s a group of chemists from Pfizer created a compound called sildenafil citrate. It was developed to fight cardiovascular diseases such as high blood pressure and chest pain. The project was called UK92480 (the UK is because the chemists were based in the United Kingdom) – but even though it sounds top secret, it ended up being a low drug on the totem pole because of disappointing test results. No one involved with the effort thought they were onto something groundbreaking at the time.^[1]

In fact, in the summer of 1993, the group was given an ultimatum that unless they could come back in the fall with conclusive data, it was time to close up shop and move on. Just a few short days later the researchers were doing a study on a group of miners in South Wales. Per protocol, they asked the miners if they noticed anything different after taking the drug. One of the men spoke up and said, “Well, I seemed to have more erections during the night than normal.” The other men grinned and nodded in agreement.^[2] One of the nurses in another clinical trial around the same time also noticed many of the men were lying on their stomachs, embarrassed that they ended up with an erection

after taking the drug. A drug that was meant to treat cardiovascular disease was having very surprising unintended consequences.^[3]

One of the main causes of chest pain is a condition called angina, which has to do with a reduced flow of blood to the heart. The reason this chest pain occurs is because the vessels that supply your heart with blood become constricted, which leads to pain in your chest as well as shortness of breath. Scientists often know how certain compounds are supposed to work but they don't always know if they will have the intended effect on the intended area of the body. The idea behind sildenafil was that it would dilate the blood vessels in the heart, thus reducing chest pain and breathlessness. Instead, the blood vessels in the penis became dilated. This drug inhibited the enzyme that breaks down a chemical that is key to the biology behind an erection.^[4]

This isn't the first time a drug was discovered by accident. After vacationing in Scotland for a month in 1928, a pathologist named Andrew Fleming returned to his laboratory to discover he had left a petri dish on a windowsill at a hospital in London. Fleming was growing bacteria in these dishes but noticed the one he accidentally left out had grown an airborne fungus. The fungus stopped the bacteria dead in its tracks. This mold was called *Penicillium notatum*. Fleming inadvertently made one of the most important discoveries in the history of medicine. He created the antibiotic penicillin.^[5]

It can't be overstated how huge this discovery was. At the time, the average life span in the United States was under 60 years of age. That number is now around 80 years old, and Fleming's accidental discovery had a lot to do with this. Fleming would later say, "When I woke up just after dawn on 28 September, 1928, I certainly didn't plan to revolutionize all medicine by discovering the world's first antibiotic, or bacteria killer. But I suppose that was exactly what I did."^[6]

A failed cardiovascular drug that gave men erections didn't have quite the same impact as penicillin, but these scientists did stumble across one of the most successful drugs of the modern era. Today we know of this drug as Viagra. According to Pfizer, since it was officially launched in 1998, 62 million men from around the globe have purchased the erectile dysfunction drug. It's estimated that people in the US alone spend almost \$1.5 billion on Viagra each year. Even the US military is said to spend almost \$42 million on the little blue pill.^[7]

A few months after the drug was released, there were over 300,000 prescriptions filled in a single week. Obviously, there was

a ton of pent-up demand for this product. Before Viagra's approval by the FDA in 1998, there really was no treatment for erectile dysfunction. The only options available included a painful injection or an implant, not exactly as easy as popping a little blue pill in your mouth. And before even penicillin was discovered, men went to far greater lengths to cure their libido.^[8]

Goats as Viagra?

Before the discovery of penicillin the field of medicine was full of quacks, hucksters, and charlatans. The general public knew so little about their healthcare options that it was easy to take advantage of people's ignorance. In the early 1900s the entire field of medicine was still in its infancy in many ways. The American Medical Association was founded in 1847 but each state still had its own licensing board which led to a lax system of oversight and ease of corruption because no one knew any better. Medical quackery isn't exactly like the typical financial scams that go after our need for greed. Instead, it preys on our worst fears: mainly death, disease, and our hope that miracles do truly exist when it comes to healing.

Samuel Hopkins Adams wrote a series of articles in 1905 entitled "The Great American Fraud." He wrote, "Gullible America will spend some \$75 million (that's more than \$2.1 billion in today's dollars) in the purchase of patent medicines. In consideration of this sum it will swallow huge quantities of alcohol, an appalling amount of opiates and narcotics, a wide assortment of varied drugs ranging from powerful and dangerous heart depressants to insidious liver stimulants; and, far in excess of other ingredients, undiluted fraud."^[9]

The wild west that was the medical profession was the perfect fit for Dr. John Brinkley. Brinkley never actually finished medical school, instead opting to purchase a diploma for \$100 which granted him the ability to practice medicine in eight states. Unbelievably, this was all it took to practice medicine in the early twentieth century. Still in his 20s, Brinkley opened up a doctor's office in Greenville, South Carolina with a partner. They took out ads in the local paper which asked:

ARE YOU A MANLY MAN FULL OF VIGOR?

Each morning the two "doctors" would ask the patients who answered the ad different questions, take some notes, collect \$25 – a massive sum at the time – and inject colored water into their posteriors.

They called the treatment electric medicine and claimed it came from Germany. The two men skipped town a few months later to avoid those who figured out their scam. After running out of money, Brinkley found a newspaper ad looking for a doctor in Kansas, in a town called Milford with a population of just 200 people. So he and his wife Minnie moved to Milford to open up a doctor's office and drugstore.^[10]

The couple were barely making ends meet when a 46-year-old farmer named Bill Stittsworth came into their office. Stittsworth said he and his wife had been unsuccessfully trying to get pregnant for 16 years. "I'm a flat tire," he told the Brinkleys. Then Stittsworth looked out the window at a nearby farm and observed, "Too bad I don't have billy goat nuts." You see, billy goats are known to be some of the healthiest, most fertile animals on the planet. The farmer knew firsthand a goat's appetite for sex was famous.^[11]

No one really knows exactly what happened next. Brinkley claims the farmer begged him to try an experimental procedure using goat glands. The farmer's family claims Brinkley paid Stittsworth to experiment on him. Regardless of whose idea it was, a few nights later both men were back in the office prepping for a unique surgical procedure. Brinkley slit the farmer's scrotum, after which he reached for two goat testicles that were sitting on a small silver tray, implanted a goat testis on each side of the scrotum, and sutured them to the loose tissue. Stittsworth had his man parts sewn up and the whole ordeal was over in 15 minutes.^[12]

Two weeks later the farmer showed up and told Brinkley the good news – his wife was finally pregnant! They named their child Billy, after a goat, of course. The second couple who conceived a child after having the goat gland surgery named their child Charles Darwin Mellinger, in honor of science of all things. Brinkley unwittingly stumbled onto a genius marketing campaign for the rural population in a small Kansas town. The goat gland surgery became an instant hit. His operation became so personalized he would even let the patients select their own goat from his backyard. Brinkley was averaging 50 procedures a month in no time, at \$750 a pop (a lot of money for the 1920s and around \$9,000 in today's dollars). Eventually he began implanting goat ovaries in women as well, to double his clientele.^[13]

Spoiler alert: Implanting goat testicles into men's scrotums is not a scientifically backed procedure. Most people didn't stop to think

about how insane this was at the time because they were desperate. A few weeks after his first goat gland transplant, Brinkley told a classroom full of other doctors, “I have a scheme up my sleeve and the whole world will hear of it.” The way he was going to get the whole world to hear about his plan was through a brand-new technology that would take his operation to the next level.

Radio

Radio was an entirely new medium for the mainstream public in the 1920s. It not only allowed broadcasters to reach large groups of people all at once across the country, it also allowed them to capture people’s attention in their own homes. Radio was truly one of the first technological breakthroughs that allowed families to have leisure time with one another in their own living rooms where they didn’t have to pay attention to one another.

Companies began advertising their products in the late nineteenth century, but the 1920s is when advertising exploded into popular culture. The radio had a great deal to do with its spread. The first commercial radio station was launched in 1920. By the end of the decade, radio penetration went from basically zero to close to 40% of households. By 1940, more than 80% of households had a radio. The adoption of radios in households was faster than electricity, automobiles, or the telephone. Comedian George Burns wrote in his biography, “It’s impossible to explain the impact the radio had on the world to anyone who didn’t live through that time.”^[14]

Radio sales doubled in 1923, and then tripled from there by 1924. The biggest reason radio spread like wildfire is because it was free. There was nothing else to pay for once you purchased it. And the reason it was free is because the business model was predicated on advertising. The swift rise in radio ownership coincided perfectly with Brinkley’s rise to prominence as a healer of all things to all people with ailments. Brinkley was a world-class charlatan, but according to one media historian he was also, “the man who, perhaps, more than any other, foresaw the great potentialities of radio as an advertising medium.”^[15]

Advertising these days is everywhere you look. It’s on the websites, social media, billboards, TV, radio, and podcasts. But advertising wasn’t always so ingrained in our lives. When the radio went mainstream in the 1920s and revolutionized how we communicate

with large groups of people, it was controversial to advertise on the platform. In 1922, future president Herbert Hoover even said, “It is inconceivable that we should allow so great a possibility for service, for news, for entertainment, for education, and for vital commercial purposes to be drowned out in advertising chatter.”^[16]

Brinkley saw the future well before many businesses and invested heavily into radio to spread his message. By 1923, tiny Milford, Kansas had the fourth largest radio station in the country. How did Brinkley pull off this feat? He was essentially the Dr. Ruth of his day, talking about sex on the radio, something that was a taboo subject at the time. He also used radio as a sales tactic for his services and the new line of “medicine” he created. The radio show he produced was basically the WebMD of the early twentieth century. People would write in questions about their illness or injury, which Brinkley would read aloud on his show. Prescriptions were then given on air, which listeners could then go buy from the more than 500 drugstores he developed relationships with all over the country.^[17]

No self-respecting doctor would hand out prescriptions without first examining the patient and making a diagnosis, but Brinkley wasn't trying to appeal to reason: he was trying to appeal to people's worst fears. Snake oil salesmen had always targeted people's emotions, and Brinkley was no different. Now he had the ability to do so on a massive scale. This entailed not only promoting his goat gland operation, but an entire line-up of healthcare products and services.

The Kansas State Medical Board eventually revoked his medical license on the grounds of “gross immorality and unprofessional conduct.” The Kansas City Star proclaimed: “The superquack of Milford is finished.”^[18]

Narrator: *He was not finished.*

The Placebo Effect

Morris Fishbein, an actual physician with morals who worked with the AMA, had made it his life's work to take down hucksters and quacks, and the man at the top of his list was John Brinkley. Fishbein knew Brinkley's ruse couldn't last forever. The goat gland procedure was completely fabricated. There wasn't an ounce of scientific or biological proof it could work.

The question you're probably asking yourself is this: How the hell did it actually work for those farmers who went through this

painful procedure? It could have been due to the placebo effect, but the true answer is likely simple regression to the mean. Most sick people tend to get better. In fact, it's estimated that four out of every five physical ailments will heal themselves.^[19] So even the biggest quack in the world could "heal" most patients through the passage of time or dumb luck. Unfortunately, it was those patients who came to Brinkley in dire need of treatment who suffered the most.

The Kansas Medical Board proved that at least 42 people Brinkley treated (some of whom were not sick before he treated them) had died after undergoing one of his operations or medicine programs. This number is significantly higher than almost any serial killer in history. At least six of those people had undergone the goat gland transplant. Not only was Brinkley performing medical procedures with no scientific reasoning behind them, but he would often treat patients while drunk. One patient claimed that instead of stitching him up after a prostate operation, Brinkley used a piece of rubber from a boot heel to patch him up.^[20] The worst part about these statistics is they occurred at the midpoint of his career. He was far from completing his medical reign of terror.

Fishbein finally put together enough evidence to bring Brinkley to trial. It was during this trial that the prosecution used Brinkley's own autobiography against him. Consistent with his personality, Brinkley's autobiography was filled with lies and fabricated stories. Even though he never graduated from medical school, Brinkley gave the date of his graduation in the book. The prosecution pointed out Brinkley was actually in jail on that date. In his writings Brinkley compared himself to Martin Luther, Galileo, and Jesus Christ. The lies and deceit finally caught up with him. After practicing medicine in Texas and Mexico, even going so far as starting a radio show south of the border (since he was barred from broadcasting in the US), he was forced to declare bankruptcy in 1941. The malpractice lawsuits finally caught up with him and he died a year later.^[21]

Correlation Does Not Imply Causation

People often have a difficult time understanding the idea that correlation does not imply causation. Just because women were getting pregnant after their husbands received goat testicle implants does not mean that's what caused them to bear children. The world is full of examples of two things that appear to be related because they

move in concert with one another, merely by chance. The number of films actor Nicolas Cage appeared in is highly correlated with the number of people who drown in a swimming pool each year. The divorce rate in the state of Maine neatly tracks the annual consumption of margarine.^[22]

There's an old saying that the data will tell you anything if you torture it long enough. Investor David Leinweber once ran a test to show how data can be manipulated. He found that the production of butter in Bangladesh could have been used to predict how well the US stock market would perform between 1983 and 1993. When butter production was up 1%, the S&P 500 would be up 2% the following year. And if butter production was down 10%, the S&P 500 would fall 20%. This relationship has no basis in reality but I'm guessing if you showed enough people the backtest, some of them would begin to believe they'd found a foolproof system to beat the stock market.^[23]

Brinkley's client list was said to include former Secretary of State William Jennings Bryan and the 28th President of the United States, Woodrow Wilson. Actor Buster Keaton even mentioned Brinkley and the goat testicle transplant in one of his movies in the 1920s. A US Senator from Colorado named Wesley Staley went so far as to say, "I wear goat glands and am proud of it," in his public defense of Brinkley. A US Senator seriously said this out loud. To other people.^[24]

Unfortunately, there will always be charismatic charlatans like Brinkley around to take advantage of human nature. Certain people have the ability to convince others they can make the impossible become routine. Brinkley became fabulously wealthy from his practice and it was a boon for the town of Milford. Brinkley paid for a new hospital and put in sidewalks, a new post office, and a sewage system. He even bought new uniforms for the Little League team, who were aptly named the Brinkley Goats.^[25]

Not long after having his license revoked for practicing medicine in the state of Kansas, Brinkley decided to try his hand at politics by running for governor. The campaign was marked by all sorts of outlandish promises he couldn't possibly keep – every county would have its own lake, free books, and free healthcare for all. The campaign was ridiculous from the word go and somehow, he still almost won!^[26] Being active in charitable causes, politics, or the local community are all wonderful ways to get people off your scent when bilking unsuspecting victims in a financial scam.

Fear and greed lend a hand in every financial mishap, and Brinkley's tale is no different. The man himself was driven by greed and an inner desire to prove his critics wrong. It's estimated Brinkley was bringing in more than \$1 million a year during the Great Depression. This was an astronomical sum back then but even more outlandish when you consider average wages across the country were dropping like a rock, falling around 40% in 1932 alone.^[27] To satiate his greed, Brinkley preyed on the fears of other (mostly) men who were ashamed of their lack of sexual prowess, the sick and injured who were in search of a miracle, and the uneducated who didn't know any better and simply trusted someone who sounded like they knew what they were talking about. Even his wife Minnie was under his spell until the very end. She outlived her husband by nearly 40 years and claimed until her dying day that successful goat gland procedures were still being performed in secret all around the world.^[28]

Same as It Ever Was

It's easy to look back now at how gullible people in the early twentieth century were when it came to the charms of quacks and snake oil salesmen. That is until you realize those same techniques still work today. Just think of all the scams available for those looking to lose weight, improve their finances, and hold on to their youth. The AMA spent years trying to discredit Brinkley, but he had the power of persuasion, a medium of communication to the masses, and a sales technique that would have allowed him to sell water to a whale.

Healthcare has improved by leaps and bounds since Brinkley began his reign of terror on the Midwest, but that doesn't mean there will always be a unique procedure to solve all your ills. The same is true in all facets of life. The world is a complicated, dynamic place that doesn't always lend itself to easy solutions. There's no recipe for creating a hit movie. Scouts still don't know what makes one quarterback better than another when selecting a top pick in the NFL draft. There's no secret formula to earn vast riches overnight in the stock market. And there's no blueprint entrepreneurs can follow to create the next Apple or Google.

There's a New Yorker cartoon that shows a billboard planted in a field of sheep with a picture of a wolf that reads, "I am going to eat you." One of the sheep says to another sheep, "He tells it like it is." Brinkley was the wolf in this analogy while his patients were

the sheep. At Brinkley's funeral in 1942, an anonymous man in the crowd supposedly confessed, "I knowed [sic] he was bilking me, but...I liked him anyway."^[29]

Miracles may in fact exist, but don't expect someone to sell them to you.

Notes

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