

QUEST FOR TREASURE - A SEA OF SEEMINGLY RANDOM NUMBERS HOLDS THE KEY TO LEGENDARY RICHES

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The numbers are always there, phantom houseguests in the two-story home on Hobart Avenue in Bayonne: 71, 194, 38 ... Mike Timmerman sees them in the ribbons of steam curling up from his coffee cup every morning: 1701, 89, 76 ... Margaret Timmerman sees them in the water uncoiling down the drain as she does the dishes: 11, 83, 1629.

And at the end of the day, in the darkness broken only by a crease of light beneath the bedroom door, the couple sees them one last time: Waves of numbers settling into a tidal pool at the bottom of their dreams.

The numbers are a secret code, a cipher, and for the past 20 years Mike Timmerman, joined by his wife Margaret when they married four years ago, has been trying to gain a foothold on their stony wall of silence. There is a message inside those numbers, both of them say. An ages old mystery waiting to be solved. A story waiting for an ending.

And a \$20 million treasure as the lure.

For the better part of two centuries, the Beale Treasure, thought to contain more than two tons of gold, silver and jewels, has remained hidden away, buried deep in the foothills of southern Virginia. The exact location is concealed inside a code, a single page of 520 numbers, which, despite the best efforts of scientists and sleuths alike, has remained unbroken for 180 years.

Hundreds, if not thousands, have tried to break the code - mathematicians, professional cryptographers, computer scientists, as well as psychics, dowsers and amateur detectives.

Mike and Margaret Timmerman are none of these. They are a hard-working, middle-class couple. Mike Timmerman, who is 57, is in real estate. In his spare time, as president of the Beale Cypher Association, he puts out an occasional newsletter informing the society's members of the latest research.

Margaret Timmerman, 39, studied chemistry in her native Poland and now works as a manager for a division of Reeves International in Pequannock.

Nearly every night the Timmermans sit down at their dining room table to work on the Beale cipher. Laid out before them, like an evening repast, are small piles of papers.

Each sheet is covered with rows of boxes and inside each box is a letter and a number. Some of the numbers and letters are circled. Some are highlighted. And some have been re-traced again and again, until they've been reduced to blurry blotches of ink.

Margaret Timmerman fingers the pages distractedly. She knows the numbers of the code practically by heart, and while sometimes she thinks she might have broken a word or two of the code, the message remains essentially hidden.

"When it's quiet and Mike goes to bed, I like to sit down and think about the numbers some more," she says. "It's hard to put away, because when you do, then another thought comes to you. Or you wake up in the middle of the night and see something new, and you say how could I not have seen it?"

BEALE'S LOCKED BOX

The story of the treasure began 40 years before the start of the Civil War when 30 men set out for the southwest territories to hunt buffalo. Instead, according to legend, they stumbled upon veins of gold and silver in the Sawatch range of the Rocky Mountains, about 250 miles north of Santa Fe, N.M. The men mined the ore for 18 months, then agreed that a few of them should haul it back east for safekeeping. Led by Thomas Jefferson Beale, a tall, swarthy southerner, the small band made two wagon trips east, one in 1819 and another in 1821. Each time, Beale took up residence for the winter at the Washington Hotel in the town of Buford's , Va., (now Montvale), some 30 miles west of Lynchburg, Va.

In the spring of 1822, Beale left the hotel for a second and, as it turned out, last time and headed back west. Before he did, he entrusted a locked iron box to Robert Morriss , the hotel's owner, telling him he would send a letter with instructions about what to do with the box should he not return for it.

The letter was never sent (or never received) and Beale never returned. Twenty-three years later, Morriss finally broke the lock on the box and found inside a letter addressed to him from Beale, along with three sheets of paper filled with numbers. The letter in the box informed Morriss that the three pages were codes, also known as ciphers, which, with the use of a written "key" would, when matched against the sheets of numbers, reveal three messages. Those messages were a description of the treasure, the names and addresses of all the men who had a claim to part of it and its exact location. Presumably, the letter that never came from Beale would have included the key.

For the next 17 years, Morriss tried and failed to break the codes. Then, nearing death, he passed on the contents of the box to a friend whose name has been lost. It is known that the friend, consumed with finding a solution to the ciphers, bankrupted himself and alienated his family. But before he died, he made one significant breakthrough. He broke Cipher No. 2, the description of the contents of the treasure, by matching the numbers of the cipher against the sequentially numbered words of the Declaration of Independence. This part of the story is known because the man told it to a local

businessman James B. Ward, who published the decoded cipher in 1885.

The decoded message was confirmation that a treasure had indeed been buried.

"I have deposited in the county of Bedford, about four miles from Buford's, in an excavation or vault, six feet below the surface of the ground, the following articles ... The first deposit consisted of ten hundred and fourteen pounds of gold and thirty eight hundred and twelve pounds of silver ... The second ... consisted of nineteen hundred and seven pounds of gold and twelve hundred and eighty eight of silver, also jewels obtained in St. Louis in exchange to save transportation and valued at thirteen thousand dollars. The above is securely packed in iron pots with iron covers (and) the vault is roughly lined with stone and the vessels rest on solid stone and are covered with others. Paper number one describes the exact locality of the vault so that no difficulty will be had in finding it."

In the pantheon of famous last words, those of Beale's decoded message deserve a special place. Among the scientific luminaries who have tried, and failed, to break Cipher No. 1 are Herbert O. Yardley, founder of the U.S. Cipher Bureau (also known as the American Black Chamber); William Friedman, the greatest cryptanalyst of the first half of the 20th century and the head of U.S. Signal Intelligence Service during World War II, and Carl Hammer, now in his 90s, the retired director of computer science for Sperry Univac.

Said Hammer a number of years ago: "The Beale ciphers have occupied at least 10 percent of the best cryptanalytic minds in the country ... The work - even the lines that have led us into blind alleys - has more than paid for itself in advancing and refining computer research."

The allure of the Beale ciphers lies in their formidable simplicity. They were apparently constructed as simple substitution ciphers, where numbers replace letters. But in the case of the Beale ciphers, the key-document by which the scramble of numbers could be turned into plain English, has never been found.

Because the Declaration of Independence was discovered to be the key to Cipher No. 2, many people believe a related historical document or literary work could unlock the secrets of Beale No. 1. Among the texts studied as possible keys are the U.S. Constitution, the speeches of Thomas Jefferson, the works of William Shakespeare, the books of the Old Testament and the poems of Francis Scott Key.

"I got copies of the Lynchburg Press from Dec. 7, 14, 21, and 28 of 1821, right around the time Beale would have been at the Washington Hotel," says Mike Timmerman. "I wanted to see if anything pertaining to Beale or his party was in the paper and I thought maybe the key was hidden in there somewhere. So we went through each article and applied it to the code. It took us a whole year, but nothing turned up that fit."

One devastating possibility is that Beale No. 1 was created using a "one-off" key, that is

a document - say, a letter or an essay - penned by Beale himself. If that is the case, that there is a unique key and that the only copy has been lost or destroyed, then the remaining Beale ciphers may never be broken, the \$20 million in gold, silver and jewels never found.

THE CODE BREAKERS

Puzzles, like treasures, create their own temptation. The desire to know something no one else does; the need to expose what is hidden, unveil what is secret. Codebreaking is part Faustian bargain - giving up one's days, even years, to break something unbreakable - and part voyeurism, like peeking through a keyhole to see what's happening on the other side of the door.

Cryptanalysts - those who try to untangle numerical and alphabetical codes - are a special breed. They are the descendants of astrologers and augurers and numerologists, people who seek meaning in the ineffable patterns of nature - the formations of clouds, the movement of tides, the arrangements of dregs in the bottom of tea cups. And they act like magicians, performing a kind of semantic sorcery by somehow "convincing" inscrutable symbols to throw off their camouflage and announce their true selves.

S. Michael Matyas is a professional cryptographer. Retired from IBM's Cryptography Center of Competence after 25 years, he is currently the chief cryptographer for Internet Privacy Solutions, a division of the health care company PersonalPath Systems located in Upper Saddle River. Matyas, 61, works mainly from his home in Manassas, Va. His basement office is lined with bookshelves with titles such as "Cryptanalytic Attacks," "Password Biometrics" and "Public Key Cryptography." Six of the filing cabinets lining one long wall are filled with research on the Beale ciphers.

Like Mike Timmerman, Matyas came to the Beale mystery through a magazine article. In 1964, Matyas was a Navy helicopter pilot stationed in Lakehurst. After reading about the Beale ciphers, Matyas, who had triple-majored in chemistry, physics and mathematics at Western Reserve (now Case Western) University in Cleveland, had a new intellectual pursuit: Cryptography. A decade later, while working at IBM, Matyas received his Ph.D. in computer science from the University of Iowa. His dissertation on ciphers was the first in the country to deal with the science of cryptography.

"All my colleagues said I was crazy to write a thesis on cryptographic security," says Matyas. "As it turns out, I was getting in on the ground floor of all the work now being done on Internet privacy and computer security. But really, the reason I did my dissertation on cryptanalysis was, I thought it might help me break the Beale ciphers."

It didn't, but it stoked Matyas's desire. He has spent thousands of hours on the Beale ciphers, many of them in libraries, at computer terminals, and at records offices in and around Lynchburg.

"What I did with computers was try to discover a pattern in the numbers. The main problem is there just isn't enough text to get a solution using a computer program. But that doesn't mean you can't do a statistical search. I've learned some interesting facts. There's a strange pattern in the first cipher when you look at only the numbers that occur twice in the entire cipher. The second number, the second time it occurs, it occurs closer to the first number than statistical randomness predicts."

Matyas, like many others, believes the numbers in the Beale ciphers are not random, and, like the Timmermans, he believes the keys to the two remaining Beale ciphers are historical documents. Matyas spent three years compiling a list of books containing the Declaration of Independence that were published around the end of the 18th century. It is Matyas's conviction that Beale used one of those books - and at least one other document in it - to encode his three messages. After compiling a list of 270 books containing a copy of the Declaration that were published between 1776 and 1822, Matyas spent another three years tracking down the books. Through a process of elimination based on rarity and location of publication, Matyas has narrowed his search for the keytext to Cipher No. 1 somewhere in the four-volume, "An Historical, Geographical, Commercial and Philosophical View of The American States," written by William Winterbottom and published in Virginia between 1795 and 1819.

Matyas admits that he is still a long way from decoding the ciphers. It could take years, still, to figure out if one of the other articles in Winterbottom's books somehow matches the numbers in Beale No. 1. While the \$20 million treasure would be very nice, he says, it isn't the main reason he keeps looking.

"Trying to solve the mystery, that's what it's all about," says Matyas. "It's not merely the money. It's the fact that here's this thing that has baffled so many other people. If you could lay claim to the solution, you could make a small claim to history. For me, that's the challenge, that no one has come up with a solution. I'd just love to be the one to say, 'Here, this is how you get the answer.'"

DOWSING FOR DOLLARS

Louis Matacia, a land surveyor by profession, not only thinks he has the answer, he thinks he knows exactly where the treasure is buried. His main approach to Beale is unconventional. Matacia is an expert in dowsing, an 8,000-year-old art used to locate underground targets such as water, oil and minerals. Matacia claims to have located hundreds of wells, sewer pipes and underground wires, as well as coins and jewelry over the course of 40 years. His tools have included everything from a wire coat hanger to two sections of a fishing rod, to specially designed aluminum angle rods.

In 1964 Matacia was invited to demonstrate his dowsing techniques by the U.S. Marines Development and Educational Center in Quantico, Va., and though his method was never officially adopted, a 1967 article in the U.S. forces overseas newspaper, *The Observer*, reported that Marines were using Matacia's dowsing techniques to locate Viet Cong tunnels.

Matacia didn't discover the Beale story as much as it discovered him. Fifteen years ago, as a way of expanding his treasure-hunting business, which occupies about 20 percent of his time, Matacia set up three 800 telephone numbers. Clients poured in -- looking for lost jewelry, the stashes of gangsters long dead, and the occasional pirate treasure. But the Beale story kept turning up. Finally, one caller from Massachusetts convinced Matacia that he had decoded Cipher No. 1, but didn't know what it meant. When he came down to visit the 71-year-old surveyor at his home in Sterling, Va., about 25 miles outside of Washington, D.C., Matacia convinced him to show him the message.

"The guy who wrote that code had to know what he was doing because it was written in surveyor's language," said Matacia. "That was why this fellow who called me didn't know what it meant."

Matacia and his client made several trips into the Blue Ridge mountain range near the rolling fields of Goose Creek Valley, Va. Using the directions in what his client believed was the decoded message, Matacia dowsed for three years all over Taylors Mountain, not far from Montvale, but with nary a tug on his divining rod. When he searched the same area using a sophisticated electronic metal detector, there were no hits.

SAD HISTORY

Coming up empty has been the sad history of Beale treasure hunters. Holes have been dug all over the town of Montvale, (pop. 550), including in the cemetery. The reason so many outsiders show up in town with shovels and backhoes (the late Mel Fisher, the professional treasure hunter who discovered the Spanish sunken galleon *The Atocha*, arrived in Montvale in 1989 with a helicopter), is that it is not uncommon for people to believe they've broken the code.

"You can get a few words here and there sometimes, that seem to make sense," says cryptographer Michael Matyas, "but mostly it's wishful thinking and people try to force a message they think they see in the code."

Because the code has never been broken, because historical information about Beale is scant, and because evidence of the discovery of the gold and silver is circumstantial at best, many do not believe the story of the Beale treasure. Matyas, in fact, is one of them. "I just haven't seen the definitive proof of Beale's existence," he says, hanging his hopes on the codes themselves.

Matacia, however, has heard enough stories about Beale to believe -- in the man, and in the treasure. So when he couldn't get a reading in the area picked out by his client from Massachusetts, Matacia turned to his intuition, instead, and changed locations. On a nearby range he felt powerful movement in his dowsing rods. Matacia made dozens of more trips over the next few years, each time refining his map until he'd pinpointed what he believed was the site of the \$20 million Beale treasure.

Carrying a 40-pound pack and using an old pool cue as a walking stick, Matacia recently took another "recon" to Goose Creek Valley. He headed down a path from Black Horse Gap, just off the Blue Ridge Parkway and east of Taylors Mountain, toward the site where he believes the Beale treasure is buried.

A mile in, Matacia turned off the path and headed toward a rocky outcrop. He unsheathed a dowsing rod and held it gently in his right hand, pointing out from his chest. Matacia walked slowly across the outcrop. Suddenly the rod swung wildly to the left. He approached the same spot from the opposite direction. The rod swung dramatically to the right.

"Big treasure is like a bolt of lightning" he said matter-of-factly. "The force is so strong it jut kicks out. Here it is, 27 feet down by my calculations."

Beneath Matacia's boots was gray granite stone. Beneath the stone, he believes, is a world of riches. Matacia had been here before, always leaving a marker of some kind behind. He has dowsed this spot maybe hundreds of times. He has also map-dowsed the area, using the pull of a pendulum suspended above a road map, to confirm the site is the real thing. At night, he has used a Polaroid camera to try and capture the force field emitted by the treasure in a flash of light on his otherwise black film. He says he has succeeded on some occasions. Matacia's methods are unorthodox and he freely admits it.

"I don't tell most people about these things because they wouldn't understand," he said. "I might not know why things work the way they do, I just know they work, and I don't just rely on one thing. I don't believe something until I see it, until I've studied it and tested it."

Matacia is philosophical about the difficulty of digging up the treasure. The problem with recovering it, he said, is its depth. His metal detectors are useless beyond a couple of feet, so he has not been able to get an exact reading. Matacia believes the hoard of gold, silver and jewels was buried in a cave under the granite outcropping, but he has not yet found the entrance to the cave, and digging straight down through the rock, he said, "would take a large drill, at least 10 honest men and about \$50,000."

Matacia is in no rush. The belief that he has found the treasure is perhaps more precious to him than the treasure itself.

"If I never dig it up, it's not the end of the world," he said, then added, as if he was speaking for everyone still out there looking for the Beale: "There's a right time for that treasure to come out of the ground. And it's not now."