Cipher Number One supposedly tells exact location but so far no "solutions" have led to treasure.

By Ruth Daniloff

A cipher's the key to the treasure in them thar hills

Cryptanalysts and fortune hunters lead a merry chase through the Virginia countryside in search of Thomas Beale's buried loot

Colonel J. J. Holland plunged his post hole into a mound where his metal detector registered ten an brought up a scoop of dusty earth containing several lumps of coal. At 70, he had been warned by his doctor against digging because of a serious heart condition, but his obsession with the treasure he believes lies six feet under the dirt beside the railroad track somewhere "in Virginia overrides all common sense."

Since 1964, when he first learned of Thomas Jefes Beale, the 2,921 pounds of gold, the 150,000 ounces of silver and some $200,000 worth of jewels, he has clocked up more than 150,000 miles driving to the foothills of the Blue Ridge Mountains near Renoke, Virginia, to dig. At home in Lillian, Alabama, he works most nights from 10 to 2 on the ciphers relating to the treasure. This time he is convinced he has broken the first of the three codes. "What need now is a backhoe," he says with obvious frustration. "Then we can dig down and find the grave and solve this Beale thing once and for all."

For more than 150 years people like Colonel Holland have been trying to find the Beale milli-
"once and for all." It is one of the largest and most
costly treasure hunts in U.S. history, baffling the finest
mathematical minds in the country and defeating
their computers. Like the search for the Lost Dutch-
man mine in Arizona, or the stories of the $3 million
in Confederate treasury gold buried along the James
River just before the Union soldiers entered
Rich-
mond in 1865, or wealthy plantation owners' fortunes
hidden from the Union soldiers and never recovered,
the Beale treasure tantalizes its seekers with fantasies
of untold riches while inducing frustration, despair
and bankruptcy. Numerous articles in magazines and
trade journals and several books have explored the
Beale mystery.

Thomas Jefferson Beale, the man responsible for
trying 20th-century brains and technology, was a de-
vicious Virginia gentleman believed to have been born
around 1792. That was the year George Washington
was elected President for the second time; Thomas
Jefferson and Alexander Hamilton were feuding over
policies which would culminate in a two-party politi-
cal system; and General Anthony Wayne was com-
misioned commander of the American army to fight
Indians who were making pioneer existence in the
Northwest Territory impossible.

Beale came from a distinguished family. In 1668
King Charles II of England recommended one of his
ancestors for appointment as commander of Point
Comfort, at the entrance of Norfolk Harbor. Though
one contemporary described Beale as "a gentleman
well educated, evidently of good family, and with
popular manners," recent research reveals him to have
been a no-good, gun-slinging genius who was con-
stantly bailed out of scrapes by his more respectable
brothers. Still, women loved him—he was a broad-
shouldered six-footer with swarthy complexion and
jet black hair worn slightly longer than was fashion-
able. He was said to be a "model of manly beauty,
favored by ladies and envied by men."

Indeed, the Beale treasure hunt may have started
with trouble over the opposite sex. There are several
stories—some documented, some not. One story holds
that in the spring of 1817 Beale got into a pistol fight
with a Fincastle, Virginia, neighbor over a woman.

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Believing he had killed the man, Beale went for the frontier to escape prosecution. Beale's version of the story was that he and 30 individuals of good character were seeking adventure and left on a two-year expedition for buffalo and grizzlies.

Whichever is true, a year later when Beale and his hunting cronies were preparing supper in a small ravine some two miles north of Santa Fe, they discovered strange stuff in the rocks. "Upon showing it to others," Beale wrote, "it was pronounced to be gold, and much excitement was the natural consequence."

In two letters, Thomas Beale described the gold, its journey back to Virginia two wagons and its subsequent burial. He deposited the letters in an iron strongbox and in March 1822, he left the box with his friend, Robert Morris, for safekeeping and disappeared. Morris, who had fallen on hard times as the result of "heavy purchases of tobacco, at ruinous figures," was the innkeeper at the Washington Hotel in Lynchburg, Virginia.

Two months later Morris received a mysterious letter from Beale posted c. May 9 from St. Louis, then a small hunting and trading post on the western frontier. Beale's letter stated the b
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Cipher addict Carl Nelson works at home, believes human eye beats computer.

contained papers which would be "unintelligible without the aid of a key..." Such an idea I have left in the hands of a friend in this place, sealed, addressed to yourself and endorsed not to be delivered until June 1832." That was the last Morris heard from Beale.

In 1845, 25 years after receiving it, Morris opened the box. "I had the lock broken," he later testified, "and, with the exception of two letters addressed to myself, and some old receipts, found only some unintelligible papers covered with figures..." The unintelligible figures turned out to be three ciphers. According to Beale's letters to Morris, the first cipher (p. 126) described the exact location of the vault. Cipher Number Two described the contents of the vault and Number Three listed the names and addresses of the people involved.

Seventeen years later, a year before he died, Morris handed the box and its contents over to James Ward, a trusted family friend. A gentleman of independent means, Ward worked day and night on the code until he finally succeeded in breaking Cipher Number Two by using a key based on the Declaration of Independence. The message read as follows:

"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 belonging jointly to the parties whose names are given in number three herewith. The first deposit consisted of ten hundred and fourteen pounds of gold and thirty eight hundred and twelve pounds of silver deposited Nov. eighteen..."
Sixteen years ago a prestigious group of intellects joined forces to outwit Thomas Jefferson Beale. The Beale Cypher Association (BCA) includes big-name computer experts like Dr. Carl Hammer, director of computer sciences at Sperry Univac; Per A. Holst, senior research manager at the Foxboro Company, an industrial process control company in Massachusetts; and top cryptanalysts from the CIA and the National Security Agency, such as Carl Nelson jr., now retired, who was the technological wizard behind the super-secret Berlin tunnel dug to intercept Communist communications.

The 100 members share information, but with more than 20 million dollars (at today's prices) at stake, some are reluctant to exchange vital data. After a recent newspaper article, some 10,000 letters flooded the office of BCA Executive Director Per Holst, most of them requesting information rather than volunteering it. Suspicion, Holst fears, undermines the massive effort to solve Thomas Beale's puzzler. Still, he argues, it is only a matter of time before the ciphers will be broken and the treasure, if it exists, found.

Breaking the Beale ciphers, however, is proving easier said than done.

Underlying cryptanalysis are two linguistic peculiarities. First, in all languages, some letters are used more often than others. In English, for example, the most frequently used letters are E followed by T. Second, the proportion in which the letters occur remains constant. Take 1,000 letters from a cookbook, a military manual or a love letter and the frequency of certain letters is the same. With an deciphered message, the cryptanalyst utilizes known frequency combinations to
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Codes and Ciphers, today's historians are frustrated by the coded segments of old documents, letters and diaries which, like the Beale ciphers, cannot be cracked because the keys are lost. "Some of these messages could have real historical significance," says Weber.

Finding the key, of course, is the answer. "With a key," says Carl Hammer (p. 150), who professes to be more interested in unbroken ciphers than Beale's treasure, "a second grader could decode the Beale ciphers." According to historians, Beale could have been familiar with some 2,000 books and government documents which he might have selected as the key. Many have been analyzed, including Shakespeare's plays, the Bible, several versions of Magna Carta, as well as U.S. historical documents such as the 1606 charter of Virginia, the Mayflower Compact of 1620 and even the 1733 Molasses Act. A researcher currently is looking through early-19th-century stock inventories of book stores operating in Lynchburg at the time.

Two schools of thought exist as to whether Thomas Beale will meet his match by computer or by hand. "We have played games with these numbers which would have taken a million men a billion years to duplicate with pen and paper," declares Carl Hammer, who is betting on the computer and a team of University of Maryland experts currently working to solve multiple substitution ciphers.

While a computer has failed to locate the treasure, Dr. Hammer and the Univac 1108 have proved the codes genuine, not just a bunch of random numbers Beale pulled out of a hat after a night on the town. "They contain intelligent messages of some sort. The method used for encoding Ciphers One and Three is similar to that used for Number Two," says Hammer, who has spent thousands of hours over the last 20 years feeding combinations of letters and numbers into generations of Univac computers.

Carl Nelson (p. 150) is backing Mr. over machine, relying on traditional cryptanalysis, reinforced by meticulous field research which he believes vital to any code breaking. Computers waste time on what he calls "garbage in and garbage out." Reprogramming is just as hard as working on the ciphers by hand, he finds, as he grinds away in the basement office of his Arlington, Virginia, home, covering hundreds of yellow legal pads with thousands of number and letter grids. In the end, he adds, "the human eye is still better than a computer at recognizing certain patterns and frequencies."

Nelson's passion is unbroken ciphers. "I just can't leave them alone," he confesses. He combats cipher addiction by limiting his work on the mystery to the winter and taking time out for another hobby—cracking the musical tonal scale system used in Jerusalem in the year 2 B.C. with the idea of using it to compose a musical score for the Dead Sea Scrolls.

One of the pitfalls of a multiky, multialphabet cipher similar to Beale's is that it is sometimes possible to obtain an intelligible message depending on the documents used as keys. As with some crypto-
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Frances Beal, a distant relative, is avid member of Beale Cypher Association
Mike Timmerman uses metal detector, an invaluable tool of modern-day hunter.

direct descendants of the original owners are identified within a year. Since Thomas Beale left no children, his fortune is up for grabs. Now that metal detectors and the inflationary price of gold have made treasure hunting one of America’s fastest growing pastimes, Bedford County locals fear an invasion. That’s why they sometimes take potshots at strangers.

Some farmers, like Lee and Ollie Dooley, on whose land many believe the treasure lies, draw up legal contracts with the hundreds of treasure hunters who want to explore their property. A 25-percent cut of the treasure, they insist, is theirs. Last summer with gracious Southern courtesy the two brothers agreed to show landmarks to a hunting party from the Beale Cypher Association. They pointed out the large oak tree with the blaze down the gnarled trunk, the rock ledge overhanging Goose Creek, the 20-foot cave in the woods and the large hole near the farmhouse excavated by a New York couple who spent seven summers camped in the meadow in order to dig.

Asked what he would do with his share of the treasure, Lee squinted toward the blue-hazed mountains in the distance and shrugged philosophically. “I don’t rightly know,” he replied. “I was born in pov-
Farmer Lee Dooley says of treasure: "That money would just mess me up."

The big question is, of course, does the treasure really exist? The ciphers may be genuine, but the treasure may have disappeared. It could be a hoax, or a cover-up for a Civil War bank robbery or a hijacking of federal gold. It could also be a joke perpetrated by someone like Edgar Allan Poe, an expert cryptographer who attended the University of Virginia briefly in the 1820s. A few speculate the National Security Agency already has cracked the ciphers and absconded with the treasure. We will never know, they say, because it's classified.

Within the Beale Cipher Association, nonbelievers are distinguished by their willingness to share information, says Frank Aaron, a Florida computer systems consultant who is working on a book on Beale with a do-it-yourself guide for home computer buffs. "If someone believes in the treasure, you bet they are very secretive about their work. They want to know what you are doing, though."

Only historical research will solve the Beale mystery, says Carl Nelson, who, with the patience of a veteran CIA agent, is cross-checking Beale's story. Did Beale go West as claimed? Did he find the gold, and if so, what did he do with it?

Nelson's sleuthing has taken him all over the country, from Virginia court-houses to Kansas, Missouri, Texas, New Mexico. He has investigated old newspapers, steamboat schedules, jewelry store receipts, church registries, and tax, school and bank records. So far, with the exception of an April 1, 1820, notice in the Missouri Intelligencer saying a letter awaited "Thomas Beall," Nelson has found no conclusive evidence that Beale was where he said he was at the time. On the other hand, he has found no evidence that he was not.

Nelson has a theory that the Virginian was stealing from his brothers. Indeed, if Thomas were put on a 20th-century couch, his mumblings to his analysts might lead to a suspicion of unresolved sibling rivalry. After all, according to Nelson's research, he had three brothers who owned 17,000 acres along the James River as well as the largest gold mine in the Blue Ridge. Thomas, according to an 1835 Fauquier County tax record, was assessed ten cents on his sole possession, a horse. Nelson also claims Beale died in 1851, a pauper in Montross, Virginia, although others contend he disappeared out West. Whatever his end, he left behind a good yarn if nothing else. "It's an endlessly fascinating puzzle," says Nelson, who is determined, quite literally, to get to the bottom of it.