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The book itself is still available from the publisher, \$15 postpaid. 313 pages, 16 photo illustrations, bibliography, index.

Words marked with + indicate italic text.

Title Page.

why how now gentleman: why this is flat
knaverie to take upon you another mans's name.

William Shakespeare:
Taming of the Shrew, iv, 1, 127

+wherefore let us come to+ CYPHARS. Their kinds
are many as, +Cyphars simple; Cyphars intermixt with
Nulloses+, or non-significant Characters; +Cyphers of
double Letters under one Character; wheele-Cyphars;
Kay-Cyphars; Cyphars of words; Others.+

Francis Bacon:
+The Advancement of Learning+

THE
SECOND
CRYPTOGRAPHIC
SHAKESPEARE

A MONOGRAPH WHEREIN THE POEMS AND PLAYS ATTRIBUTED
TO WILLIAM SHAKESPEARE ARE PROVEN TO CONTAIN THE
ENCIPHERED NAME OF THE CONCEALED AUTHOR, FRANCIS BACON

BY PENN LEARY

THE ENLARGED SECOND EDITION

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A DEDICATION:

TO MY MARVELOUS AND EXCEEDINGLY DECENT,
CULTIVATED AND INDUSTRIOUS FAMILY, WITH ALL

MY LOVE: MY WIFE MARIAN, MY DAUGHTER
SHAWN, HER HUSBAND MICHAEL, MY SON BRIAN,
MY DAUGHTER ERIN, HER HUSBAND GARY
AND MY SISTER JANE.

AND HOMAGE:

TO THE AUTHOR OF THE WORKS OF
WILLIAM SHAKESPEARE.

PENN LEARY

Illusions.

Non semper ea sunt quae videntur.
(Things are not always what they seem)

--Phaedrus, A.D. 8

Chapter 1

Charles Dickens, a student of human nature, had this to say: "The life of Shakespeare is a fine mystery, and I tremble every day lest something should turn up."

Something has turned up.

This is a story about William Shakespeare and a few of his contemporaries. He died 374 years ago and for almost a century he rested comfortably in his Stratford-on-Avon tomb.

Then someone tried to write his life history. Some unimportant facts and a few apocryphal traditions were unearthed, about a dozen, so the biography had to be padded out with imaginative but transparent surmises. But, some years later, cynics arose and began to defame Shakespeare's reputation, saying that the imprinting of his name on the plays and poems was not proof that he had written them.

Not long afterward a united howl of rage ascended from the universities. The name of William Shakespeare must not be touched with profane hands or shamefully twitted by knaves. The scholars had what they regarded in law as overwhelming proof: right there they pointed, where any fool can see it, was his name printed on the first page of (some of) the Shakespeare books. They could find none of his manuscripts, or even letters, but they had the books. That was enough.

On this thin, *prima facie* case they rested; the burden of proof was hastily shifted; the critics of orthodoxy were thenceforward required to prove the negative in this debate, and to do so by documented and thoroughly convincing facts. The offended schoolmen demanded that their challengers furnish contradictory evidence of a quantity and quality to be conclusive and authenticated beyond any possible doubt.

The search for such vouchers has continued. Eye-witnesses for either side have been unavailable except in the hereafter. Yet one wonders: if a genuine confession of illiteracy (attested and signed with an "x" by the Bard before a High Notary with Seal) was found in the cellars of New Place or even in Ann Hathaway's attic, would that be admissible? No, probably not. It would be said, in Good William's behalf, that he must have dictated The Works to his bosom friend Ben Jonson, who surely could read and write. Soon this hypothesis would be raised to a legal presumption, a new barrier against literary doubt.

The doubters are well aware of the entrenched prestige and power of the so far successful plaintiffs in this ceaseless paper-chase. The weight of the briefs filed by both sides and hauled in drays across the Thames would surely cause Old London Bridge to fall down. Until now the plaster image of this god of letters has been preserved, but it shall not be for long. Verifiable, determinate proof favoring the patient defendants has been found.

* * *

What I have drafted here is mostly a technical essay done in the manner of probative writing that I am accustomed to pursue in law briefs and sometimes in journals of applied science.

Writers are told, by those who have studied the art, to write about their own experiences or to go to the original sources. Lawyers, in writing

a brief, have to follow both rules. The personal experiences of their witnesses are elicited at the trial; the original sources that lawyers must rely upon are the bound Law Reports of previous cases that, under the maxim of +stare decisis+, the courts ordinarily follow.

But the old cases that I studied in law school have not always survived the changes (whether right or wrong) that have occurred in judicial and political philosophy. My "original sources" keep vanishing; the practice of law has become a fragmented, confusing, quickly changing and specialized profession; established values, along with the private general practice of law, are fading away. No one has the memory, much less the time and reckless ambition, to attempt to grasp it all.

Science, both pure and applied, has suffered the same transformation. Citations to previous work in scientific papers now refer to things done a few weeks or a few months before. The rate of change in progress now annually doubles, and doubles again. As a result, the volume of information that must be collected, recorded and disseminated has increased at an alarming rate. The unknown has been penetrated; the seals of the +arcanum+ have been broken; glimpses of the megacosm have come into view, but the observations remain in countless papers still to be cataloged. Until that task is completed and the knowledge precisely outlined much wisdom may be lost. Historians of science, even of last week's experimental papers, if well-armed with an indexed computer database, may ultimately become more important than discoverers of unforeseen or fugitive anomalies.

The scientist still must work in the same exacting way; he must recount his personal experiences and then refer to previous research to show that he is on the right track, or to demonstrate that he has found some unnatural irregularity in his experiments. It has been said that scientific facts prove themselves by thousands and thousands of trials conducted by hundreds and hundreds of scientists. When the results of such labors agree, then both the theory and the inductive method are admitted to the registers of science. But, once in a thousand or more times, an experiment fails. And despite all precautions, the result is not the same as all scientists would, until that moment, have predicted.

Many times in the history of science the unique, but failed, experiment has been noticed by others learned in the field. The preliminary, apparently spurious, results have been seized upon by a few individualists of this intellectually tolerant fraternity and have been proven either to have been the result of grievous error or to have made a new breach in the parapet of Nature's seemingly hostile defenses against inquisitive minds.

* * *

Francis Bacon has been called the father of modern science, not for his own particular scientific studies, but for his demands upon its practitioners to adopt inductive methods. He rebelled against the deductive "philosophic" dogmas of Aristotelian science which still remained as the curriculum of the orthodox schoolmen then teaching at Cambridge University. He quit before he was granted a degree and spent the greater part of the rest of his life studying and communicating, and then writing and publishing his views. If he did not invent the scientific method of experimentation, he was the outstanding publicist of that novel and still misunderstood way of working.

Logical induction requires students of history to consider all aspects of their subject before presenting a conclusion, but some historians have been content to select an agreeable premise and then attempt to sustain it with carefully sorted evidence; the facts which do not fit their postulates are screened out, while legends are clutched at and made to seem plausible. History is a fragile and often a perishable form of merchandise. It is sometimes a political image seen through multiple reflections of darksilvered mirrors placed randomly in the corners of biased or guilty minds, or filtered through fading memories. Someone has been so daring as to remark, "To study history is first to study the historian." Henry Ford who was thought by some to be an uneducated, though wildly successful, American peasant said in his thrifty manner of expression, "History is bunk." Perhaps he was anticipating what was about to be done about history in Europe before World War II by the German, Italian and Russian "Information" agencies. The process of rewriting history continued discreditably within the Iron Curtain, and frequently without.

The events of the remote past, even when first accurately recorded, have often been bent to the ideological or whimsical or sensational or

merely dogmatical views of the many hands through which they have passed. Novel views of even current history nag at us; "anchor-men" born with good profiles and clean collars have been raised, by popular benediction, to the status of full-tenured savants and permitted to write and to declaim their own versions. Merely by the passage of time some things that probably never occurred have, with common negligent consent, become frozen into marble episodes. Good intentions, founded upon ancient assertions, have jealously built ivory fortresses against new, and therefore suspect, inquiries. The guards athwart such towers warn us against any change, and fresh dry charges are kept near their cannon.

It is with this suspicious view of history that I turn to the subject at hand. +Bardicide+.

It is considered by some (yet certainly not by all) academicians that it is a lunacy to question the authorship of the works of William Shakespeare --a comical 1984 thought-crime, a preposterous and radical and specious view of the obvious, a conspicuous deviation from normal and proper opinion. These worthy innocents, still armed and standing beside the crumbling earthworks of nineteenth century Bardolatry, remain committed to the standard, docile, immemorial, unshakable and glorious opinion of a Stratford actor. Though they have become fewer, they cling to their simple faith. One may hope that when bound in the iron chains of a cryptogram such provincials may be escorted into the real world of the Seventeenth Century.

For a long time I have been certain that the Bard of Avon was a decoy. I am joined in that heresy by others who count in my esteem. Until the present we have been supported only by carefully assembled particles of documented history, most of which have been neglected by the learned and tenured.

Now, by science, I intend to prove that our actor, Mr. Shakespeare, is worthy only of that pity we reserve for literary impostors. For example, I will show the patient reader the real author's name as it was concealed in the isolated +first+ word of dialogue, on the +first line+ of the +first page+ of the +first printing+ of the +first play+ in the +First Folio,+ the 1623 edition of William Shakespeare's +COMEDIES HISTORIES & TRAGEDIES+.

I +know+ he did not write the Sonnets. I +know+ he did not write the Plays. And I know who +did+ write those poems, those plays that still shine with the early, the sunrise glory of our English language. And more.

So come along with me, you bold unbiased examiners of Stratfordian and Verulamian tombs, and I will explain my delightful secret. We shall need to recede, to steal silently and thoughtfully back through the ages. We shall need to study and to consider; to compare the obvious with the unthinkable; to learn something about cryptography.

While following these traces it is not necessary to leave behind a sense of humor, to see the fun of it as Twain might have enjoyed it. Perhaps we should approach our subject in more Gothic terms, so as to set the scene for our grave researches.

* * *

Hark! What ghostly voices may still be heard in our hypothetical library of the English Renaissance? Speak softly--spirits may yet dwell between the faded leathern covers of the old books here. These monuments to typographical elegance, these vestiges of grace and brilliance, these vanishing specimens of literary splendor may yet be lost to veracious imputation.

Our paleographic chamber is growing colder now; the probing, the intellectual fire in the grate is dying. We must take heed; we must stoke it quickly with fresh coals lest this, perhaps eternal, chill of the literary charnel-house carry us all to orthodox perdition.

Through the leaded, dusty glasswork of our illusory casement window we may glance into Stratford Church itself. There, where it has anonymously rested upon the floor of the Chancel since 1616, is Mr. Shakespeare's purported gravestone. We intend to pursue this plebeian to the edge of the hereafter; we shall hound him into his very tomb; we shall drive our cryptographic quill into his rustic heart.

Is it Hamlet, whispering through the panes: "Tis now the very witching time of night, when churchyards yawn, and hell itself breathes out"? Look! Through a widening crack in the wall of time a faint image is forming; we must capture its likeness before it fades. Yonder we may behold a latent name freshly exposed upon this crypt. And Mark! Here about us are

a few crumbling, unread pages of history, yet the words and letters are so scantily placed. What is the meaning of these signatures, these names, these carvings, these fragments of an ancient lexicon?

But this is not a novel.

As Mark Twain once wrote, "This is the petrified truth."

Background

+Shakespeare is a voice merely; who and what he was that sang, that sings, we know not+.

--Emerson

+You would play upon me; you would seem to know my stops; you would pluck out the heart of my mystery . . . +.

--Shakespeare

Chapter 2

A very long time ago, and once upon a time, Marian and I set out for the province of Nova Scotia, a little-known peninsula in far northeastern Canada. Marian is a gentlewoman, the Lady to whom I refer as my first wife when she burns the biscuits.

Some arrangement was made to relieve me, for a few weeks, from the tedium of the law business; I think my father agreed to handle a vexatious Motion for a More Definite Statement, a dilatory exercise then pending upon my not very busy calendar.

Outside of that, in 1952, we were free. I had read some books about Oak Island just off the coast of Nova Scotia where, it was said, a mighty treasure was buried. We gassed up our three-holer Buick to transport us the 2500 miles to Mahone Bay. Time was short so we drove day and night, relieving each other at the controls of our powerful eight-cylinder road-eating machine. Treasure and Romance were beckoning us on to a reputed golden glory-hole yawning on Oak Island.

In Canada the highway was not then of the best. Grinding along the gravel roads in the darkness, and going as fast as I could, I had no reason to suspect that I had embarked upon such a long trail. As it happens, that summer journey has not yet ended.

We found the coastal village of Mahone Bay and had dinner at its only tea room. Fishing and digging for treasure were the local industries so fish was all there was to eat. I had tea instead.

The digging on the Island had been going on since 1795. Most treasures depend for a living upon an old map and a tradition; it is sure and certain that jewels or gold were once buried but no one knows just where. But the reverse is true of Oak Island. The particular spot where its treasure was interred has been fixed, within a few yards, for 192 years. The treasure itself may have been put in its tomb a century or more before that. There is no scrap of evidence, other than conjecture, to connect it with any person or age. The character of the treasure is equally uncertain.

I will quote from a little book I wrote about the island:

One autumn day in 1795 the soul of some long-dead spirit stirred and perhaps laughed at the tricks that it and fate were to play on three country boys from the Nova Scotia mainland. The three boys were the crew of a rowboat on Mahone Bay, fifty miles southwest of Halifax. The restless spirit was, of course, guarding the treasure it had buried on one of the islands in the bay. There is an island for every day in the year in these waters, and pure chance was steering the boat toward Oak Island. The spirit's task of guarding was an easy one, for it had labored long and mightily in its lifetime to place its curse on these and other treasure hunters to follow.

To paraphrase a part of that story, when the boys landed they followed a trail up a hill. They found a tall, very old oak tree. About 16 feet above the ground was the stump of a heavy branch that had been sawed off. They climbed the tree and found that the bark on top of the stump was scarred and cut. Below they could make out a sunken depression in the ground about 13 feet in diameter. All signs seemed to indicate that someone had dug a pit beneath the tree and, using the branch as a support for a block and tackle, had lowered something into the ground.

At that time, and for a long time past, Mahone Bay had provided shelter for pirates, or at least for those in the marquee and reprisal business.

The trio returned to the mainland and loaded their boat with picks and shovels. The earth flew thick next day and they found the dirt in the shallow depression much softer than the packed ground around it. They saw what they believed to be old tool marks on the sides of the pit as the loose earth crumbled away from it.

At the ten foot level their shovels struck solid wood. After the dirt had been cleared away, they found themselves standing on a platform of oak planks three inches thick. There was some difficulty in tearing up these planks because they were not simply laid into the soft dirt in the pit but solidly embedded in its sides. Underneath was nothing but more earth. A block and tackle was rigged to the old scarred limb to hoist out the soil and the digging went on to the twenty foot level. Here was another oak platform and more dirt under it. At the thirty foot level, and a third oak platform, the boys reached the limit of their engineering ability and could do nothing more without help. The long Nova Scotia winter began and deep snows covered the site. Their elders listened as the boys described the situation and, next spring, they all went digging together.

The excavation, once begun, has continued to the present. Old oak platforms, apparently working stations, were found every ten feet down to the 100 foot level. More than two million dollars has been spent and at least six lives lost in the search. Nothing definitive has been recovered and that is a long disappointing story. It is best and most accurately told by D'Arcy O'Connor in his 1978 +Money Pit+. \1\

In 1952 the easiest way to get out to the island was to hire a young chap who had an ancient outboard motorboat. On the day that we found him, however, the engine was lying in pieces on the dock in the midst of an overhaul. We borrowed a skiff and rowed out to Oak Island and inspected it most carefully. Savagely we were attacked by what I call blowflies, the kind that do wheels-up landings on your neck and refuse to take off again. We had our tour of the island, our lunch and a six-pack on Gilbert Hedden's long dock, an object which has since been blown away in another Atlantic storm. We spent a few more lazy days wandering around and talking to the Mahone Bay natives who had surprising Scottish accents. But by then our objective had been accomplished and we were running low on traveling money.

We put the car on the Yarmouth-to-Boston ferry boat and repaired to our luxury cabin; it had no portholes and, because it was near the cross-head of the engine, we could hear the steam escaping from the packing. Shades of +Life on the Mississippi+.

From Boston we drove to New York City where, in those olden days, parking spaces were available in front of the Algonquin, the reputed den of famous thespians and radio announcers. When none of them showed up for our viewing we called Gilbert Hedden who lived in Basking Ridge, N. J. Hedden was the man who had searched for the Oak Island treasure for several years during the middle nineteen-thirties.

We had corresponded, so he came to Manhattan to see us. We had dinner and a few drinks, which I encouraged in hopes of persuading him to tell me where the treasure was buried. He had already spent an inheritance digging for it; he thought it was still there and he would have continued, except that he was then working for the telephone company.

Hedden, to my young judgment, was a Protean character. He was a graduate civil engineer and had been in the heavy construction business before he bit down too hard on the early Eighteenth Century earthworks on Oak Island. He had many other interests, hobbies some might call them, and one was the habit of reading old books.

Along toward midnight I ordered him another Old-Fashioned (and a little something for myself) and gathered the courage to ask him, straight out, what he thought was buried on Oak Island, 100 feet down under ten oaken working stations; and where, at the bottom, were two boulder-filled water conduits, each leading out to the Atlantic Ocean on opposite sides of the island.

These were the drains that had defeated him and all subsequent treasure hunters. Always, when a shaft had bottomed out at more than 100 feet, the sea rushed in to drown the works. Its course did not run naturally, as seepage, but powerfully through man-made tunnels that were seemingly designed to defeat any attempt to uncover the treasure.

Hedden called for a cigar. He took his time lighting it while he looked me over. I guess he decided that I wouldn't laugh, and he told me he thought that the lost manuscripts of William Shakespeare were down there.

I had never heard that Shakespeare had lost any manuscripts and I thought they were all safely tucked away in the Library of the British Museum in London, and precisely cataloged.

Hedden then improved my education. No manuscripts of Britain's most famous playwright have ever been found, he said, nor even any letters. It was Hedden's belief, (in which he was joined by others, as will be reported) that Shakespeare was an illiterate scoundrel, given too much to the enjoyment of horse-holding, calf-butchering, wool-dealing and strong spirits, and that he hired out as a play-acting lackey and *nom-de-plume* for a Great Lord. The Lord's name, Hedden said, was Francis Bacon.

I didn't laugh, but I didn't easily accept his strange belief. I went home and, just for fun, wrote my little book\2\ about our visit to Nova Scotia and New York City. There was no chance that anyone would publish it, so I bought an old 6 by 9 inch hand printing press and I set the type and printed it in Caslon Old Style. Included were drawings on zinc plates and 160 line halftones of some pictures I had taken of Oak Island. Making that book was no pleasure; I had to become my own editor, compositor and printer's devil. The ink has not worn off my thumbs yet. I shall never make another, I resolved. Books are too much trouble.

Near my downtown office was an old, broken-down bookstore. In my high school days I had shopped there for Caesar interlinears, handy translations that were called "ponies," while I was trying to learn Latin. In it were some old, broken-down books on the subject of "The Controversy." They were so cheap and so unfashionable and so filled with nonsense that I bought them all on the spot. Curiosities, someday-to-be-valuable antique specimens of wrong-thinking they looked like at the time. I glanced through one or two, and stored them in a closet.

Then a long winter began and we searched for diversions in the house. While I was looking in the closet for some form of amusement, I noticed the rack of old books. One of them had an arresting cover: +Is Shakespeare Dead ? ? ? ?+, just like that. It was by Mark Twain.\3\

I had laughed and even cried over Sam Clemens' books since childhood; Tom and Huck had often been my playmates and I was still very fond of them. Now, I discovered, that literary rascal had written a book unknown to me. I put some kindling and few sticks in the fireplace and sat down to read his opinion of Shakespeare. He would know how to dispose of the frail "proofs" of the anti-Stratfordian scoundrels, those so haughty as to besmirch the hallowed name of William Shakespeare, Gent.

Twain began his story with a vicious attack upon my own grandmother. Not precisely upon her by name, but upon her convictions. My grandma, Jennie Pennell, was stubbornly strong-minded; her father, Tom Smith (a three-year Civil War veteran), was an itinerant printer. He itinerated across northern Iowa and Nebraska and, because of his occasionally unpopular political opinions and fiery editorials, he was two or three times run out of the pioneer railhead towns where he had begun to publish weekly newspapers. Jennie followed along and, as a child, was taught to feed chickens, fodder the horses and set type in the stick.

Somehow my grandma, who mistrusted change in silver coin and examined every piece with a suspicious eye, drifted away from the Episcopal faith. It was at a time when there were very few religious options that she discovered Mary Baker Eddy's thesis, +Science and Health+. After that, she refused to take medicines or even to nod at doctors as they passed her little house in McCook, Nebraska. She paid dearly for her conversion and complained of poor health until her death at age 97.

After I read Twain's book, I never had the heart to explain to Jennie that there was some doubt that The Deity had personally, and at great length, dictated to Mrs. Eddy the book that she sold. Twain, in another work called +Christian Science,+ made sport of Mrs. Eddy in a shameful, impious manner.

So much for Mark Twain's dubious and disrespectful approach to Recent Revelation. He enjoyed puncturing the false hypotheses of others he called "claimants"; he did so frequently, and with telling good humor. In addition he had, to some scholars, a very unpopular view of an English literary saint. We will return to his disgraceful opinion of William Shakespeare in a later chapter.

There were some other curious books in my closet. One was authored by Sir Edward Durning-Lawrence, Bart., B.A., LL.B., etc.\4\ Here was not only a Knight of the realm, but a fellow barrister with a toffish hyphenated name. His book had the fully capitalized and provocative title of +BACON IS SHAKESPEARE,+ and he ended each chapter with those words.

In it were many illustrations. Enlargements of the engraving of Mr. Shakespeare's likeness, as shown in the 1623 Folio, seemed to indicate that he was wearing a jacket made for a man with two left arms. Another engraving, published in 1656, pictured the Stratford statue of the author as clutching a sack of wool to his groin. A similar representation was published in 1709. But a photograph of this bust "as it appears at the present time" (1910) shows him now to have pen in hand, poised to write something on a pillow. Perhaps he is only cleaning his quill on a velvet penwiper and making ready some paper in his left hand. Anyway, there is quite a difference between the current Stratford statue and the one depicted by the artists of a generation or two after the original was carved.

Another illustration in Durning-Lawrence's book is a facsimile of five authentic Shakespeare signatures. These are very poor examples of calligraphy. One might imagine that the penman had very little practice in the writing trade. A copy of a Shakespeare letter is shown. It is not a letter that he wrote; there are none of those, or anything but the signatures in his handwriting. Rather it is a letter to him asking for a small loan. The writer was Richard Quiney whose son Thomas had married Shakespeare's illiterate daughter Judith; the poor thing was able to sign the marriage register only with her mark.

Durning-Lawrence published photographs of a legal deposition given by Mr. Shakespeare and makes a fair argument that, after a law clerk had written an abbreviation of his name on the last page, he too made his mark. He appears to have accomplished an "x" but then he blotted it. Clumsy of him.

There are illustrations of the title-page of a 1624 book, published on the Continent, about cryptography. These are said to be antique cartoons of Francis Bacon handing the manuscript of one of his plays to Mr. Shakespeare, who is shown as a loutish bumpkin holding a spear. Another panel of the engraving shows him riding off; the rowel of his spur is quite prominent. A third panel represents a walled castle with flaming beacons lighting the turrets. The last panel seems to show Bacon writing a book while William waits patiently for its completion. Most arcane.

Durning-Lawrence wrote his book with such solemn conviction and scholarly petulance that he was quickly laughed out of court by the tenured Dons of Oxford and Cambridge. After all, he was only a barrister and soon afterward he disappeared into the mists of the already fading "Great Controversy."

Among the rest of the dog-eared volumes in my dusty closet were some that purported to reveal cipher messages, ancient secrets hidden in Mr. Shakespeare's books. I had stumbled upon the works of Owen Pott, Donnelly, Gallup and others.

All that I knew about ciphers was of an object shown to me during U.S.A.A.F. pilot training in 1943. It was what looked like a brass cylinder about two inches in diameter and ten inches long. It was composed of twenty-six brass disks about 3/8" thick. Around the circumference were stamped the twenty-six letters of the alphabet, and the series of letters had been scrambled in a different way on each disk. These disks were made to rotate on a central rod; they could be disassembled and remounted in a different order.

A message could be enciphered by lining up on one line, or row, the engraved letters; this was accomplished by rotating each disk until the message was properly spelled out. Afterward the disks were locked in place. The cipher letters could then be selected at random from any one of the twenty-five remaining rows and later transmitted by radio. The recipient also had a cylinder with the disks assembled, by prearrangement, in the same arbitrary order. He could line up the cipher letters, lock the disks and then rotate the whole cylinder. By inspection of all the rows, the cipher clerk could read on one of them the plain English words of the message.

This M-94, G.I. device was almost an exact copy of the Jefferson wheel Cypher Machine which was invented by Thomas Jefferson about 1790. His had thirty-six disks which could be rearranged in a large number of ways. This simple yet ingeniously clever machine could produce different cipher alphabets in thirty-six factorial ways--an enormous number having forty-two digits. The method permitted the use of a very secure cipher system--so secure says David Kahn, an expert in such affairs, that "To this day [1967] the Navy uses it...it often defeated the best efforts of the Twentieth Century cryptanalysts who tried to break it down."

Apparently Thomas Jefferson, while trying to keep the bankers from foreclosing on his farm, forgot to tell anyone about it and the description

was found among his papers in the Library of Congress in 1922. By an odd coincidence, a similar device was reinvented about the same time and it was quickly adopted by the U. S. armed forces.

Jefferson's scheme was a cunning improvement upon a cipher method invented over two thousand years ago. Both are described by David Kahn, the author of *The Codebreakers*; he is a historian of code and cipher inventions and he has exhausted his subject in a most scholarly manner. He says that Gaius Julius Caesar (100 B.C.--44 B.C.) is the first of record to have adopted and used, in warfare, a cipher. Caesar is mostly remembered for defeating the Gauls, then invading Britain (55 B.C.) and later persuading Cleopatra to come to Rome (46 B.C.) in spite of her often-soiled reputation.

Caesar's first successful cipher was one merely written in Greek characters. His enemy could not read that language but Caesar's letter was decipherable by Cicero, his ally. Kahn tells us more about another one:

Later, Caesar improved on this technique and, in doing so, impressed his name permanently into cryptology as he did into so many other fields. Suetonius, the gossip columnist of ancient Rome, says that Caesar wrote to Cicero and other friends in a cipher in which the plaintext letters were replaced by letters standing three places further down the alphabet, D for a, E for b, etc. Thus, the message *+Omnia Gallia est divisa in partes tres+* would be enciphered (using the modern twenty-six letter alphabet) to *RPQLD JDOOLD HVW GLYLV D LQ SDUWHV WUHV*.

To this day, any cipher alphabet that consists of the standard sequence, like Caesar's:

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Ciphertext: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Plaintext:  d e f g h i j k l m n o p q r s t u v w x y z a b c
```

is called a Caesar alphabet, even if it begins with a letter other than d.

So, for example, to write Caesar's signature in this manner, it would read, "fdhvdv".

Gilbert Hedden had told me about The Francis Bacon Society which dwelt in London (Canonbury Tower, Islington, London N1 2NQ) and I soon afterward subscribed to their more or less annual literary journal. It had been published since 1886 and in it were fascinating little narratives of the events of Elizabethan times, most of them unknown to me. The Baconians of course believed that Francis Bacon, using with permission the name of the actor William Shakespeare, wrote the poems and plays attributed to the latter. Because of their strident profession of this strange doctrine, the members were formerly much despised and cruelly vilified wherever they went, which is a pity.

The Baconians also were interested in ciphers. One of the toys of the Elizabethan nobility was the anagram. That was a method of rearranging the letters of a word or sentence so as to produce a new word or words. "Paid me every cent" can be rearranged to say "Received payment"; my wife's name "Marian" is an anagram of "airman" or "marina," a fact which she concealed from me for many years.

Toward the end of "The Taming of the Shrew," this passage is found:

```
+Petr+. . .
      But twentie times so much upon my wife.
+Luc+.  A hundred then.
+HOR+.  Content."
```

Some Baconians say that this arrangement was made by the author to spell "Bacon"; that is, by selecting the initial, acrostic letters of the first two lines and the "Con" of the last line. The scheme has also been applied again in "Alls well that Ends well," Act 5:

```
+Wid+.
      Both suffer under this complaint we bring
      And both shall cease, without your remedie
      Come hether Count do you know these women?"
```

Thus, stretching the method a little further, it is said that the letters B,A,n,C,o, selected from some of the letters of the initial words of each line,

spell Bacon. The letters do, of course, appear but such tricks have been criticized, especially where it is subjectively necessary to rearrange them to get the desired result. Anagrams are amusing, but usually the objectivity and the +intent+ to encipher a word or name cannot be shown. Anagram solutions are an +indefinite+ cipher method. They might be used as an "inside joke" between friends or within some small group, or in a book published by someone whom those friends knew to make a practice of joking in this way. But alas. There is no way of proving any such thing. The "system" obviously could not be used for ordinary communication.

I had a small lathe in my cellar and I decided to make my own Jefferson disk cipher machine. I got some brass and I cut off about thirty disks and center-drilled them. Then I stamped the twenty-four letters of the Elizabethan alphabet (no J or U) in the usual order around the circumference of each of them. Mounted on a rod, they could be rotated. After lining up the proper letters, taken from some suspicious-looking text, the disks could be locked in place; then the remaining twenty-three lines of letters could quickly be inspected for a Caesar cipher message--hopefully of consecutive letters, significant letters, word-making letters.

I found a second-hand facsimile of the 1623 Folio of Shakespeare's plays and also a few reproductions of the earlier Quartos and of the +Sonnets+. It was no use to begin working with the modern editions in which all sorts of liberties have been taken, such as "correcting" the spelling.

So I played with my cipher machine, sometimes for whole days but more often for an hour or so. I didn't know what to try--the capital letters looked interesting. There seemed to be no standards to Elizabethan spelling or typesetting. Place and proper names were capitalized conventionally but, unusually and more often than necessary, so also were nouns and sometimes even verbs and adjectives. If one could capitalize almost any desired word, I thought, that might be a way to inject a cipher message into an innocent-looking text.

But I wasn't getting anywhere. Sometimes a three-letter or even a four-letter word would turn up, just standing there alone, but that wasn't much help. Once I even found +that+ word.

One day I picked up my copy of the +Sonnets+ again. The title-page was standard Elizabethan; there was nothing there to catch the eye of an untutored cryptographer like myself. This is all it said (see photo illustration).

SHAKE-SPEARES
SONNETS
Neuer before Imprinted.

AT LONDON
By +G+. +Eld+ for +T.T+. and are
to be solde by +Iohn wright+, dwelling
at Christ Church gate.
1609.

Nothing at all seemed suspect in those lines. I turned the page to the famous Dedication:

TO .THE .ONLIE .BEGETTER .OF .
THESE .INSVING .SONNETS .
Mr .W .H . ALL .HAPPINESSE .
AND .THAT .ETERNITIE .
PROMISED .

BY .

OVR .EVER-LIVING .POET .

WISHETH .

THE .WELL-WISHING .
ADVENTVRER .IN .
SETTING .
FORTH .

T .T .

What were all those periods doing there, stuck in for no befitting reason, after every word? Were they just someone's attempt at decoration, a feeble example of the compositor's art? And why were there four unnecessary spaces between the lines? Why I couldn't guess, except that they had attracted my attention. Could that have been the reason?

I got out my brass machine and tried randomly everything I could think of. First letters of each line, last letters, first and last, then the fourth letter of each word, the second letter in each word (the words "FORTH" and "TO" might be clues), and so on. No decryption of anything interesting resulted. Then I tried the +last letter of each word+, the letter standing behind each period. These are as follows:

O E E R F E G S R W H L E D T E D Y R G T H E G R N G H T T

The Jefferson disk cipher cylinder can be read either backward or forward, depending upon whether a letter has been subtracted or added from its original position in the alphabet. In the twenty-four letter Elizabethan alphabet, in which J and U are omitted, a ciphertext "A" displaced four places might either be "e," going forward, or "s" going backward.

Here is the readout on the Jefferson disks when substituting for a presumed ciphertext letter another letter which is the fourth one before that; the plaintext appears on the fourth numbered line:

```
O E E R F E G S R W H L E D T E D Y R G T H E G R N G H T T
N D D Q E D F R Q V G K D C S D C X Q F S G D F Q M F G S S 1
M C C P D C E Q P T F I C B R C B W P E R F C E P L E F R R 2
L B B O C B D P O S E H B A Q B A V O D Q E B D O K D E Q Q 3
+K A A N B A C O N+R D G A Z P A Z T N C P D A C N I C D P P 4
```

"KAANBACON"? KAAAN was not much help, but then there it was, BACON! Rather an unusual arrangement of letters to be decrypted from a weirdly typeset Dedication. How could I appraise this odd coincidence?

About twelve years later I learned how, from David Kahn's (!) book +The Codebreakers+. Here is how he explains it:

Imagine an urn containing one each of the 26 letters of the alphabet. The chance of drawing any specified letter, say +r+, is 1 in 26 or 1/26. Now imagine another, identical urn. What are the odds on drawing a pair of +r+'s, one after another, in a two-draw situation? The likelihood of drawing the second +r+ is 1/26 of the chance of drawing the first, which is 1/26. So the chance of drawing two +r+ 's in a single event, or "simultaneously," one from each urn, is 1/26 x 1/26. Similarly, the probability of drawing two +a+ 's is 1/26 x 1/26, of two +b+ 's, 1/26 x 1/26, and so on . . .

So the odds +against+ drawing a particular two letters in a particular order, such as BA, are 26 x 26, or rather 24 x 24 in the 24 letter Elizabethan alphabet, and thus 676 to 1. Using three more identical urns, the odds against 3 letters accidentally occurring in order, such as BAC, are 24 x 24 x 24 or 13,824 to 1. For BACO we multiply by 24 again and get 331,776. For BACON the odds against must rise to 7,962,624 to 1. Yet such probabilities apply only for one, five letter, random group standing alone and not for a thirty letter random group in which these five might anywhere, though still consecutively, be found. It may be that a part of this thirty letter group looks suspicious but, as scientists with respect for mathematics, we must turn our backs and reduce the odds for this appearance of "BACON" to some much lower level. After all, those five letters have never yet been written in fire across the heavens above Stratford.

I was not then convinced that this was more than a coincidence and I could find no more useful ciphertext letters in the Dedication. I leafed through other pages in other facsimiles of Shakespeare's works with no better fortune. Slowly, I turned away from my new hobby.

But Caesar's methods may be worth explaining again. They are those of an elementary substitution cipher. We simply write down the sixteenth century alphabet, (omitting J and U) and then write another alphabet under it, beginning with some letter other than +a+:

Ciphertext: A B C D E F G H I K L M N O P W R S T V W X Y Z
Plaintext: w x y z a b c d e f g h i k l m n o p w r s t v

The second alphabet has now been shifted four letters to the right. If, for example, you put "FEGSR" into the first line, "bacon" comes out of the second. Not too difficult, even for me.

And, as the years passed, I never forgot that alternative reading. It sort of haunted me--maybe it wasn't just an accident. Someday, I thought, when there is time. . .

With time came computers.

Notes for Chapter 2:

1. +The Money Pit, The Story of Oak Island and The World's Greatest Treasure Hunt+, D'Arcy O'Connor, Coward, McCann & Geoghegan, Inc., New York 1978. See also the update, +The Big Dig,+ same author, paperback, Ballantine Books, New York, 1988.
2. +The Oak Island Enigma+, Thomas P. Leary, Omaha, Nebraska. 1953
3. +Is Shakespeare Dead?+, Mark Twain, Harper & Brothers, New York, MCMIX.
4. +BACON IS SHAKE-SPEARE+, Edwin Durning-Lawrence, John McBride Co., New York 1910.
5. +Cryptomenytices+, Gustavus Selenus, Lunaeburg 1624.
6. +Sir Francis Bacon's Cipher Story+, Orville W. Owen, M.D, Howard Publishing Co., Detroit, 1893.
7. +Francis Bacon and his Secret Society+, Mrs. Henry Pott, Francis J. Schulte, Chicago 1891.
8. +The Great Cryptogram+, Ignatius Donnelly, Sampson Low, Marston, London 1888.
9. +The Bi-literal Cipher of Sir Francis Bacon+, Mrs. Elizabeth wells Gallup, Howard Publishing Co., Detroit 1910.
10. +The Codebreakers+, The Story of Secret Writing, David Kahn, Macmillan Co., New York 1967.
11. +The Codebreakers+, supra.

Twain

+Truth will out, even in an affidavit+.
--Mark Twain

Chapter 3

As we all know, from reading +Life on the Mississippi+, Mark Twain was a river steamer pilot. It was a trade that took years to learn. The River was an unforgiving instructor, a pedagogue of practical logic. By day and by night its fearful impediments battled against the steamboats. Huge sunken trees within its banks, both sawyers and planters, lay in wait for a chance to rip out the belly of some passing vessel. Just after dark, when the wind was calm, a fog usually lifted a few feet above its roiling waters so as to conceal the next obstruction. Sometimes with no warning the caving banks might destroy the deep-water channel that had existed last week and for years before. Not rarely, when in flood, the thread of the stream burst across some long dry chute and moved the river into another state, leaving prosperous ports miles from the water. Especially at night, it swarmed with unlighted skiffs, dugouts, jammed up piles of brush and trees, snags of every description, sunken wrecks, huge rafts carrying freight downstream, sandbars, floating shanties, and bull-boats made of buffalo hides. All the while other steamers hogged the channel. When Sam Clemens was "learning the river," he was also forced to endure lectures about the classics of Elizabethan literature.

George Ealer, his steamboat master, knew Shakespeare and could quote many lines. He had also read Delia Bacon's book, +The Shakespeare Problem Restated+ which came out in 1857. Ealer was mortified by her heresy. He preached to Twain on the "Bacon-Shakespeare Dispute," as he called it, while he was teaching him steamboating. Ealer, as a professor of the river, was a despot. He was as sure about Shakespeare's authorship as he was about the depth of the bottom on a foggy night. Twain called him "pilotical," a word not to be found in any dictionary then or yet. But Twain was not perfectly convinced. He says "... I took this attitude, to wit: I only

+believed+ Bacon wrote Shakespeare, whereas I +knew+ Shakespeare didn't."

As a boy Twain was sent to Sunday School where he became interested in the life of Satan and decided to write his biography. He asked his teacher, Mr. Barclay, about his history. His teacher assured him that there was a "whole vast ocean of materials" about Satan. We shall presently see what Mr. Barclay knew about that.

Mark Twain cannot be paraphrased. He must be read, slowly and deliberately and thoughtfully, as he composes his images. This is no country rube from Hannibal, no cracker-barrel philosopher. He has been called a mere humorist, but his humor only tintured his mastery of the novel. He was an admirer of the methods of applied science, so much so that he invested his life savings in a mechanical type-setting machine that could not be perfected before the Linotype was proven. He lost his money and went deeply into debt because of this and, again, by participating in a bad publishing venture. True to his principles, which still shine through the covers of his books, he bailed out his creditors to whom he owed large sums. For years he lectured on tour and he wrote on and on; he lived sometimes in relative privation but he paid his debts. The creditors got every penny, while he got older and older and just about killed himself with work. He had an uncommon respect for his own good name; perhaps that is why he was threatened with knighthood by Queen Victoria.

At least one of his books is almost unknown. It was written during the last year of his life; the title-page says, "From my Autobiography." There have been many "autobiographies" of Mark Twain, collected in various forms and published after his death, but most of them have refrained from printing quotations from this particular book. One critic said that its existence is an embarrassment to his memory. His last book was not much noticed in 1909, but it shall be noticed now because I am going to quote most of it. (+Is Shakespeare Dead?+, Harper & Brothers, New York and London, 1909.)

Twain could not put up with nonsense, historical, literary or otherwise. His ways of expressing scorn were manifold and he never apologized. Hear him as he picks up the thread of Beelzebub's biography:

From +IS SHAKESPEARE DEAD?+
By Mark Twain.
(Samuel Langhorne Clemens)

Like this: it was "conjectured"--though not established--that Satan was originally an angel in heaven; that he fell; that he rebelled, and brought on a war; that he was defeated, and banished to perdition. Also, "we have reason to believe" that later he did so-and-so; that "we are warranted in supposing" that at a subsequent time he traveled extensively, seeking whom he might devour; that a couple of centuries afterward, "as tradition instructs us," he took up the cruel trade of tempting people to their ruin, with vast and fearful results; that by-and-by, "as the probabilities seem to indicate," he may have done certain things, he might have done certain other things, he must have done still other things.

And so on and so on . . . we set down the "conjectures" and "suppositions," and "maybes," and "perhapses," and "doubtlesses," and "rumors," and "guesses," and "probabilities," and "likelihoods," and "we are permitted to think," and "we are warranted in believing," and "might have beens," and "could have beens," and "must have beens," and "unquestionablys," and "without a shadow of a doubt"--and behold!

+Materials?+ why, we had enough to build a biography of Shakespeare!

[Mark Twain's point was that the life history of Satan, according to the churches that had popularized him, was not trustworthy. He then recounts the facts about Shakespeare which, according to his views, are undisputed.]

He was born on the 23rd of April, 1564.

Of good farmer-class parents who could not read, could not write, could not sign their names.

At Stratford, a small back settlement which in that day was shabby and unclean, and densely illiterate. Of the nineteen important men charged with the government of the town, thirteen had to "make their mark" in attesting important documents, because they could not write their names.

Of the first eighteen years of his life +nothing+ is known. They are a blank.

On the 27th of November (1582) William Shakespeare took out a

license to marry Anne whateley.

Next day William Shakespeare took out a license to marry Anne Hathaway. She was eight years his senior.

William Shakespeare married Anne Hathaway. In a hurry. By grace of a reluctantly granted dispensation there was but one publication of the banns.

Within six months the first child was born.

About two (blank) years followed, during which period +nothing at all happened to Shakespeare+, so far as anybody knows.

Then came twins--1585. February.

Two blank years follow.

Then--1587--he makes a ten-year visit to London, leaving the family behind.

Five blank years follow. During this period +nothing happened to him+, as far as anybody actually knows.

Then--1592--there is mention of him as an actor.

Next year--1593--his name appears in the official list of players.

Next year--1594--he played before the queen. A detail of no consequence: other obscurities did it every year of the forty-five of her reign. And remained obscure.

Three pretty full years follow. Full of play-acting. Then.

In 1597 he bought New Place, Stratford.

Thirteen or fourteen busy years follow; years in which he accumulated money, and also reputation as actor and manager.

Meantime his name, liberally and variously spelt, had become associated with a number of great plays and poems, as (ostensibly) author of the same.

Some of these, in these years and later, were pirated, but he made no protest.

Then--1610-11--he returned to Stratford and settled down for good and all, and busied himself in lending money, trading in tithes, trading in land and houses; shirking a debt of forty-one shillings, borrowed by his wife during his long desertion of his family; suing debtors for shillings and coppers; being sued himself for shillings and coppers; and acting as a confederate to a neighbor who tried to rob the town of its rights in a certain common, and did not succeed.

He lived five or six years--till 1616--in the joy of these elevated pursuits. Then he made a will, and signed each of its three pages with his name.

A thoroughgoing business man's will. It named in minute detail every item of property he owned in the world--house, lands, sword, silver-gilt bowl, and so on--all the way down to his "second-best bed" and its furniture.

It carefully and calculatingly distributed his riches among the members of his family, overlooking no individual of it. Not even his wife: the wife he had been enabled to marry in a hurry by urgent grace of a special dispensation before he was nineteen; the wife whom he had left husbandless so many years; the wife who had to borrow forty-one shillings in her need, and which the lender was never able to collect of the prosperous husband, but died at last with the money still lacking. No, even this wife was remembered in Shakespeare's will.

He left her that "second-best bed."

And +not another thing+; not even a penny to bless her lucky widowhood with.

It was eminently and conspicuously a business man's will, not a poet's.

It mentioned +not a single book+.

Books were much more precious than swords and silver gilt bowls and second-best beds in those days, and when a departing person owned one he gave it a high place in his will.

The will mentioned +not a play, not a poem, not an unfinished literary work, not a scrap of manuscript of any kind+.

Many poets have died poor, but this is the only one in history that has died +this+ poor; the others all left literary remains behind. Also a book. Maybe two.

If Shakespeare had owned a dog--but we need not go into that: we know he would have mentioned it in his will. If a good dog, Susanna would have got it; if an inferior one his wife would have got a dower interest in it. I wish he had had a dog, just so we could see how painstakingly he would have divided that dog among the family, in his careful

business way . . .

When Shakespeare died in Stratford +it was not an event+. It made no more stir in England than the death of any other forgotten theatre-actor would have made. Nobody came down from London; there were no lamenting poems, no eulogies, no national tears-- there was merely silence, and nothing more. A striking contrast to what happened when Ben Jonson and Francis Bacon, and Spenser, and Raleigh and the other distinguished literary folk of Shakespeare's time passed from life! No praiseful voice was lifted for the lost Bard of Avon; even Ben Jonson waited seven years before he lifted his.

+So far as anybody actually knows and can prove+, Shakespeare of Stratford-on-Avon never wrote a play in his life.

+So far as anybody knows and can prove+ he never wrote a letter to anybody in his life.

+So far as any one knows, he received only one letter during his life+.

So far as anyone can +know and can prove+, Shakespeare of Stratford wrote only one poem during his life. This one is authentic. He did write that one--a fact which stands undisputed; he wrote the whole of it; he wrote the whole of it out of his own head. He commanded that this work of art be engraved upon his tomb, and he was obeyed. There it abides to this day. This is it:

Good frend for Iesus sake forbear
To digg the dust enclosed heare:
Blest be ye man yt spares thes stones
And curst be he yt moves my bones.

In the list as above set down will be found +every positively known+ fact of Shakespeare's life, lean and meagre as the invoice is. Beyond these details we know +not a thing+ about him. All the rest of his vast history, as furnished by the biographers, is built up, course upon course, of guesses, inferences, theories, conjectures--an Eiffel Tower of artificialities rising sky-high from a very flat and very thin foundation of inconsequential facts.

The historians "suppose" that Shakespeare attended the Free School in Stratford from the time he was seven years old till he was thirteen. There is no +evidence+ in existence that he ever went to school at all.

The historians "infer" that he got his Latin in that school--the school which they "suppose" he attended.

They "suppose" his father's declining fortunes made it necessary for him to leave the school they supposed he attended, and get to work and help support his parents and their ten children. But there is no evidence that he ever entered or retired from the school they suppose he attended.

They "suppose" he assisted his father in the butchering business; and that, being only a boy, he didn't have to do full-grown butchering, but only slaughtered calves. Also, that whenever he killed a calf he made a high-flown speech over it. This supposition rests upon the testimony of a man [John Aubrey] who wasn't there at the time; a man who got it from a man who could have been there, but did not say whether he was or not; and neither of them thought to mention it for decades, and decades, and decades, and two more decades after Shakespeare's death (until old age and mental decay had refreshed and vivified their memories). They hadn't two facts in stock about the long-dead distinguished citizen, but only just the one: he slaughtered calves and broke into oratory while he was at it. Curious. They had only one fact, yet the distinguished citizen had spent twenty-six years in that little town--just half his lifetime. However, rightly viewed, it was the most important fact, indeed almost the only important fact, of Shakespeare's life in Stratford. Rightly viewed. For experience is an author's most valuable asset; experience is the thing that puts the muscle and breath and the warm blood into the book he writes. Rightly viewed, calf-butchering accounts for +Titus Andronicus+, the only play--ain't it?--that the Stratford Shakespeare ever wrote; and yet it is the only one everybody tries to chouse him out of, the Baconians included.

The historians find themselves "justified in believing" that the young Shakespeare poached upon Sir Thomas Lucy's deer preserves and got haled before that magistrate for it. But there is no shred of respectable evidence that anything of the kind happened.

The historians, having argued the thing that +might+ have happened into the thing that +did+ happen, found no trouble in turning Sir Thomas Lucy into Mr. Justice Shallow. They have long ago convinced the world--on surmise and without trustworthy evidence--that Shallow +is+ Sir

Thomas.

The next addition to the young Shakespeare's Stratford history comes easy. The historian builds it out of the surmised deer-stealing, and the surmised trial before the magistrate, and the surmised vengeance-prompted satire upon the magistrate in the play: result, the young Shakespeare was a wild, wild, wild, oh +such+ a wild young scamp, and that gratuitous slander is established for all time! It is the very way Professor Osborn and I built the colossal skeleton brontosaur that stands fifty-seven feet long and sixteen feet high in the Natural History Museum, [in New York City] the awe and admiration of all the world, the stateliest skeleton that exists on the planet. We had nine bones, and we built the rest of him out of plaster of paris. We ran short of plaster of paris, or we'd have built a brontosaur that could sit down beside the Stratford Shakespeare and none but an expert could tell which was biggest or contained the most plaster.

Shakespeare pronounced +Venus and Adonis+ "the first heir of his invention," apparently implying that it was his first effort at literary composition. He should not have said it. It has been an embarrassment to his historians these many, many years. They have to make him write that graceful and polished and flawless and beautiful poem before he escaped from Stratford and his family--1586 or '87--age, twenty-two, or along there; because within the next five years he wrote five great plays, and could not have found time to write another line.

It is sorely embarrassing. If he began to slaughter calves, and poach deer, and rollick around, and learn English, at the earliest likely moment--say at thirteen, when he was supposedly wrenched from that school where he was supposedly storing up Latin for future literary use--he had his youthful hands full, and much more than full. He must have had to put aside his Warwickshire dialect, which wouldn't be understood in London, and study English very hard. Very hard indeed; incredibly hard, almost, if the result of that labor was to be the smooth and rounded and flexible and letter-perfect English of the +Venus and Adonis+ in the space of ten years; and at the same time learn great and fine and unsurpassable literary +form+.

However, it is "conjectured" that he accomplished all this and more, much more: learned law and its intricacies; and the complex procedure of the law courts; and all about soldiering, and sailing, and the manners and customs and ways of royal courts and aristocratic society; and likewise accumulated in his one head every kind of knowledge the learned then possessed, and every kind of humble knowledge possessed by the lowly and the ignorant; and added thereto a wider and more intimate knowledge of the world's great literatures, ancient and modern, than was possessed by any other man of his time--for he was going to make brilliant and easy and admiration-compelling use of these splendid treasures the moment he got to London. And according to the surmisers, that is what he did. Yes, although there was no one in Stratford able to teach him these things, and no library in the little village to dig them out of. His Father could not read, and even the surmisers surmise that he did not keep a library.

It is surmised by the biographers that the young Shakespeare got his vast knowledge of the law and his familiar and accurate acquaintance with the manners and customs and shop-talk of lawyers through being for a time the +clerk of a Stratford court;+ just as a bright lad like me, reared in a village on the banks of the Mississippi, might become perfect in knowledge of the Behring Strait whale-fishery and the shop-talk of the veteran exercisers of that adventure-bristling trade through catching catfish with a "trot-line" Sundays. But the surmise is damaged by the fact that there is no evidence--and not even tradition--that the young Shakespeare was ever clerk of a law court.

It is further surmised that the young Shakespeare accumulated his law-treasures in the first years of his sojourn in London, through amusing himself by learning book-law in his garret and by picking up lawyer-talk and the rest of it through loitering about the law-courts and listening. But it is only surmise; there is no +evidence+ that he ever did either of those things. They are merely a couple of chunks of plaster of paris.

There is a legend that he got his bread and butter by holding horses in front of the London theaters, mornings and afternoons. Maybe he did. If he did, it seriously shortened his law-study hours and his recreation-time in the courts. In those very days he was writing great plays, and needed all the time he could get. The horse-holding legend ought to be strangled; it too formidably increases the historian's difficulty in accounting for the young Shakespeare's erudition--an erudition which he was acquiring hunk

by hunk and chunk by chunk every day in those strenuous times, and emptying each day's catch into next day's imperishable drama.

He had to acquire a knowledge of war at the same time; and a knowledge of soldier-people and sailor-people and their ways and talk; also a knowledge of some foreign lands and their languages; for he was daily emptying fluent streams of these various knowledges, too, into his dramas. How did he acquire these rich assets?

In the usual way: by surmise. It is +surmised+ that he traveled in Italy and Germany and around, and qualified himself to put their scenic and social aspects upon paper; that he perfected himself in French, Italian and Spanish on the road; that he went in Leicester's expedition to the Low Countries, as a soldier or sutler or something, for several months or years --or whatever length of time a surmiser needs in his business--and thus became familiar with soldiership and soldier-ways and soldier-talk, and generalship and general-ways and general-talk, and seamanship and sailor-ways and sailor-talk.

Maybe he did all these things, but I would like to know who held the horses in the meantime; and who studied the books in the garret; and who frolicked in the law-courts for recreation. Also, who did the call-boying and the play-acting.

For he became a call-boy; and as early as 1593 he became a "vaga-bond"--the law's ungentle term for an unlisted actor; and in 1594 a "regular" and properly and officially listed member of that (in those days) lightly-valued and not much respected profession.

Right soon thereafter he became a stockholder in two theaters, and manager of them. Thenceforward he was a busy and flourishing business man, and was raking in money with both hands for twenty years. Then in a noble frenzy of poetic inspiration he wrote his one poem--his only poem, his darling--and laid him down and died:

Good friend for Iesus sake forbear
To digg the dust enclosed heare:
Blest be ye man yt spares thes stones
And curst be he yt moves my bones.

He was probably dead when he wrote it. Still, this is only conjecture. We have only circumstantial evidence. Internal evidence.

Shall I set down the rest of the Conjectures which constitute the giant Biography of William Shakespeare? It would strain the Unabridged Dictionary to hold them. He is a Brontosaur: nine bones and six hundred barrels of plaster of paris.

In the Assuming trade three separate and independent cults are transacting business. Two of these cults are known as the Shakespearites and the Baconians, and I am the other one--the Brontosaurian.

The Shakespearite knows that Shakespeare wrote the Shakespeare Works; the Baconian knows that Francis Bacon wrote them; the Brontosaurian doesn't really know which of them did it, but is quite composedly and contentedly sure that Shakespeare +didn't+, and strongly suspects that Bacon +did+. We all have to do a good deal of assuming, but I am fairly certain that in every case I can call to mind the Baconian assumers have come out ahead of the Shakespearites. Both parties handle the same materials, but the Baconians seem to me to get much more reasonable and rational and persuasive results out of them than is the case with the Shakespearites. The Shakespearite conducts his assuming upon a definite principle, an unchanging and immutable law--which is: 2 and 8 and 7 and 14, added together, make 165. I believe this to be an error. No matter, you cannot get a habit-sodden Shakespearite to cipher-up his materials upon any other basis. With the Baconian it is different. If you place before him the above figures and set him to adding them up, he will never in any case get more than 45 out of them, and in nine cases out of ten he will get just the proper 31.

Let me try to illustrate the two systems in a simple and homely way calculated to bring the idea within the grasp of the ignorant and unintelligent. We will suppose a case: take a lap-bred, house-fed, uneducated, inexperienced kitten; take a rugged old Tom that's scarred from stem to rudder-post with the memorials of strenuous experience, and is so cultured, so educated, so limitlessly erudite that one may say of him "all cat-knowledge is his province"; also, take a mouse. Lock the three up in a holeless, crackless, exitless prison-cell. Wait half an hour, then open the cell, introduce a Shakespearite and a Baconian, and let them cipher and assume. The mouse is missing: the question to be decided is, where is it? You can guess

both verdicts beforehand. One verdict will say the kitten contains the mouse; the other will as certainly say the mouse is in the tomcat. The Shakespearite will Reason like this--(that is not my word, it is his). He will say the kitten +may have been+ attending school when nobody was noticing; therefore +we are warranted in assuming+ that it did so; also it +could have been+ training in a court-clerk's office when no one was noticing; since that could have happened, +we are justified in assuming+ that it did happen; it +could have studied+ catology in a garret+ when no one was noticing --therefore it +did;+ it +could have+ attended cat-assizes on the shed-roof nights, for recreation, when no one was noticing, and harvested a knowledge of cat court-forms and cat lawyer-talk in that way; it +could+ have done it, therefore without a doubt it +did;+ it +could have+ gone soldiering with a

war-tribe when no one was noticing, and learned soldier-wiles and soldier-ways, and what to do with a mouse when opportunity offers; the plain inference therefore is that that is what it +did+. Since all these manifold things +could+ have occurred, we have +every right to believe+ they did occur. These patiently and painstakingly accumulated vast acquirements and competences needed but one thing more--opportunity--to convert themselves into triumphant action. The opportunity came, we have the result; +beyond shadow of question+ the mouse is in the kitten.

It is proper to remark that when we of the three cults plant a "+we think we may assume+," we expect it, under careful watering and fertilizing and tending, to grow up into a strong and hardy and weather-defying "+there isn't a shadow of a doubt"+ at last--and it usually happens.

We know what the Baconian's verdict would be: "+There is not a rag of evidence that the kitten has had any training, any education, any experience qualifying it for the present occasion+, +or is indeed equipped for any achievement above lifting such unclaimed milk as comes its way; but there is abundant evidence--unassailable proof, in fact--that+ +the other animal is equipped, to the last detail, with every qualification necessary for the event. Without shadow of doubt the tomcat contains the mouse+."

When Shakespeare died in 1616, great literary productions attributed to him as author had been before the London world and in high favor for twenty-four years. Yet his death was not an event. It made no stir, it attracted no attention. Apparently his eminent literary contemporaries did not realize that a celebrated poet had passed from their midst. Perhaps they knew a play-actor of minor rank had disappeared, but did not regard him as the author of his works. "we are justified in assuming" this.

His death was not even an event in the little town of Stratford. Does this mean that in Stratford he was not regarded as a celebrity of +any+ kind?

"we are privileged to assume"--no, we are indeed +obliged+ to assume--that such was the case. He had spent the first twenty-two or twenty-three years of his life there, and of course knew everybody and was known by everybody of that day in the town, including the dogs and the cats and the horses. He had spent the last five or six years of his life there, diligently trading in every big and little thing that had money in it; so we are compelled to assume that many of the folk there in those said latter days knew him personally, and the rest by sight and hearsay. But not as a +celebrity?+ Apparently not. For everybody soon forgot to remember any contact with him or any incident connected with him. The dozens of townspeople, still alive, who had know of him or known about him in the first twenty-three years of his life were in the same unremembering condition: if they knew of any incident connected with that period his life, they didn't tell about it. would they if they had been asked? It is pretty apparent that they were not. why weren't they? It is a very plausible guess that nobody there or elsewhere was interested to know.

For seven years after Shakespeare's death nobody seems to have been interested in him. Then the Folio was published, and Ben Johnson awoke out of his long indifference and sang a song of praise and put it in the front of the book. Then silence fell +again+.

For sixty years. Then inquiries into Shakespeare's Stratford life began to be made, of Stratfordians. Of Stratfordians who had known Shakespeare or had seen him? No. Then of Stratfordians who had seen people who had known or seen people who had seen Shakespeare? No. Apparently the inquiries were only made of Stratfordians who were not Stratfordians of Shakespeare's day, but later comers; and what they had learned had come to them from persons who had not seen Shakespeare; and what they had learned was not claimed as +fact+, but only as legend--dim and fading and indefinite legend; legend of the calf-slaughtering rank, and not worth

remembering either as history or fiction.

Has it ever happened before--or since--that a celebrated person who had spent exactly half of a fairly long life in the village where he was born and reared, was able to slip out of this world and leave that village voiceless and gossipless behind him--utterly voiceless, utterly gossipless? And permanently so? I don't believe it has happened in any case except Shakespeare's. And couldn't and wouldn't have happened in his case if he had been regarded as a celebrity at the time of his death.

When I examine my own case--but let us do that, and see if it will not be recognizable as exhibiting a condition of things quite likely to result, most likely to result, indeed substantially +sure+ to result in the case of a celebrated person, a benefactor of the human race. Like me.

My parents brought me to the village of Hannibal, Missouri, on the banks of the Mississippi, when I was two and a half years old. I entered school at five years of age, and drifted from one school to another in the village during nine and a half years. Then my father died, leaving his family in exceedingly straitened circumstances; wherefore my book education came to a standstill forever, and I became a printer's apprentice, on board and clothes, and when the clothes failed I got a hymn-book in place of them. This for summer wear, probably. I lived in Hannibal fifteen and a half years, altogether, then ran away, according to the custom of persons who are intending to become celebrated. I never lived there afterward. Four years later I became a "cub" on a Mississippi steamboat in the St. Louis and New Orleans trade, and after a year and a half of hard study and hard work the U. S. inspectors rigorously examined me through a couple of long sittings and decided that I knew every inch of the Mississippi--thirteen hundred miles--in the dark and in the day--as well as a baby knows the way to its mother's paps day or night. So they licensed me as a pilot--knighted me, so to speak--and I rose up clothed with authority, a responsible servant of the United States government.

Now then. Shakespeare died young--he was only fifty-two. He had lived in his native village twenty-six years, or about that. He died celebrated (if you believe everything you read in the books). Yet when he died nobody there or elsewhere took any notice of it; and for sixty years afterward no townsman remembered to say anything about him or about his life in Stratford. When the inquirer came at last [John Aubrey] he got but one fact--no, +legend+--and got that one at second hand, from a person who had only heard it as a rumor, and didn't claim copyright in it as a production of his own. He couldn't, very well, for its date antedated his own birth-date. But necessarily a number of persons were still alive in Stratford who, in the days of their youth, had seen Shakespeare nearly every day in the last five years of his life, and they would have been able to tell that inquirer some first-hand things about him if he had in those last days been a celebrity and therefore a person of interest to the villagers. Why did not the inquirer hunt them up and interview them? Wasn't it worth while? Wasn't the matter of sufficient consequence? Had the inquirer an engagement to see a dog-fight and couldn't spare the time?

It all seems to mean that he never had any literary celebrity, there or elsewhere, and no considerable repute as actor and manager.

Now then, I am away along in life--my seventy-third year being already well behind me--yet +sixteen+ of my Hannibal schoolmates are still alive to-day, and can tell--and do tell--inquirers dozens and dozens of incidents of their young lives and mine together; things that happened to us in the morning of life, in the blossom of our youth, in the good days, the dear days, "the days when we went gipsying, a long time ago." One child to whom I paid court when she was five years old and I eight still lives in Hannibal, and she visited me last summer, traversing the necessary ten or twelve hundred miles of railroad without damage to her patience or to her old-young vigor. Another little lassie to whom I paid attention in Hannibal when she was nine years old and I the same, is still alive--in London--and hale and hearty, just as I am. And on the few surviving steamboats--those lingering ghosts and remembrancers of great fleets that plied the big river in the beginning of my water-career--which is exactly as long ago as the whole invoice of the life-years of Shakespeare number--there are still findable two or three river-pilots who saw me do creditable things in those ancient days; and several white-headed engineers; and several roustabouts and mates; and several deckhands who used to heave the lead for me and send up on the still night air the "six--feet--+scant+!" that made me shudder, and the "M-a-r-k--+twain+!" that

took the shudder away, and presently the darling "By the d-e-e-p--four!" that lifted me to heaven for joy. They know about me, and can tell. And so do printers, from St. Louis to New York; and so do newspapers reporters, from Nevada to San Francisco. And so do the police. If Shakespeare had really been celebrated, like me, Stratford could have told things about him; and if my experience goes for anything, they'd have done it.

If I had under my superintendence a controversy and was appointed to decide whether Shakespeare wrote Shakespeare or not, I believe I would place before the debaters only the one question, "was Shakespeare ever a practicing lawyer?" and leave everything else out.

It is maintained that the man who wrote the plays was not merely myriad-minded, but also myriad-accomplished; that he not only knew some thousands of things about human life in all its shades and grades, and about the hundred arts and trades and crafts and professions which men busy themselves in, but that he could "talk" about the men and their grades and trades accurately, making no mistakes. Maybe it is so, but have the experts spoken, or is it only Tom, Dick and Harry? Does the exhibit stand upon wide, and loose, and eloquent generalizing--which is not evidence, and not proof--or upon details, particulars, statistics, illustrations, demonstrations?

Experts of unchallengeable authority have testified definitely as to only one of Shakespeare's multifarious craft-equipments, so far as my recollections of Shakespeare-Bacon talk abide with me--his law-equipment. I do not remember that Wellington or Napoleon ever examined Shakespeare's battles and sieges and strategies, and then decided and established for good and all, that they were militarily flawless; I do not remember that any Nelson, or Drake or Cook ever examined his seamanship and said it showed profound and accurate familiarity with that art; I don't remember that any king or prince or duke has ever testified that Shakespeare was letter-perfect in his handling of royal court-manners and the talk and manners of aristocracies; I don't remember that any illustrious Latinist or Grecian or Frenchman or Spaniard or Italian has proclaimed him a past-master in those languages; I don't remember--well, I don't remember that there is "testimony"--great testimony--imposing testimony--unanswerable and unattackable testimony as to any of Shakespeare's hundred specialties, except one--the law.

Other things change, with time, and the student cannot trace back with certainty the changes that various trades and their processes and technicalities have undergone in the long stretch of a century or two and find out what their processes and technicalities were in those early days, but with the law it is different: it is mile-stoned and documented all the way back, and the master of that wonderful trade, that complex and intricate trade, that awe-compelling trade, has competent ways of knowing whether Shakespeare-law is good law or not; and whether his law-court procedure is correct or not, and whether his legal shop-talk is the shop-talk of a veteran practitioner or only a machine-made counterfeit of it gathered from books and from occasional loiterings in Westminster.

Richard H. Dana served two years before the mast, and had every experience that falls to the lot of the sailor before the mast of our day. His sailor-talk flows from his pen with the sure touch and the ease and confidence of a person who has "lived" what he is talking about, not gathered it from books and random listenings. Hear him:

Having hove short, cast off the gaskets, and made the bunt of each sail fast by the jigger, with a man on each yard, at the word the whole canvas of the ship was loosed, and with the greatest rapidity possible everything was sheeted home and hoisted up, the anchor tripped and cat-headed and the ship under headway . . .

What would the captain of any sailing vessel of our time say to that? He would say, "The man that wrote that didn't learn his trade out of a book, he has "been" there!" But would this same captain be competent to sit in judgment upon Shakespeare's seamanship--considering the changes in ships and ship-talk that have necessarily taken place, unrecorded, unremembered, and lost to history in the last three hundred years? It is my conviction that Shakespeare's sailor-talk would be Choctaw to him. For instance--from "The Tempest":

+Master+.
Bote-swaine.

+Bote-swaine+. Here, master; what cheer?

+Master+. Good, speak to the mariners: fall to't, yarely, or we run ourselves to ground; bestir, bestir!

+Enter mariners+.

+Bote-swaine+.

Heigh, my hearts! cheerly, cheerly, my hearts! yare, yare! Take in the topsail. Tend to the master's whistle. . . Down with the topmast! yare! lower, lower! Bring her to try wi' the main course. . . Lay her a-hold, a-hold! Set her two courses. Off to sea again, lay her off.

That will do, for the present; let us yare a little, now, for a change.

If a man should write a book and in it makes one of his characters say, "Here, devil, empty the quoins into the standing galley and the imposing stone into the hell-box; assemble the comps around the frisket and let them jeff for takes and be quick about it," I should recognize a mistake or two in the phrasing, and would know that the writer was only a printer theoretically, not practically.

I have been a quartz miner in the silver regions--a pretty hard life; I know all the palaver of that business; I know all about discovery claims and the subordinate claims; I know all about lodes, ledges, outcroppings, dips, spurs, angles, shafts, drifts, inclines, levels, tunnels, air-shafts, clay casings, granite casings; quartz mills and their batteries; arastras, and how to charge them with quicksilver and sulphate of copper; and how to clean them up, and how to reduce the resulting amalgam in the retorts, and how to cast the bullion into pigs; and finally I know how to screen tailings, and also how to hunt for something less robust to do, and find it. I know the +argot+ of the quartz-mining and milling industry familiarly; and so whenever Bret Harte introduces that industry into a story, the first time one of his miners opens his mouth I recognize from his phrasing that Harte got the phrasing by listening--like Shakespeare--I mean the Stratford one--not by experience. No one can talk the quartz dialect correctly without learning it with pick and shovel and drill and fuse.

I have been a surface-miner--gold--and I know all its mysteries, and the dialect that belongs with them; and whenever Harte introduces that industry into a story I know by the phrasing of his characters that neither he nor they have ever served that trade.

I have been a "pocket" miner--a sort of gold mining not findable in any but one little spot in the world, so far as I know. I know how, with horn and water, to find the trail of a pocket and trace it step by step and stage by stage up the mountain to its source, and find the compact little nest of yellow metal reposing in its secret home under the ground. I know the language of that trade, that capricious trade, that fascinating buried-treasure trade, and can catch any writer who tries to use it without having learned it by the sweat of his brow and the labor of his hands . . .

And so, as I have already remarked, if I were required to superintend a Bacon-Shakespeare controversy, I would narrow the matter down to a single question--the only one, so far as the previous controversies have informed me, concerning which illustrious experts of unimpeachable competency have testified: +was the author of Shakespeare's works a lawyer?+--a lawyer deeply read and of limitless experience? I would put aside the guesses, and surmises, and perhapses, and might-have-beens, and could-have-beens, and we-are-justified-in-presumings, and the rest of those vague spectres and shadows and indefinitenesses, and stand or fall, win or lose, by the verdict rendered by the jury on that single question. If the verdict was Yes, I should feel quite convinced that the Stratford Shakespeare, the actor, manager, and trader who died so obscure, so forgotten so destitute of even village consequence that sixty years afterward no fellow-citizen and friend of his later days remembered to tell anything about him, that he did not write the works.

* * *

[At this point, in a Publisher's Note to Mark Twain's 1909 book, the following is stated: ". . . Shakespeare as a Lawyer, is taken from +The Shakespeare Problem Restated+, by George G. Greenwood, M. P., published by John Lane Company of London and New York." (circa 1908). I had intended to quote a great deal of this turn-of-the-century barrister's material but space forbids. Twain continues his monograph and refers to Greenwood's scholarship and powerful argument that the author of Shakespeare's works was a practicing lawyer]:

* * *

This testimony is so strong, so direct, so authoritative; and so uncheapered, unwatered by guesses, and surmises, and maybe-so's, and might-have-beens, and could-have-beens, and must-have-beens, and the rest of that ton of plaster of paris out of which the biographers have built the colossal brontosaurus which goes by the Stratford actor's name, that it quite convinces me that the man who wrote Shakespeare's works knew all about law and lawyers. Also, that man could not have been the Stratford Shakespeare--and +wasn't+.

Who did write these works, then?

I wish I knew.

Did Francis Bacon write Shakespeare's works?

Nobody knows.

We cannot say we +know+ a thing when that thing has not been proved. +Know+ is too strong a word to use when the evidence is not final and absolutely conclusive. We can infer, if we want to, like those slaves . . . No, I will not write that word, it is not kind, it is not courteous. The upholders of the Stratford-Shakespeare superstition call +us+ the hardest names they can think of, and they keep doing it all the time; very well, if they like to descend to that level, let them do it, but I will not so undignify myself as to follow them. I cannot call them harsh names; the most I can do is to indicate them by terms reflecting my disapproval; and this without malice, without venom.

To resume. What I was about to say, was, those thugs have built their entire superstition upon +inferences+, not upon known and established facts. It is a weak method, and poor, and I am glad to be able to say our side never resorts to it while there is anything else to resort to.

But when we must, we must; and we have now arrived at a place of that sort . . . Since the Stratford Shakespeare couldn't have written the works, we infer that somebody did. Who was it, then? This requires some more inferring.

Ordinarily when an unsigned poem sweeps across the continent like a tidal wave, whose roar and boom and thunder are made up of admiration, delight and applause, a dozen obscure people rise up and claim the authorship. Why a dozen, instead of only one or two? One reason is, because there's a dozen that are recognizably competent to do that poem. Do you remember "Beautiful Snow"? Do you remember "Rock Me to Sleep, Mother, Rock Me to Sleep"? Do you remember "Backward, turn backward, O Time, in thy flight! Make me a child again just for to-night"? I remember them very well. Their authorship was claimed by most of the grown-up people who were alive at the time, and every claimant had one plausible argument in his favor, at least: to wit, he could have done the authoring; he was competent.

Have the works been claimed by a dozen? They haven't. There was good reason. The world knows there was but one man on the planet at the time who was competent--not a dozen, and not two. A long time ago the dwellers in a far country used now and then to find a procession of prodigious footprints stretching across the plain--footprints that were three miles apart, each footprint a third of a mile long and a furlong deep, and with forests and villages mashed to mush in it. Was there any doubt as to who had made that mighty trail? Were there a dozen claimants? Were there two? No--the people knew who it was that had been along there: there was only one Hercules.

There has been only one Shakespeare. There couldn't be two; certainly there couldn't be two at the same time. It takes ages to bring forth a Shakespeare, and some more ages to match him. This one was not matched before his time; nor during his time; and hasn't been matched since. The prospect of matching him in our time is not bright.

The Baconians claim that the Stratford Shakespeare was not qualified to write the works, and that Francis Bacon was. They claim that Bacon possessed the stupendous equipment--both natural and acquired--for the miracle; and that no other Englishman of his day possessed the like; or, indeed anything closely approaching it.

Macaulay, in his Essay, has much to say about the splendor and horizonless magnitude of that equipment. Also, he has synopsisized Bacon's history: a thing which cannot be done for the Stratford Shakespeare, for he hasn't any history to synopsisize. Bacon's history is open to the world, from his boyhood to his death in old age--a history consisting of known facts,

displayed in minute and multitudinous detail; +facts+, not guesses and conjectures and might-have-beens.

Whereby it appears that he was born of a race of statesmen, and had a Lord Chancellor for his father, and a mother who was "distinguished both as a linguist and a theologian: she corresponded in Greek with Bishop Jewell, and translated his +Apologia+ from the Latin so correctly that neither he nor Archbishop Parker could suggest a single alteration." It is the atmosphere we are reared in that determines how our inclinations and aspirations shall tend. The atmosphere furnished by the parents to the son in this present case was an atmosphere saturated with learning; with thinkings and ponderings upon deep subjects; and with polite culture. It had its natural effect. Shakespeare of Stratford was reared in a house which had no use for books, since its owners, his parents, were without education. This may have had an effect upon the son, but we do not know, because we have no history of him of an informing sort. There were but few books anywhere, in that day, and only the well-to-do and highly educated possessed them, they being almost confined to the dead languages. "All the valuable books then extant in all the vernacular dialects of Europe would hardly have filled a single shelf"--imagine it! The few existing books were in the Latin tongue mainly. "A person who was ignorant of it was shut out from all acquaintance--not merely with Cicero and Virgil, but with the most interesting memoirs, state papers, and pamphlets of his own time"--a literature necessary to the Stratford lad, or his fictitious reputation's sake, since the writer of his works would begin to use it wholesale and in a most masterly way before the lad was hardly more than out of his teens and into his twenties.

At fifteen Bacon was sent to the University, and he spent three years there. Thence he went to Paris in the train of the English Ambassador, and there he mingled daily with the wise, the cultured, the great, and the aristocracy of fashion, during another three years. A total of six years spent at the sources of knowledge; knowledge both of books and of men. The three spent at the university were coeval with the second and last three spent by the little Stratford lad at Stratford school supposedly, and perhapsedly, and maybe, and by inference--with nothing to infer from. The second three of the Baconian six were "presumably" spent by the Stratford lad as apprentice to a butcher. That is, the thugs presume it--on no evidence of any kind. Which is their way, when they want a historical fact. Fact and presumption are, for business purposes, all the same to them. They know the difference, but they also know how to blink it. They know, too, that while in history-building a fact is better than a presumption, it doesn't take a presumption long to bloom into a fact when +they+ have the handling of it. They know by old experience that when they get hold of a presumption-tadpole in their history-tank; no, they know how to develop him into the giant four-legged bullfrog of +fact+, and make him sit up on his hams, and puff out his chin, and look important and insolent and come-to-stay; and assert his genuine simon-pure authenticity with a thundering bellow that will convince everybody because it is so loud. The thug is aware that loudness convinces sixty persons where reasoning convinces but one. I wouldn't be a thug, not even if--but never mind about that, it has nothing to do with the argument, and it is not noble in spirit besides. If I am better than a thug, is the merit mine? No, it is His. Then to Him be the praise. That is the right spirit.

They "presume" the lad severed his "presumed" connection with the Stratford school to become apprentice to a butcher. They also "presume" that the butcher was his father. They don't know. There is no written record of it, nor any other actual evidence. If it would have helped their case any, they would have apprenticed him to thirty butchers, to fifty butchers, to a wilderness of butchers--all by their patented method, "presumption." If it will help their case they will do it yet; and if it will further help it, they will "presume" that all those butchers were his father. And the week after, they will +say+ it. Why, it is just like being the past tense of the compound reflexive adverbial incandescent hypodermic irregular accusative Noun of Multitude; which is father to the expression which the grammarians call Verb. It is like a whole ancestry, with only one posterity.

To resume. Next, the young Bacon took up the study of law, and mastered that abstruse science. From that day to the end of his life he was daily in close contact with lawyers and judges; not as a casual onlooker in intervals between holding horses in front of a theater, but as a practicing lawyer--a great and successful one, a renowned one, a Launcelot of the bar, the most formidable lance in the high brotherhood of the legal Table Round; he lived in the law's atmosphere thenceforth, all his years, and by

sheer ability forced his way up its difficult steep to its supremest summit, the Lord Chancellorship, leaving behind him no fellow craftsman qualified to challenge his divine right to that majestic place.

When we read the praises bestowed by Lord Penzance and the other illustrious experts upon the legal condition and legal aptnesses, brilliances, profundities and felicities so prodigally displayed in the Plays, and try to fit them to the history-less Stratford stage-manager, they sound wild, strange, incredible, ludicrous; but when we put them in the mouth of Bacon they do not sound strange, they seem in their natural and rightful place, they seem at home there. Attributed to Shakespeare of Stratford they are meaningless, they are inebriate extravagancies--intemperate admirations of the dark side of the moon, so to speak; attributed to Bacon, they are admirations of the golden glories of the moon's front side, the moon at the full--and not intemperate, not overwrought, but sane and right, and justified. "At every turn and point at which the author required a metaphor, simile or illustration, his mind ever turned +first+ to the law; he seems almost to have +thought+ in legal phrases; the commonest legal phrases, the commonest of legal expressions were ever at the end of his pen." That could happen to no one but a person whose +trade+ was the law; it could not happen to a dabbler in it. Veteran mariners fill their conversation with sailor-phrases and draw all their similes from the ship and the sea and the storm, but no mere +passenger+ ever does it, be he of Stratford or elsewhere; or could do it with anything resembling accuracy, if he were hardy enough to try. Please read what Lord Campbell and the other great authorities have said about Bacon when they thought they were saying it about Shakespeare of Stratford.

One of the most trying defects which I find in these--these--what shall I call them? for I will not apply injurious epithets to them, the way they do to us, such violations of courtesy being repugnant to my nature and my dignity. The furthest I can go in that direction is to call them by names of limited reverence--names merely descriptive, never unkind, never offensive, never tainted by harsh feeling. If +they+ would do like this, they would feel better in their hearts. Very well, then--to proceed. One of the most trying defects which I find in these Stratfordolaters, these shakespeareoids, these thugs, these bangalores, these troglodytes, these herumfrodites, these blatherskites, these buccaneers, these bandoleers, is their spirit of irreverence. It is detectable in every utterance of theirs when they are talking about us. I am thankful that in me there is nothing of that spirit. When a thing is sacred to me it is impossible for me to be irreverent toward it. I cannot call to mind a single instance where I have ever been irreverent, except toward the things which were sacred to other people. Am I in the right? I think so. But I ask no one to take my unsupported word; no, look at the dictionary; let the dictionary decide. Here is the definition:

"+Irreverence+. The quality or condition of irreverence toward God and sacred things."

What does the Hindu say? He says it is correct. He says irreverence is lack of respect for Vishnu, and Brahma, and Chrishna, and his other gods, and for his sacred cattle, and for his temples and the things within them. He endorses the definition, you see; and there are 300,000,000 Hindus or their equivalents back of him.

The dictionary had the acute idea that by using the capital G it could restrict irreverence to lack of reverence for +our+ Deity and our sacred things,

but that ingenious and rather sly idea miscarried: for by the simple process of spelling +his+ deities with capitals the Hindu confiscates the definition and restricts it to his own sects, thus making it clearly compulsory upon us to revere +his+ gods and +his+ sacred things, and nobody's else. We can't say a

word, for he has our own dictionary at his back, and its decision is final.

This law, reduced to its simplest terms, is this: 1. whatever is sacred to the Christian must be held in reverence by everybody else; 2. whatever is sacred to the Hindu must be held in reverence by everybody else; 3. therefore, by consequence, logically, and indisputably, whatever is sacred to +me+ must be held in reverence by everybody else.

Now then, what aggravates me is, that these troglodytes and muscovites and bandoleers and buccaneers are +also+ trying to crowd in and share the benefit of the law, and compel everybody to revere their Shakespeare and hold him sacred. We can't have that: there's enough of us already. If you go on widening and spreading and inflating the privilege, it will

presently come to be conceded that each man's sacred things are the +only+ ones, and the rest of the human race will have to be humbly reverent toward them or suffer for it. That can surely happen, and when it happens, the word Irreverence will be regarded as the most meaningless, and foolish, and self-conceited, and insolent, and impudent and dictatorial word in the language. And people will say, "whose business is it, what gods I worship and what things I hold sacred? who has the right to dictate to my conscience, and where did he get that right? ". . . We cannot afford to let that calamity come upon us. We must save the word from this destruction. There is but one way to do it, and that is, to stop the spread of the privilege, and strictly confine it to its present limits. . . It would be better if the

privilege were limited to me alone. I think so because I am the only sect that knows how to employ it gently, kindly, charitably, dispassionately. The other sects lack the quality of self-restraint. . . This is all unfortunate, because it makes it difficult for students equipped with only a low grade of mentality to find out what Irreverence really +is+.

It will surely be much better all around if the privilege of regulating the irreverent and keeping them in order shall eventually be withdrawn from all the sects but me. Then there will be no more quarreling, no more bandying of disrespectful epithets, no more heart burnings.

There will then be nothing sacred involved in this Bacon-Shakespeare controversy except what is sacred to me. That will simplify the whole matter, and trouble will cease. There will be irreverence no longer, because I will not allow it. The first time those criminals charge me with irreverence for calling their Stratford myth an Arthur-Orton-Mary-Baker-Thompson-Eddy-Louis-the-Seventeenth-Veiled-Prophet-of-Khorasan will be the last. Taught by the methods found effective in extinguishing earlier offenders by the Inquisition, of holy memory, I shall know how to quiet them.

Isn't it odd, when you think of it: that you may list all the celebrated Englishmen, Irishmen, and Scotchmen of modern times, clear back to the first Tudors--a list containing five hundred names, shall we say?--and you can go to the histories, biographies and cyclopedias and learn the particulars of the lives of every one of them. Every one of them except one--the most famous, the most renowned--by far the most illustrious of them all--Shakespeare! You can get the details of the lives of all the celebrated ecclesiastics in the list; all the celebrated tragedians, comedians, singers, dancers, orators, judges, lawyers, poets, dramatists, historians, biographers, editors, inventors, reformers, statesmen, generals, admirals, discoverers, prize-fighters, murderers, pirates, conspirators, horse-jockeys, bunco-steerers, misers, swindlers, explorers, adventurers by land and sea, bankers, financiers, astronomers, naturalists, claimants, impostors, chemists, biologists, philologists, college presidents and professors, architects, engineers, painters, sculptors, politicians, agitators, rebels, revolutionists, patriots, demagogues, clowns, cooks, freaks, philosophers, burglars, highwaymen, journalists, physicians, surgeons--you can get the life-histories of all of them but +one+. Just +one+--the most extraordinary and the most celebrated of them all--Shakespeare! . . . We can go to the records and find out the life-history of every renowned +race-horse+ of modern times--but not Shakespeare's! . . . There are many reasons why, and they have been furnished in cartloads of guess and conjecture by those troglodytes; but there is one that is worth all the rest of the reasons put together, and is abundantly sufficient all by itself--+he hadn't any history to record+. There is no way of getting around that deadly fact. And no sane way has yet been discovered of getting around its formidable significance . . .

Am I trying to convince anybody that Shakespeare did not write Shakespeare's works? Ah, now what do you take me for? would I be so soft as that, after having known the human race familiarly for nearly seventy-four years? It would grieve me to know that any one could think so injuriously of me, so uncomplimentarily, so unadmiringly of me. No-no, I am aware that when even the brightest mind in our world has been trained up from childhood in a superstition of any kind, it will never be possible for that mind, in its maturity, to examine sincerely, dispassionately, and conscientiously any evidence or any circumstance which shall seem to cast a doubt upon the validity of that superstition. I doubt if I could do it myself. We always get at second hand our notions about systems of government; and high-tariff and low-tariff; and prohibition and anti-prohibition; and the holiness of peace and the glories of war; and codes of honor and codes of morals; and approval of the duel and disapproval of it; and our beliefs concerning the nature of cats; and our ideas as to whether the

murder of helpless wild animals is base or is heroic; and our preferences in the matter or religious and political parties; and our acceptance or rejection of the Shakespeares and the Arthur Ortons and the Mrs. Eddys. We get them all at second-hand, we reason none of them out for ourselves. It is the way we are made. It is the way we are all made, and we can't help it, we can't change it. And whenever we have been furnished a fetish, and have been taught to believe in it, and love it and worship it, and refrain from examining it, there is no evidence, howsoever clear and strong, that can persuade us to withdraw from it our loyalty and our devotion. In morals, conduct, and beliefs we take the color of our environment and associations, and it is a color that can safely be warranted to wash. Whenever we have been furnished with a tar baby ostensibly stuffed with jewels, and warned that it will be dishonorable and irreverent to disembowel it and test the jewels, we keep our sacrilegious hands off it. We submit, not reluctantly, but rather gladly, for we are privately afraid we should find, upon examination, that the jewels are of the sort that are manufactured at North Adams, Mass.

I haven't any idea that Shakespeare will have to vacate his pedestal this side of the year 2209. Disbelief in him cannot come swiftly, disbelief in a healthy and deeply-loved tar baby has never been known to disintegrate swiftly, it is a very slow process. It took several thousand years to convince our fine race--including every splendid intellect in it--that there is no such thing as a witch; it has taken several thousand years to convince that same fine race--including every splendid intellect in it--that there is no such person as Satan; it has taken several centuries to remove perdition from the Protestant Church's program of postmortem entertainments; it has taken a weary long time to persuade American Presbyterians to give up infant damnation and try to bear it the best they can; and it looks as if their Scotch brethren will still be burning babies in the everlasting fires when Shakespeare comes down from his perch.

We are The Reasoning Race. We can't prove it by the above examples, and we can't prove it by the miraculous "histories" built by those Stratfordolaters out of a hatful of rags and a barrel of sawdust, but there is a plenty of other things we can prove it by, if I could think of them. We are The Reasoning Race, and when we find a vague file of chipmunk-tracks stringing through the dust of Stratford village, we know by our reasoning powers that Hercules has been along there. I feel that our fetish is safe for three centuries yet. The bust, too--there in the Stratford Church. The precious bust, the priceless bust, the calm bust, the serene bust, the emotionless bust, with the dandy moustache, and the putty face, unseamed of care--that face which has looked passionlessly down upon the awed pilgrim for a hundred and fifty years and will still look down upon the awed pilgrim three hundred more, with the deep, deep, deep, subtle, subtle, subtle, expression of a bladder.

The Plays enjoyed high fame from the beginning; and if he wrote them it seems a pity the world did not find it out. He ought to have explained that he was the author, and not merely a +nom de plume+ for another man to hide behind. If he had been less intemperately solicitous about his bones, and more solicitous about his works, it would have been better for his good name, and a kindness to us. The bones were not important. They will moulder away, they will turn to dust, but the works will endure until the last sun goes down.

Mark Twain.

* * *

Upon finishing this classic attack upon the unwashed of academia, those obtuse and antediluvian creatures then peering through their 1909 steel-rimmed spectacles, those mutton-chopped, wen-nosed, dewlapped, disciplinarian schoolmasters, those purblind clingers to the traditions of their ancestral, cranially myopic prelectors, Sam Clemens wearily raised the chimney of his coal-oil lamp and, gently and wryly and confidently, breathed upon it and upon them.

And rested. Within a year, he and his light were gone. And so also have gone glimmering the dark-lanterns of his scholarly opponents, those "thugs," those "Stratfordolaters," along with his pilotical Master who taught him the River, high-water and low-water channels, both ways, both sides, by night, by day, and then up and then down.

There is no doubt that Francis Bacon committed a cruel hoax upon the Troglodytes. Are Troglodytes still to be feared? I'm not sure. Many of

them must have bared their literary fangs and lacerated Sam Clemens. He uses the term frequently and jeers at them, but never defines exactly what a Troglodyte might be. He suggests that they are an ancient race, and that we should beware lest they have left behind any "moles" waiting to bite our backsides. Who and what were these mysterious demons that drove Sam Clemens to write his book and to denounce them?

"Troglodytes" are more precisely named, in +The Oxford Classical Dictionary+, as "Troglodytae." They were a primitive people; pioneer Troglodytes lived on the coast of the Red Sea where they were investigated "by agents of Ptolemy II and III" (308-221 B.C). The suspicions about their lifestyles were not altogether unfounded, as watching spies reported to their Egyptian masters:

They mostly went naked, ate the bones and hides as well as the flesh of their cattle, and drank a mixture of milk and blood. They squeaked liked bats, talked gibberish, and buried their dead by pelting them with stones. They kept women in common, and were governed by tyrants.

Small wonder that Sam Clemens feared them and railed against their primitive beliefs in William Shakespeare.

But Troglodytes are extinct, at least those of the age and kind that Sam regretted. There are now many "freethinkers," as converts who have shed their faith in literary hagiology may be termed. More cautious, more recent scholars have become less indoctrinated, less dominated by dead dogmatists and their wooden peppercorns.

And old Sam really didn't mean all that, about Troglodytes. He was just having a literary and intellectual disagreement with his peers and he wanted to make sure they could hear him.

Sam, if you can hear me, I grew up in the twilight of coal-oil lamps and horses on the streets; I built rafts and river boats and ran them on the Missouri; I was even a pilot, though of a different kind, and I loved that too. I went treasure hunting and, one time, gold prospecting. I can compose in the stick and lay ink on a platen and tighten down the quoins just right; I can haul down on the lever of a hand press and print halftone plates, and collate and clean up and devil it all back into a California job case.

But Sam, I think you need a little help. From a westerner, even a lawyer: the kind of old, battle-scarred watchful lawyer that knows lawyer-talk and lawyer-ways and lawyer-doings, and can smell another lawyer as soon as he says ten words. This case of yours is so easy, so well reckoned, so well attested by every witness (except the extinct thugs and troglodytes), so perfectly cited and footnoted, and so thoughtfully and humbly and politely presented by your brief, that I will waive my fee.

And Sam, we are going to win. Just you and me, along with Tom and Huck and Jim and Becky Thatcher. And the River. Wait and see.

Baconiana.

+Custom reconciles us to everything+
--Edmund Burke

Chapter 4

Most of the quotations in this chapter are selected and condensed from the last 30 years of the English "Baconiana," the Journal of the Francis Bacon Society. The members have recently celebrated the 100th anniversary of its founding. My thanks to them and to their former Chairman, the late Noel Fermor, and to their new Chairman, Thomas "Bokey" Bokenham, for granting to me the right to reprint, under the copyright of that Journal, the following quotations in the United Kingdom and elsewhere.

* * *

Ralph Waldo Emerson\1\ said: "As long as the question is of talent and mental power, the world of men has not his equal to show. . .The Egyptian verdict of the Shakespeare societies comes to mind that he was a jovial actor and manager. I cannot marry this fact to his verse." John Greenleaf Whittier said, "whether Bacon wrote the wonderful plays or not, I am quite sure the man Shakspeare neither did nor could."

James M. Barrie put it more whimsically: "I know not, sir, whether

Bacon wrote the works of Shakespeare, but if he did not it seems to me that he missed the opportunity of his lifetime."

Samuel Taylor Coleridge said, "Ask your own hearts, ask your own common sense, to conceive the possibility of the author of the Plays being the anomalous, the wild, the irregular genius of our daily criticism. What! are we to have miracles in sport? Does God choose idiots by whom to convey divine truths to man?"

* * *

The baptismal register describes him as Shakspere; the marriage bond as Shagspere; the burial record as Shakspere; his father was generally given as Shaxper; an ex-master of the grammar school wrote of him as Shaxbere; his fellow-townsmen Quiney as Shackspere; and his "fellow-countryman" Hurley as Shaxper. It will be noted that in these several forms, the pronunciation of the first syllable is Shax, and not Shake as in the form used in the Plays. This varied spelling of the one name indicates that, the supposed author being unable to write or spell his name, the several scribes involved were dependent on their own interpretation of the pronunciation as they heard it.

It has been argued that there is no significance in this varied spelling, because the spelling of names and even ordinary words was not then fixed. If that be so, then it must be of considerable significance that throughout forty-two separate publications of the Shakespeare works made over a period of eighteen years up to will Shakspere's death, only one form of name was used consistently, and that one a new one--Shakespeare.\2\

* * *

Alfred Dodd shows that none of the editors and commentators, or biographers of Shakespeare from 1733, Lewis, Theobald, Dr. Warburton, Dr. Farmer, Edward Capell, Thomas Tyrwhitt, Dr. Samuel Johnson, Messrs. Bell, Etherington, Masson, Reed, Colman or Richardson so much as refer to the 1609 Quarto and many of them do not mention the Sonnets at all. . . \3\

* * *

. . . Ben Jonson's opinion of Bacon's quality as a talker: "His language (when he could spare a jest) was nobly censorious. No man ever spake more neatly, more pressly, more weightily; or suffered less emptiness, less idleness, in what he uttered. No member of his speech but consisted of his own graces. His hearers could not cough or look aside from him without loss. He commanded where he spoke and had his judges angry and pleased at his devotion. No man had their affections more in his power. The fear of every man that heard him was, lest he should make an end.\4\

* * *

The abundance of legal terms displayed almost ostentatiously in the plays and sonnets has long attracted notice. It is not only the quantity, but the quality of these instances which is striking. Ben Jonson uses legal jargon in his own plays, but he uses it in buffoonery and satire. The author of Shakespeare, in addition to satire, often displays a legal profundity which has been noticed by many eminent lawyers - among them Lord Chief Justice Campbell, who wrote as follows: "To Shakespeare's law, lavishly as he propounds it, there neither be demurrer, nor bill of exceptions, nor writ of error." \5\

* * *

As a young man Bacon was upbraided by his mother, Lady Anne, for "mumming and masking and sinfully revelling" (Lambeth MSS 650, 222). He was the accepted Master of Ceremonies at the Gray's Inn revels. He was the author or contriver of the following masques and devices; in 1589, +The Misfortunes of Arthur+, in 1592 +A Conference of Pleasure+, in 1594 +The Masque of the Order of the Helmet+, in 1595 +The Philautia Device+ and +The Device of the Indian Prince+, in 1612 +The Marriage of the Rhine and the Thames+, and in 1613 +The Masque of Floweres+. . . In his essays +Of Masques and Triumphs+, Bacon reveals his interest in acting, mime, alterations of scenes, coloured and varied lights, etc. In +The Advancement of Learning+

(De Augmentis VII, 4) he commends play-acting as a useful form of personal discipline.

In his younger days at Gray's Inn Francis Bacon was the moving spirit of the "Order of the Helmet," an invisible knighthood dedicated to Pallas Athene--the Shaker-of-the-Spear. In the +Gesta Grayorum+ this Order is said to be "safely guarded by the Helmet of the great Goddess Pallas," and one of its Articles [most of which were adopted in a spirit of satire] is as follows:

Item, Every Knight of this Order shall endeavour to add Conference and Experience by Reading; and therefore shall not only read and peruse +Guiza+, the +French Academy, Galiatto+ the Courtier, +Plutarch+, the +Arcadia+, and the Neoterical writers from time to time; but also frequent the Theatre, and such like places of Experience and resort to the better sort of Ordinaries for Conference. (From +Gesta Grayorum+, London 1688.)

That Francis Bacon was a restless, tireless imaginative genius is a well-known fact. Aubrey tells us that he was "a good poet but +concealed+." Sir Tobie Matthew writes, "The most prodigious wit that I ever knew, of my nation and this side the sea, is of your lordship's name, though he be known by another." In a letter to Sir John Davies, Bacon ends by beseeching him to "be good to +concealed poets+." In his draft will, Bacon bequeaths his name and memory to foreign nations and to his own countrymen "after some time be passed over."

About the year 1620 Ben Jonson became one of Bacon's "good pens." In +Discoveries+ (1641) he gives Bacon the highest praise, and describes his writings in these peculiar words. . . "He who hath filled up all numbers and performed that in our tongue which may be compared or preferred to +insolent Greece and haughty Rome+. . .so that he may be named as the mark and acme of our language.

Bacon is here compared to Homer and Virgil in the same words that Jonson used about the author of the Shakespeare Folio in 1623. . . "Leave thee alone for the comparison/Of all that +insolent Greece and haughty Rome+/Sent forth. . . "

Let it not trouble us that the Bard may have been one of England's greatest lawyers. Is there not (as O'Connor pointed out) a vast difference in style between "A lawyer's farewell to his Muse" and the same Sir William Blackstone's +Commentaries+? Or between Coleridge's +Aids to Reflection+ and the unearthly "Kubla Khan"? Can the prose of Shelley ever rise to the wild loveliness of "The Ode to the west wind"?\6\

* * *

It is hard to find in these days [1589] of noblemen or gentlemen any good mathematician, or excellent musician, or notable philosopher, or else a cunning poet. I know very many notable gentlemen in the Court that have written commendably and suppressed it again, or suffered it to be published without their own names to it, as if it were a discredit for a gentleman to seem learned, and to show himself amorous of any good art. The scorn and ordinary disgrace offered unto poets in these days is cause why few gentlemen do delight in the art.\7\

* * *

On Bacon's 60th birthday, Ben Jonson wrote an epigram for him which begins:

Haile happie Genius of this antient pile
How comes it all things so about thee smile:
The fire, the wine, the men! and in the midst,
Thou stand'st as if some Mysterie thou did'st!\8\

* * *

Bacon. . .was the prime mover--"most noble factor"--of the Virginia Company [Chesapeake Bay and Roanoke Island] from the beginning, and is acknowledged as such by William Strachey, the first Secretary of the Colony, in his +History of Travaile into Virginia Britannia+. The first Bermudan coinage, known as the hog-money, carried Bacon's crest on one side and the picture of a ship under full sail, probably the +Sea Venture+, on the other.

Three centuries later his head appeared on the Newfoundland tercentenary stamp of 1910, with the caption "Guiding Spirit of the Colonization Scheme." Thomas Jefferson carried Bacon's portrait with him everywhere.

The Virginia Company, with Bacon as its guiding star, included the Earls of Pembroke and Montgomery, the two noble brothers to whom the first Shakespeare Folio is dedicated. William Strachey's narrative of Virginia is actually dedicated to Bacon. . . \9\

* * *

Sixteenth century Italian cryptography reached its climax in the works of Giovanni Baptista della Porta whose system, published in Naples in 1565, was efficient on all counts. His table consisted of thirteen key letters, accompanied by an alphabet which changed in its lower line one place to the right for every pair of capitals:

A B	a b c d e f g h i j k l m
	n o p q r s t u v w x y z
C D	a b c d e f g h i j k l m
	z n o p q r s t u v w x y
E F	a b c d e f g h i j k l m
	y z n o p q r s t u v w x

(and so on)

Della Porta's system was quite simple. Supposing that we wanted to encipher the letter +e+ by using the key letter F, we merely have to look along the alphabet which F controls to discover that the letter p lies directly beneath the +e+; p then is the cipher letter. . .

Cryptography made its first impact in England during the reign of Henry VIII and became an effective arm of statecraft under Queen Elizabeth. The man chiefly responsible for this was Sir Francis Walsingham, who organised a secret service, which at one time employed 53 agents on the Continent. One of his most accomplished assistants was Anthony Bacon--the brother of Francis--but the best of his cryptanalysts was Thomas Phelippes, a widely-travelled educated man, who was capable of solving ciphers in five languages.

Walsingham opened a secret cipher school in London and all of his agents had to take a course in cryptography before they were entrusted with service abroad. Of course, Walsingham's Secret Service was not solely concerned with foreign affairs, but was designed to protect the Queen from treasonable activities on her own doorstep as well. Naturally enough, its devious and subtle machinations aroused deep mistrust among honest Englishmen, who loved freedom of speech and hated "the corridors of darkness." Elizabeth's England was almost a totalitarian state. . .

. . . history shows that cryptography was one of Elizabeth's most valuable political assets. It was the decipherment of a secret message to Anthony Babington, that sent Mary, Queen of Scots, to the block. Having obtained this evidence, Walsingham sent his agent Gifford back to Fotheringay Castle to intercept and copy more of Mary's secret messages, with the result that all of the conspirators to depose Elizabeth, including Mary herself, were finally arrested. Walsingham later claimed that his agents had found the keys to about 50 different ciphers in Mary's apartments.

Secret writing became a preoccupation of the English. A doctor called Timothy Bright wrote the first book on shorthand which was published in 1588 under the title, +The Arte of Shorte, Swifte and Secret Writing+. . .

The reasons for writing in cipher were many and varied. The Duke of Monmouth used cipher in order to de-throne King James II; Samuel Pepys wrote his +Diary+ in cipher for an entirely different motive.

As a general rule, the use of cipher in the arts was related to the author's position in society. Innumerable sixteenth and seventeenth century books were either written anonymously, or signed with initials or a bogus name; some of them were secretly acknowledged. . .

And yet on this subject, Shakespearean commentators and professors seem to have little knowledge, and are strangely reluctant to accept the possibility that there is a cipher in the plays of Shakespeare.

. . . there is a history published anonymously in 1616 which can be shown to contain a simple and by definition a technically perfect cipher... +Rerum Anglicorum Henrico VIII, Eduardo VI et Maria Regnantibus

Annales+. Both the first and second editions of this work carry no author's name, a not unusual thing in those days where the writing of histories was concerned. The risk of offending powerful factions with dire consequences to the author was far too great.

The author of this particular work, however, did decide to risk enciphering his name and identity in the two editions which appeared during his lifetime.

After his death, a relative decided to publish an English translation, naming Bishop Francis Godwin as the original author.

His cipher was the delightfully simple one mentioned earlier and certainly effective enough to escape detection during his lifetime, with as far as is known, just one exception--the original owner of a second edition, 1628. This person detected it and inscribed his decipherment on the fly leaf of the book, along with a description of the exact method used to encipher the message which runs as follows:

+I Franciscus Godwinus Landavensis Episcopus Hoc Conscripsit+

The letters appear in the above order as the initial capital letters of each chapter. . . In view of this piece of authentic evidence that cipher did in fact exist in these early printed books, no one can say that it is unreasonable to think that, if one book printed in 1616 contained cipher, it would be perfectly feasible for another published seven years later, also to contain cipher. This point is made to demonstrate to the sceptics that cipher in these 17th century books is a proven fact, and the probability of other contemporary books, particularly where histories are concerned, containing coded messages, is very real and certainly worthy of serious scientific study. . .

Another aspect which must be realized is that normal cipher communication between two persons, each of whom naturally possess the key, has the inherent principle of avoidance of discovery, whereas the individual who finds it necessary to encipher a message in a printed book shows that he hopes that at some future date someone will discover his intentions. Of course, the fact that he has gone to the trouble of enciphering a message means that he does not desire the discovery to take place too soon--logically one presumes, not in his lifetime. For that very reason he would naturally not make use of any known cipher principle, hence the almost certain use of a completely new method--in other words, he has to invent one of his own and to attain his object, he has to negotiate three important and very tricky hurdles, apart from the encipherment of his message:

(a) he must hint somehow at the presence of his cipher--if possible obscurely, but not +too+ obscurely, otherwise the whole object of the exercise would be in vain.

(b) he has to show its whereabouts.

(c) he must indicate as unambiguously as possible, and this is the really difficult part, the correct key to unlock his coded message.

For these reasons, it is obvious that all normal principles of decipherment are turned upside down and are, for the most part, entirely useless. So any would-be decipherer has from necessity to start from scratch and make liberal use of trial and error, guesswork and intuition. Once he has discovered the key or rule, he must rigidly, without variation, stick to the rule, because it is a known fact that critics of cipher invariably search for the tiniest flaw, and if they find one, they are nearly always wont to condemn the whole.\10\

* * *

Most of the young nobility of those days traveled in Europe, and it is known that the Earl of Oxford did so. Ben Jonson got as far as the Low Countries, "trailing a pike" as a soldier, and later went on foot to Scotland. Bacon's sojourn in France, and at the Court of Navarre as a young man, is well known. His English biographers from his chaplain William Rawley to James Spedding make no mention of this. But Bacon's first biography was not published in English in 1657, but 26 years earlier in French. In the "Discours de las Vie" which was prefixed to the +Histoire Naturelle+ in 1631, Bacon's early travels in Spain and Italy are confirmed. And in the body of the same book we learn, what seems to have passed unnoticed by all English biographers, that Bacon visited Scotland on one occasion at least.\11\

* * *

Restoration work carried out on the ruins of Sir Nicholas Bacon's house at Gorhambury [a mile or two from St. Albans] under the supervision of the Ministry of Public Works and Monuments, has now [1969] reached an advanced stage. Defoliation of the brick, stone, iron and the little timber remaining, and exploration at ground level, has proved to be a lengthy process, but the patient care of the restorers has not gone unrewarded.

Perhaps the most interesting revelations to date have been the coat-of-arms with a Garter surround and the motto +Dieu et mon droit+ above, and the inscription below the window space, all on the north-east corner tower of the existing structure. The inscription is in Latin and the translation reads:

WHEN NICHOLAS BACON BROUGHT THESE BUILDING TO
COMPLETION TWO LUSTRAS OF ELIZABETH'S REIGN HAD
PASSED: HE HAD BEEN KNIGHTED AND MADE KEEPER OF THE
GREAT SEAL. MAY ALL GLORY BE ASCRIBED TO GOD ALONE.

For this information and other valuable assistance we are indebted to Mrs. King, the late Lord Verulam's private secretary, who asks us to note that a "lustrum" was the term for a period of five years.

[I visited Old Gorhambury in 1965. Amid the ruins I could still read this, of the Latin inscription:

HAEC CUM PERFECIT NICOLAUS TECTA BACONUS ELIZABETH
REGNI LUSTRA FUERIT DUO FACTUS EQUES MAGNI CUSTOS FUIT
IPSA SIGILLI GLORIA SIT SOLI TOTA TRIBUTAT DEO.

My own Latin dictionary (+An Elementary Latin Dictionary+, Charlton T. Lewis, Harper, 1898, 952 pages) gives "five years" as a second choice; first choice for +lustrum+ defines it differently, as: a slough, a den of beasts, a wilderness, a house of ill-repute, debauchery. None of these terms may apply to Elizabeth's first ten year's reign; but who can be sure of any such 16th century ambiguity--even though carved in stone by a future Lord Keeper, the father of Francis, Sir Nicholas Bacon, who had a lusty sense of humor.]

Unfortunately, frosts have broken down much of the stonework, necessitating urgent repairs to the walls still standing and it is sad to recall that only ground-level brickwork remains to remind us of the Long Gallery wing, upon which the gilded figure of Henry VIII stood not so long ago. Pieces of the torso lay nearby until recently.

Some years ago, too, an underground passage was revealed on the opposite side of the modern road to the north-east of the ruins, but it has not been determined, it seems, whether its direction was towards the main house, now vanished, or the nearby Temple Cottage. Temple Cottage was once thought to have been one of Bacon's summerhouses, but the structure indicates the late 18th century, and the Doric columns are not Tudor. Four classical figures adorning its roof may date from the Tudor house, but this is conjecture.

Opposite the gates to Gorhambury Park, on the Hemel Hempstead road, stands St. Michaels Church. This is one of three parish churches in St. Albans, built by the Saxon Abbot Ulsinus, A.D. 948, the others being St. Peter's and St. Stephen's. St. Michaels is well known for the Monument to Francis Bacon, although there appears to be no evidence that he was buried in the vault beneath.

In front of the chancel, and near the Monument, is the gravestone of his secretary, Sir Thomas Meautys, who erected the statue to his master's memory. The lettering on Sir Thomas' tombstone has long been obliterated, when, how, or by whom is not known; but the inscription was re-cut in 1955 on the instructions of the late Lord Verulam, from information received from the Keeper of the Printed Books at the Bodleian Library. Apparently, in 1657, eight years after Meautys' death, Elias Ashmole (the famous antiquarian and Rosicrucian, after whom the Ashmolean Museum in Oxford is named) visited St. Michael' Church. In his notebook, still preserved in the Bodleian Library (MS. Ashmole 784, Folio 8v) he had--fortunately for posterity--recorded the inscription on this tombstone, which was later to be mysteriously chiseled out.

HERE LYETH THE BODY OF S:R.

THOMAS MEAVTYS K.T & ONE
OF THE CLARKES OF HIS LATE
MA:TS MOST HON.LL PRIVIE
COVNCELL. AN. DNI. 1649

The present [now deceased] Earl of Verulam is a descendant of Sir Harbottle Grimston, who purchased Gorhambury in 1652 [Francis Bacon had no descendants]. Sir Harbottle was speaker of the Commons under King Charles II, who granted the St. Albans Charter. The monument to Bacon, with its curious inscription beginning with the words +sic sedebat+ ["thus he sat," instead of the customary +hic jacet+, "here lies"] and the Meautys grave, are not the only points of interest in the Church. . .

Gorhambury derives its name from Abbot Geoffrey de Gorham, elected in 1119, and a successor of the first Norman abbot, Paul de Caen, who acceded soon after the Saxon monastery was demolished. The monastery foundations can still be seen by St. Albans Abbey. +Circa+ 1130 the first mansion was built by a relative of Geoffrey de Gorham in the Park, on the eastern slope of the hill, leading to the present seat of Lord Verulam, head of the Grimston family. In 1155 Nicholas Breakspear, an alumnus of St. Albans School, was enthroned as Pope Adrian IV, the only Englishman to hold this office. Adrian IV, who died in 1159, was said to be too pious for the cardinals and was the son of an Abbey tenant.

In 1561, when Sir Nicholas Bacon acquired Gorhambury, he pulled down Geoffrey de Gorham's house and built the Tudor mansion mentioned earlier in these notes. Later Sir Francis built a new mansion named Verulam House [called by him "Verulamium"] a half a mile away but of this, alas, only foundation-traces remain, whereas parts of the ruins of Sir Nicholas' house still stand. The present Gorhambury, designed by Sir Robert Taylor, was finished in 1784, and still contains many pictures and books belonging originally to Francis Bacon. . .

Francis Bacon's interest in St. Albans associations was intense and his very title, Viscount St. Alban, commemorated the Roman martyred on the spot where the Abbey now stands. As has been mentioned before, on assuming this title he observed: "Now it may be truly said that I wear the habit of St. Alban." \12\

* * *

We are sometimes asked why Bacon wrote under +noms de plume+, as though the very question revealed the absurdity of such an idea. Yet once again the practice is by no means unique, either in his times, before, or since. Examples are numerous, and the following are generally accepted.

Robert Burton wrote as Democritus Junior, Sir Walter Scott anonymously, Rev. C. L. Dodgson as Lewis Carroll, Jean Francois Marie Arouet as Voltaire, Samuel Langhorne Clemens as Mark Twain. Again, Jean-Baptiste Poquelin wrote under the pseudonym of Moliere, Richard Harris Barham as Thomas Ingoldsby, Amandine Lucile Dudevant as George Sand. The three Bronte sisters, James Bridie and George Eliot used +noms de plume+. Books even have been written on the subject, such as +The Bibliographical History of Anonyms and Pseudonyms+, by A. Taylor and F. J. Mosher (1951). Voltaire is reported to have used 137 and Benjamin Franklin 57 pseudonyms. \13\

* * *

In Archbishop Tenison's +Baconiana or Certain Genuine Remains of Sr. Francis Bacon+ (1679), on p. 79, we read: "And those who have true skill in the Works of the Lord Verulam, like great Masters in Painting, can tell by the Design, the Strength, the way of Colouring, whether he was the Author of this or the other Piece, though his Name be not to it." This is clear evidence that Bacon wrote anonymously or under a pseudonym. . .

In +Memoriae Honoratissimi Domini Francisci, Baronis de Verulamio, Vice-Comitis Sancti Albani Sacrum+ (London, 1626) thirty-two of Bacon's friends and admirers honoured him with panegyrics after his death. Frequent reference is made to him as a muse, as well as a philosopher. Some relevant quotations (translated into English) are given below. They are taken from +Manes Verulamiani+, edited by W. G. C. Gundry (1950).

. . . a muse more rare than the nine Muses. . . nor did he with workmanship of fussy meddlers patch, but he renovated her walking lowly in the shoes of Comedy. After that more elaborately he rises on

the loftier tragic buskin. . .the golden stream of eloquence, the precious gem of concealed literature. . .How has it happened to us, the disciples of the Muses, that Apollo, the leader of our Choir, should die?. . .why should I mention each separate work, a number of which of high repute remain? A portion lies buried. . .ah! the tenth Muse and the glory of the Choir has perished. Ah! never before has Apollo himself been truly unhappy! whence will there be another to love him so? Ah! he is no longer going to have the full memory; and unavoidable is it now for Apollo to be content with nine Muses. . .he enriched the ages with countless books. . .You have filled the world with your writings. . .Phoebus withheld his healing hand from his rival, because he feared his becoming King of the Muses. . .They begot the infant Muses, he adult. . .But my song can bring you no praises, a singer yourself you chant your own praises thereby. . .

In his +Apologie in Certaine Imputations concerning the Late Earle of Essex+, Bacon wrote:

About the same time I remember an answer of mine in a matter which had some affinity with my Lord's cause, which though it grew from me, went after about in other's names. For her Majesty being mightily incensed with that book which was dedicated to my Lord of Essex, being a story of the first year of King Henry the fourth, thinking it a seditious prelude to put into the people's heads boldness and faction, said she had good opinion that there was treason in it, and asked me if I could not find any places in it that might be drawn within case of treason: whereto I answered: for treason surely I found none, but for felony [plagiarism] very many. (Spedding, +The Letters and the Life of Francis Bacon+).

There is also the enigmatic phrase in Bacon's Prayer or Psalm: "I have (though in a despised weed) procured the good of all men." The "despised weed" cannot refer to Bacon's scientific writings or to his legal work: it could refer to his possible role as a playwright.\14\

* * *

The Shakespeare Monument in Stratford Church: Most Baconians are agreed that this famous monument, which was erected sometime between 1616 and 1623, was subject to some radical alterations when it was repaired in 1748/9. . .Certainly the face, if not the entire bust, was changed and the two little figures above are very different from those engraved in Sir William Dugdale's +Warwickshire+ of 1656. [Recent research has shown that this book had been typeset and engraved twenty years earlier; the long delay in printing was caused by civil unrest under Charles I and then by Cromwell's rebellion.] The present figures are carved from an entirely different stone from the rest of the monument and, as a matter of fact, they and the present bust can be lifted down when it is necessary to give them a face lift. . .

It was Francis Bacon who, as a judge, was known for his wisdom and eloquence, as was Nestor, King of Pylos. Bacon, like Socrates, was a genius and a great philosopher and like Virgilius Maro, or Virgil as most of us know him, was a poet lamented by all who knew his real worth, as seen in the Latin tributes printed after his death and known as the +Manes Verulamiani+. It was one of these poems which stated that Bacon would reside in Olympus, as given on this Monument. In a subsequent work on poetry Bacon was named as "The Chancellor of Parnassus."

* * *

[In 1617, James I appointed Francis Bacon as Chancellor and Keeper of the King's Seals. Part of his duty was to act as a judge of the Court of Chancery, the King's court which was designed to relieve suitors from the rigors and injustices arising from ancient English common law. Hepworth Dixon, an English barrister, published in 1862 +The Story of Lord Bacon's Life+, in which he showed that Bacon's "fall" was part of a political plot and motivated by the jealousy of a rival lawyer, Sir Edward Coke. Lawyers, and perhaps their clients, will appreciate the following digest from Baconiana:]

The system which Bacon inherited was rotten to the core. No one

realized this better than Bacon himself, and he was bent on reforming it. First, as to "the Law's delays." In his very first speech in court, he used these words:

Concerning speedy justice, I am resolved that my decree shall come speedily upon the hearing. It hath been a matter much used of late, that upon the full hearing of a cause nothing is pronounced in court; but breviate are required to be made; which I do not dislike in causes perplexed, for I am of opinion that whosoever is not wiser on advice than on the sudden, is no wiser at fifty than at thirty; and it was my father's ordinary word [Sir Nicholas Bacon, former Chancellor], "You must give me time."

Yet I find that where such breviate were taken the cause was sometimes forgotten a term or two, and then set down for a new hearing, or a rehearsing three or four terms after. I will pronounce my decree within a few days after my hearing, and sign my decree at least in the vacation. Fresh justice is the sweetest. Justice ought not to be delayed. There ought to be no labouring in causes but that of the counsel at the bar.

And then he added, significantly:

Because justice is a sacred thing, and the end for which I am called to this place, and therefore is my way to heaven (and if it be shorter it is none the worse), I shall, by the grace of God, as far as God will give me strength, add the afternoon to the forenoon, and some fortnight of the vacation to the terms, for clearing the causes of the court. Only the depth of the three long vacations I would reserve for studies of arts and sciences to which in my nature, I am most inclined.

The fact that no less than three thousand six hundred Chancery causes awaited his attention--some of them of 10 or 20 years standing--will give some idea of the immensity of his labours. . .

By good humour, by patience and courtesy, by assiduity which knew neither haste nor rest, he cleared off all accumulations of arrears. In Easter and Trinity terms he settled no less than 3,658 suits; on the eighth of June he could proudly say; "I have made even with justice; not one cause unheard. Men think I cannot continue. The duties of life are more than life; and if I die now I shall die before the world will be weary of me--which, in our time, is somewhat rare. . ."

Truly, of all the hornets Bacon had stirred up when he accepted the seals, none was more to be dreaded than the humiliated and vindictive Coke, whose one aim in life, now, was to drag his rival down. . .

With the opening of his second year, Bacon's labours showed no sign of decreasing: on the contrary they increased. The harder he worked and the more personal attention he gave to the proceedings, the more he lessened the unpopularity of the Court of Chancery and the more the suits increased in number. Efficiency and industry, in fact, involve their penalties--a melancholy reflection! "The orders and decrees of his second year amounted to no less than 9,181," and Bacon's health began to suffer. . .

. . .The entries and reports remain in the Chancery archives; the lists show how great were the labours through which he cheerily tagged. . .By promptitude, vivacity and courtesy, more than 35,000 suitors in his court were freed in one year from the uncertainties of law. . . \16\

* * *

[To return to the question of the meaning of "lustrum" as engraved by Sir Nicholas Bacon on the stone walls of his house at Gorhambury, there are more than rumors about the misbehavior of Queen Elizabeth I after her accession in 1558. A Bishop de Quadra, a sort of Italian spy to the English Court, wrote to his King on Aug. 4, 1560 (as copied from the Simancas Archives at the Public Records Office in London by an Editor of Baconiana)]:

+Bishop de Quadra to the King+ [of Spain]:

. . .[The Queen's] affairs, however, are in such a condition that if she do not marry and behave herself better than hitherto, she will everyday find herself in new and greater troubles.

+Bishop de Quadra to Duchess of Parma, 11 Sept. 1560+:

. . . [The Queen] promised me an answer about the marriage [with the Archduke] by the third instant, and said she was certain to marry, but now she coolly tells me she cannot make up her mind and will not marry. After this I had an opportunity of talking to Cecil, who I understand was in disgrace, and Robert [Dudley, Earl of Leicester] was trying to turn him out of his place. After exacting many pledges of strict secrecy, he said the Queen was conducting herself in such a way that he thought of retiring. He said it was a bad sailor who did not enter port when he saw a storm coming on and he clearly foresaw the ruin of the realm through Robert's intimacy with the Queen, who surrendered all affairs to him and meant to marry him. He said he did not know how the country put up with it, and he should ask leave to go home, although he thought they would cast him into the Tower first. He ended by begging me in God's name to point out to the Queen the effect of her misconduct and persuade her not to abandon business entirely but to look to her realm--and then he repeated twice over to me that Lord Robert would be better in Paradise than here. . . He ended by saying that Robert was thinking of killing his wife who was publicly announced to be ill, although she was quite well, and would take very good care they did not poison her. He said surely God would never allow such a wicked thing to be done. . . I am sure he speaks the truth and is not acting crookedly.

The next day the Queen told me as she returned from hunting that Robert's wife was dead or nearly so, and asked me not to say anything about it. Certainly this business is most shameful and scandalous, and withal I am not sure she will marry the man at once or even if she will marry at all, as I do not think she has a mind sufficiently fixed. Cecil says she wishes to do as her father did. . . Since writing the above I hear that the Queen has published the death of Lord Robert's wife [Amy Robsart] and said in Italian, "She broke her neck, she must have fallen down a staircase."

+Bishop Quadra to the King, Jan. 1561+:

. . . Things have reached such a pitch that her chamberlain has left her, and Axele (Yaxley) of the Privy Chamber is in prison for having babbled, indeed there is not a man who has not some tale to tell. . .

+Bishop Quadra to the King, Sept. 1561+:

. . . the Earl of Arundel [is] drawing up copies of the testimony given in the inquiry respecting the death of Lord Robert's wife. Robert is now doing his best to repair matters as it appears that more is being discovered in that affair than he wished. . .

What is of most importance now, as I am informed, is that the Queen is becoming dropsical and has begun to swell extraordinarily. I have been advised of this from three different sources and by a person who has the opportunity of being an eye witness. To all appearances she is falling away and is extremely thin and the colour of a corpse. .\17\

* * *

[A mutant and erratic genius of Elizabethan times was John Dee (1527-1608). He has a bad name in the annals of science because he was an astrologer. However, astrology was the ancestor of astronomy and was considered a science until the observations and discoveries of Copernicus were proven and became generally accepted in Europe; public comprehension of his theory did not begin until early in the 17th century. Dee was also considered a magician and an alchemist and he probably misused his "powers" for private gain. He was acquitted in Star Chamber in 1555 of practicing sorcery against Queen Mary.

But Dee was a scientist worthy of the name to his contemporaries and he published treatises on mathematics, logic and navigation. His works include +Monas Hieroglyphica+ (1564) and +General and Rare Memorials Pertaining to the Perfecte Arte of Navigation+ (1577). Queen Elizabeth hired him to make hydrographic and geographic charts and descriptions of newly discovered regions.

He is believed once to have had possession of the celebrated Voynich manuscript, an ancient document written in a cipher which has never been

solved].

David Kahn, writing in *The Codebreakers*,\18\ says:

But how did a manuscript attributed to Roger Bacon (1214-1294) get to Rudolf's court at Prague? [The latter was the Holy Roman Emperor Rudolf II who had founded observatories for Tycho Brahe and Johannes Kepler.] Between 1584 and 1588, one of the Emperor's most welcome visitors was Dr. John Dee, an English divine, mathematician and astrologer who is sometimes said to have been the model for Prospero in *The Tempest*. Dee shared Rudolf's interest in the occult and was an enthusiast for Roger Bacon, manuscripts of many of whose works he had collected. He knew the young Francis Bacon and may have even introduced him to the works of Roger Bacon, which may help explain the similarities in their thought. Dee may have been aware of Roger Bacon's own brief discussion of cryptography in the *Epistle on the Secret Works of Art and the Nullity of Magic*. He certainly had some knowledge of, and considerable interest in, cryptology, for in 1562 he bought for Sir William Cecil, Queen Elizabeth's great minister, a manuscript of Trithemius' "Steganographia," which had not yet been published and "for which a Thousand Crowns have ben by others offred, and yet could not be obteyned."

* * *

Noel Fermor, commenting on the foregoing quotation in *Baconiana*, wrote:

The accuracy of the passage quoted above is confirmed at least in part because we know that Francis Bacon visited Dee's famous and vast library at Mortlake in 1582 at the age of 21 and began work on the *Instauratio* the following year. [Citing Dee's Diary, 11.8., 1582]. It seems plain from Francis Bacon's own statement that he started to plan the *Instauratio* soon after his meeting with Dee, and that Roger Bacon's oeuvre and occult philosophy were discussed at length by the two men. . .

Although Dee was primarily a man of learning, it is also true that he moved in European Court circles freely, and this may in some measure have reflected his relationship with Sir Francis Walsingham, Elizabeth's principal Secretary and head of espionage. Dee's letter from Leipsig of the 14th May 1586 to Walsingham indicates this since he complains therein of "Imperial and Royal--Honourable Espies" amongst others. Blackmail and insidious threats were as common then as now. Dee adds, "but the God of Heaven and Earth is our Light, Leader and Defender" and finally addresses Walsingham as his Patron--surely a significant appellation.

Certainly Dee had considerable influence at the Court of Elizabeth I, although his genius for mathematics, allied to his omniverous scholarship, would in themselves have won him favour with the numerous aristocratic men of learning who played such a prominent part in furthering the Renaissance. . . Ewen MacDuff, who has made a considerable study of this aspect of Dee's character, suggests that William Camden's reference to the fact that Dee was the first man to lecture on Euclid enhanced his reputation. . . Three of the best known [of Walsingham's European spies] were Gifford, Phillips (or Phillipps) and Anthony Bacon. . . We may note then that Dee met Cardano [Girolamo Cardano (1501-1576), an Italian mathematician, physician, astrologer and cryptographer] in 1550. Some years later Walsingham heard of Cardano's [grille cipher] system and, later, recruited Anthony Bacon as a cryptographer and spy. Ewen MacDuff has evidence that Francis Bacon knew Phillips well and accompanied him when meeting Dee in 1582... As hinted earlier, we prefer not to stress his character flaws but to ask readers to remember that genius is a many faceted jewel. After all, in John Dee we have a man who had a profound influence on Renaissance thought and on the deep laid schemes of Francis Bacon for the betterment of mankind. Dee himself wrote, "Farewell, diligent reader; in reading these things, invoke the spirit of Eternal Light, speak little, meditate much and judge aright."

A measure of the respect in which John Dee was held in earlier life is that the Duke of Northumberland, father of Robert Dudley, Earl of Leicester, employed Dee as tutor to his children so that they should have a sound scientific upbringing. Northumberland became a notable scientist with a strong leaning to mathematics and magnetism, and Anthony Wood,

in his +Athenae Oxoniensis+, was able to write that no one knew Robert Dudley better than Dee.\19\

* * *

With the exception of "King John," the historical plays of Shakespeare extend consecutively from the reign of Richard II to that of Henry VIII with one gap and one gap only, namely: the play of Henry VII is omitted. Shakespeare's play of Richard III ends with the crowning of Henry VII by Lord Stanley, who plucks the crown from Richard's dead temples.

Francis Bacon wrote one historical work in prose: +The Historie of the raigne of King Henry the Seventh+, published in 1622. This history begins with the crowning of Henry VII on the battlefield by Lord Stanley, who finds the crown among the spoils, and this History ends at the point where Shakespeare takes it up again in the play of Henry VIII.

Is it a coincidence that Bacon wrote a History of Henry VII in prose, beginning at the exact point where Shakespeare left off in Richard III and leaving off at the exact point where Shakespeare begins again in Henry VIII?

Henry VIII was printed for the first time in the First Folio of 1623. This play shows that the author was indebted for some of his materials to Cavendish's +Life of Wolsey+, which, although written in 1557, was not published until 1641--eighteen years after the appearance of the play and twenty-five years after the death of Will Shaksper. It is impossible that the actor could have had access to this manuscript, but it would have been available to Bacon as one of Wolsey's successors in office. It is quite certain that in 1622-23 Bacon was engaged upon a work pertaining to the reign of Henry VIII, for in January, 1623 he had applied to the proper authorities for the loan of such documents as might be in the public archives relating to that monarch's reign. On 21st February, 1623 Bacon wrote to Buckingham, who had gone to Spain with Prince Charles, asking to be remembered to the Prince "who, I hope ere long, will make me leave King Henry VIII and set me on work in relation to His Majesty's heroical adventures."

On 26th June, 1623 Bacon wrote to his friend Sir Tobie Matthew: "Since you say the Prince hath not forgot his commandment touching my history of Henry VIII." Where is this History of Henry VIII? It never appeared, but six months afterwards the play of "Henry VIII" is published in the First Folio of the Shakespeare Plays.

In this play of "Henry VIII" there is a scene where four peers are sent to relieve Cardinal Wolsey of the Great Seal. Is it a coincidence that the playwright should have selected as two of these peers the names of two of the peers who were actually sent to take the Great Seal from Francis Bacon on the occasion of his fall from power? Why should any man other than Francis Bacon himself mention the names of two peers who did not attend on Cardinal Wolsey but who did attend upon himself?

The plays and poems of Shakespeare are saturated with legal principles, technically expressed. They clearly show that the author was as familiar with the intricate+practice+of the courts as he was with the theory of the law. He was a trained lawyer, and the technical knowledge of the law shown in the plays must have been acquired by someone who had actually practised in the courts; no amateur could have acquired by conversation with legal acquaintances the familiarity with the law shown by the author of the plays. Dr. Appleton Morgan, the president of the New York Shakespeare Society, said: "He was a ripe, learned and profound lawyer, so saturated with precedents that at once in his highest and sweetest flights he colours everything with legal dyes." Heard in his +Shakespeare as a Lawyer+, he says: "He must have obtained his knowledge of the law from actual practice." There is no evidence that Will Shaksper had any acquaintance with the law.

It is clear that the author of "Hamlet" must have possessed an intimate knowledge of the law of suicides, as found in the old case of Hales v. Petit in Plowden's Reports, which are written in Norman Latin law-jargon and black-letter type, and which would be utterly unintelligible to a layman.

Is it a coincidence that Francis Bacon, who was Lord Chancellor, was the greatest jurist of his age and as profound a lawyer as was Shakespeare?

Sir Tobie Matthew, writing to his friend Francis Bacon in 1618, states: "The most prodigious wit that ever I knew of my nation, and of this side of the sea, is of your Lordship's name, though he be known by another."

This can only mean that Bacon had been writing works in the name

of someone else, so the question arises, where are these works written by Bacon and published in the name of some other man? . . .

Many of the Shakespeare plays were revised and re-revised by the author before they were printed, and also between successive editions.

From the publication of "The Taming of the Shrew" in 1594 up to the date of the First Folio in 1623, 4,936+new lines+were added to the plays, the majority of these new lines being added +after the death of Will Shaksper+ in 1616.

Is it a coincidence that Francis Bacon re-wrote and revised all of his prose writings a great number of times, and that in the case of both Bacon and Shakespeare the work of revision culminated in or about 1623--seven years after Will Shaksper's death? . . .

When the play of "Richard II" appeared in 1598 Queen Elizabeth was furious, because she thought it was part of a plot to teach her subjects how to murder kings.

"I am Richard," she said, "know you not that?"

She was even more angry when immediately afterwards John Hayward, a young doctor of civil law, published a pamphlet which, taking as its basis the story of the play, drew from it morals that the Queen considered to be seditious. The fat was in the fire, and the Queen sent for Francis Bacon and instructed him to draw up articles against the author. Francis Bacon reported to the Queen that in his opinion there was no treason in the play, but that the author was a thief because he had lifted most of the sentences of Cornelius Tacitus, translated them into English, and put them into the text of the play. Bacon reports this incident in his +Apologia+ concerning Essex. [This was the second time that he had to explain a play to the Queen.]

How is it that Bacon knew the sources from which some of the chief passages in "Richard II" were derived, whereas modern commentators on Shakespeare have never been able to tell us what these passages are?

Shakespeare's +Venus and Adonis+ was published in 1593 and dedicated to the Earl of Southampton.

Will Shaksper in 1593 would be twenty-nine years old, and had only recently arrived in London.

The dedication to the poem shows that Southampton's consent to the dedication had not been obtained, which would be a very risky proceeding on the part of an unknown actor.

The following year Shakespeare dedicated his +Rape of Lucrece+ to Southampton, this time in terms of high friendship.

There is no evidence that Will Shaksper was ever acquainted with Southampton.

Is it a coincidence that Shakespeare dedicates these two poems to Southampton, who was one of Francis Bacon's most intimate friends, both being members of Gray's Inn?

In the plays "Merry Wives of Windsor," "Henry VI," Parts 2 and 3, "King John," "Richard III," and "Othello" in the First Folio, 4,479 new lines were added after these plays were published in the Quarto Editions. These Quarto editions were published from three to six years after Will Shaksper's death, and the First Folio was published seven years after his death.

Is it a coincidence that the man who inserted these 4,479 additional lines +seven years after Will Shaksper's death+ was able to copy the original author's style to such an extent that it is impossible to distinguish these additions from the original matter? . . .

In the second edition of "Hamlet," 1604, we find the tides of the ocean attributed, in accordance with popular opinion, to the influence of the moon.

Francis Bacon at first held the common opinion, but in 1616 he investigated the matter and in a treatise entitled +De fluxu et Refluxu Maris+ definitely rejected the lunar theory.

Is it a coincidence that in every edition of "Hamlet" published +prior to 1616+ the lunar theory is stated and approved, and that in every edition of this play +published after 1616+ it is omitted?

Will Shaksper had died in 1616, so he could not have arranged for the omission of this theory in the editions of the play published after 1616.

Why should the man responsible for these later editions change his opinion at the same time that Francis Bacon did? . . .

In the dedication to the Earl of Southampton of the poem +Venus and Adonis+, published in 1593, Shakespeare calls this poem "the first heir of my invention." Invention in those days meant "imagination," and was applied to poetry and the drama. If what Shakespeare says is true, and this poem was

his first poetic composition, it must have antedated every Shakespearean play, and it follows that, as Shakespeare plays had been on the boards in London before will Shaksper arrived in London, Shaksper, if he had been the author, must have written +Venus and Adonis+ when he was still in Stratford. This is obviously an impossibility, for it contains the purest, most elegant and scholarly English, with not a trace of patois in it. The education (if any) that Shaksper had managed to obtain at Stratford would, under no circumstances, have been sufficient to enable him to compose this poem, which bears every mark of collegiate elegance and culture.\20\

* * *

[Here are few choice sentences of Francis Bacon touching science:]

The human discoveries we now enjoy should rank as quite imperfect and underdeveloped. In the present state of the Sciences, new discoveries can be expected only after the lapse of centuries.

Man is the helper and interpreter of Nature. He can only act and understand in so far as by working upon her or observing her he has come to perceive her order. Beyond this he has neither knowledge nor power. For there is no strength that can break the causal chain: Nature cannot be conquered but by obeying her. Accordingly those twin goals, human science and human power, come in the end to one. To be ignorant of causes is to be frustrated in action.

Crafty men condemn studies, simple men admire them; and wise men use them.

God Almighty first planted a garden. And indeed, it is the purest of human pleasures. It is the greatest refreshment to the spirits of man; without which buildings and palaces are but gross handyworks.

Since I have lost much time with this age, I would be glad if God shall give me leave to recover it with posterity. I have raised up a light in the obscurity of Philosophy which will be seen centuries after I am dead.\21\

* * *

Bacon's paradoxical manner of turning a sentence so as to read two ways has been the frequent subject of comment. A large number of puns and quibbles are to be found even in his graver works, and Ben Jonson's remark [that Bacon could not pass by a jest] shows that, however much he might try to exclude these plays upon words from his writings, the habit of punning was so confirmed in him as to be, in Jonson's opinion, a disfigurement to his oratory. . .

"The varieties and sprightliness of Bacon's imagination, an imagination piercing almost into futurity, conjectures improving even to prophesy. . .The greatest felicity of expression and the most splendid imagery."...Basil Montagu.). . ."To the +Advancement of Learning+ he brings every species of poetry by which imagination can elevate the mind from the dungeon of the body to the enjoying of its own essence. . .Metaphors, similitudes and analogies make up a great part of his reasoning. . .Ingenuity, poetic fancy, and the highest imagination and fertility cannot be denied him." (Craik). . ."The creative fancy of a Dante or Milton never called up more gorgeous images than those suggested by Bacon, and we question much whether their worlds surpass his in affording scope for the imagination. His extended over all time. His mind brooded over all nature, unfolding to the gaze of the spectator the order of the universe as exhibited to angelic intelligences." (Devey.) "The tendency of Bacon to see analogies is characteristic of him, the result of that mind not truly philosophic but truly poetic, which will find similitudes everywhere in heaven and earth." (Dr. Abbott.)

"He was no dashing man, as some men are, but ever a countenancer and fosterer of another man's parts. Neither was he one that would appropriate the speech wholly to himself, or delight to outvie others. He contemned no man's observations, but would light his torch at every man's candle. His opinions were for the most part binding, and not contradicted by any, which may well be imputed either to the well-weighting of his sentences by the scales of truth and reason, or else to the reverence and estimation in which he was held. I have often observed, and so have other men of great account, that if he had occasion to repeat another man's words after him, he had an use and faculty to dress them in better vestments and apparel than they had before, so that the author should find his own speech much

amended, and yet the substance of it still retained, as if it had been natural to him to use good forms, as Ovid spake of his faculty of versifying." (Dr. Rawley.)

Bacon's chief complaint against the "schoolmen," and against the ancient philosophies, was not so much regarding their matter as their method. The matter had become mere words, and the continual repetition of the same words made even "truth itself tired of iteration." He rightly complained that the writers of his time only looked out for facts in support of preconceived theories, or else, where authority and prejudice did not lead the way, constructed their theories on a hasty and unmethodical examination of a few facts collected at random. In either case they neglected to test or verify their generalizations, whilst they wasted time and study in drawing out, by logical arguments, long trains of elaborate conclusions which, for aught they knew, might start from erroneous theories. . .

Let us sum up briefly the deficiencies in knowledge which, so far, we have learnt from Bacon to observe in the works of his predecessors, but which were being rapidly supplied during his life and in the succeeding generation:

Natural Science, or Physics and Chemistry, with experiments and demonstrations--deficient.

Natural History, excepting a few books of subtleties, varieties, catalogues, etc.--deficient.

Horticulture and husbandry, totally or partially deficient.

Meteorology in all its branches, deficient.

Astronomy, weak with good foundations, but by no means sound.

Astrology, not to be despised, but not practiced so as to be useful or sane.

Medicine, Pathology and the art of prolonging life--deficient.

Metaphysics, or the Doctrine of the Human Soul, and of the influence of mind on body--deficient.

Physiognomy and Gestures, the study of them--deficient.

As in everything else which Bacon noted as unattempted or unachieved, we find him endeavoring to supply the deficiencies in language which were universal in his day. He does not hint that Ben Jonson, Shakespeare and others had been for years pouring Latin words into our language, trying experiments in words which had never been tried before, coining, testing and rejecting, in the same manner precisely in which Bacon himself was coining, testing, rejecting, or making current the new words which he entered in his +Promus+. . .

Not one word does Bacon say about the prodigious increase in the richness of language which had taken place during his own life. As he wrote in the prime of his manhood, so he writes in the complete edition of the +Advancement of Learning+, published simultaneously with the Shakespeare plays in 1623. Ending where he began, and disregarding the mass of splendid literature which filled up all numbers and surpassed the finest efforts of Greece and Rome, he calmly sets down philosophic grammar and the art of using beautiful language as "wanting."

But Bacon was no ordinary man. He was an intellectual giant, born into a world which seemed to him to be chiefly peopled with pigmies; the spiritual and intellectual life of the world stunted, deformed, diseased, and sick unto death through ignorance and the sins which ignorance nourishes and strengthens. . .\22\

* * *

Ben Jonson, without naming Shakespeare, personified him in a poem entitled "On Poet-Ape."

Poor Poet-Ape, that would be thought our chief,
Whose works are e'en the frippery of wit,
From brokage [brokerage] is become so bold a thief,
As we, the robbed, leave rage, and pity it.
At first he made low shifts, would pick and glean,
Buy the reversion of old plays; now grown
To a little wealth, and credit in the scene,
He takes up all, makes each man's wit his own.
And, told of this, he slights it. Tut, such crimes
The sluggish gaping auditor devours;

He marks not whose 'twas first, and after-times
May judge it to be his, as well as ours.
Fool, as if half eyes will not know a fleece
From locks of wool, or shreds from the whole piece.

Notes for Chapter 4:

1. +Emerson's Works+, London, 1883, Vol. 4, p. 420.
2. "The Name Shakespeare," T. Wright, Baconiana No. 4:
1. +Emerson's Works+, London, 1883, Vol. 4, p. 420.
2. "The Name Shakespeare," T. Wright, Baconiana No. 154, June 1956.
3. "Shake-speare's Sonnets," R.J.A. Bunnett, Baconiana No. 155, 1956.
4. "Francis Bacon as an Essayist and Orator," R.J.W. Gentry, Baconiana No. 156, 1957.
5. "Knights of the Helmet," Martin Pares, Baconiana No. 161, 1961
6. "Who Was Shakespeare," Martin Pares, Baconiana No. 165, 1965.
7. +The Arte of English Poesie+, George Puttenham, London 1589
8. +The Works of Ben Jonson+, London 1640
9. "Francis Bacon and the Utopias," Martin Pares, Baconiana No. 167, 1967.
10. "The Unspeakable word," by "The Outsider" (Ewen Macduff), Baconiana No. 171, 1971.
11. Editorial, Noel Fermor, Chairman, The Francis Bacon Society, Baconiana No. 169, 1969.
12. +Supra+, Noel Fermor.
13. "Cryptics and Sceptics," Noel Fermor, Baconiana No. 169, 1969
14. "Christ Church Cathedral, Oxford," Baconiana No. 173, 1973.
15. "Those Shakespeare Manuscripts," Thomas D. Bokenham, Baconiana No. 175, 1975
16. "The Persecution of Francis Bacon," H. Kendra Baker, Baconiana No. 176, 1976.
17. "The First Sacrifice" (Addendum), Baconiana No. 178, 1978.
18. +The Codebreakers+, David Kahn, MacMillan Co., New York, 1967.
19. "John Dee," Noel Fermor, Baconiana No. 181, 1981.
20. +Bacon-Shakespeare Coincidences+, Edward D. Johnson, The Bacon Society, Inc., George Lapworth and Co., Ltd. (2d Ed.), London, 1950
21. Editorial, Baconiana No. 183, 1983.
22. +Francis Bacon and his Secret Society+, Mrs. Henry Pott, Francis J. Schulte, Chicago 1891.

Science

+Histories make men wise; poets witty; the mathematics
subtile; natural philosophy deep; moral grave; logic and rheto-
ric able to contend+.

--Francis Bacon

Chapter 5

When he was a young man Francis Bacon said, "I take all knowledge to be my province." That statement has been criticized as being boastful.

But in his day there existed very little knowledge of a precise character. He was speaking, I think, with a reverence for the mysteries of Nature and expressing a wish to discover her ways.

In the Sixteenth Century, anyone looking for a reliable answer to a scientific question would be told to consult Aristotle who had a theory to explain every physical event. This Greek was often wrong but he was right, often enough, to be venerated in such glory that hardly anyone dared question his two thousand-year old opinions. Not even the English Reformation had dented his prestige in the universities. In Spain the Inquisitors were still searching for those so foolish as to flout Aristotle's authority.

Bacon, after two and a half years at Trinity College, Cambridge, quit in disgust. Forever after he protested against the "schoolmen" who taught almost nothing but ancient languages, literature, Euclid, Aristotle and religion. They had a contempt for science, as we understand the term. They believed only in deductive reasoning, thus attempting to leap over the physical evidence or tunnel under it or find a handy detour around it.

The deducer travels from some premise, which he may have made up all by himself, to a conclusion. In the Sixteenth Century many religious dogmas embraced such premises; they were regarded as heresies by the Church of Rome. Before Bacon science itself was influenced by superstition. Alchemy and astrology were then considered to be themselves sciences; nevertheless, such studies were actually the foundations for modern chemistry and astronomy.

Before Bacon there was no organized way of thought, so as to permit the accidental discovery of some unknown phenomenon to be studied, communicated, replicated and refined. The scientific method was practiced, if at all, by only a few quiet and rare individualists working in private investigation.

Bacon's invaluable contribution to wisdom was his advocacy of inductive reasoning, the common-sense way of finding a general rule from a number of experiences. This may not seem like much to us now but in his day it was a revolution, a radical extravagance in thinking. Hardly anyone had then considered experimentation, or observation, or making improved instruments and recording readings, or simplifying arithmetical computation, or repeating someone else's experimental process precisely, or writing papers for journals, or communicating with others in the same field. That was hard work and required inspiration and time and professional devotion. It also took money and that was scarce. The need was not perceived by government or industry.

Bacon believed that such labors would improve the condition of mankind. He wrote persuasively and he lectured and he published his views again and again. He wrote in a language then called "vulgar" (English) but he translated many of his works into Latin, the universal language of that age; they were read in that and many other languages to which they were retranslated.

In Francis Bacon's *Sylva Sylvarum*, or *A Naturall History*, 1627, he reported a thousand "experiments." This was his attempt to collect, not necessarily from his own experience but from the reports of others, instances of the behavior of Nature. In reading it, one must remember that no one in England had previously made such a collection and that there were no proven standards by which to judge the merit of any observation or experiment.

A prize possession of mine is a 1628 edition of Bacon's *Sylva Sylvarum*. It is a very sturdy book or it would not have lasted this long. Made of the finest, hand-made rag paper and bound in its original calf, it has seen a lot of history: Cromwell's rebellion, the Restoration, the Plague, the Black Death, the Great Fire of London, constant war either with France or Spain, the American Revolution, Napoleon--through it all the succeeding owners somehow preserved this book.

There are a few waterspots and missing endpapers; it is not the first edition but the second. The frontispiece went into the press under the original engraving, except that someone has made a 9 out of the 7 in the date. It has had at least one proud owner with a well-practiced hand; he has added to his script many flourishes:

Mr. John Rainor
His Naturall
History
To Mr. Raynor (sic) I doe belong
In keeping mee you doe Rong.
Return me to h hand Again
And hel Requite you for your Paine.

Next is the engraved portrait of "The right Hon^{ble} Francis Lo. Vervlam, viscount S^{ct} Alban. mortuus 9 Aprilis, Anno Dni. 1626. Annog Aetat 66+." His family motto, *MONITI MELIORA* is shown, along with his crest and *MEDIO CRIA FIRMA*. Facing that is the frontispiece, an engraving of the globe, marked *Mundus Intellectualis*, hovering between two pillars which perhaps represent the Pillars of Hercules. One wonders, how many modern books will be worth keeping in such readable condition and still exist in A.D. 2348?

Bacon divided his book into ten "Centuries," each division containing 100 reports. In Century I, experiment 33, Sir Francis Bacon says:

It is affirmed constantly by many, as an vsuall Experiment; That a Lump of Vre+, in the +Bottom+ of a Mine, will be tumbled, and stirred, by

two Mens strength; which if you bring it to the +Top+ of the +Earth+, will aske Six Mens strength at the least to stirre it. It is a Noble+Instance+, and is fit to be tried to the full: For it is very probable, that the +Motion

of Gravity+ worketh weakly, both farre from the Earth, and also within the Earth: The former, because the Appetite of Vnion of Dense Bodies with the Earth, in respect of the distance, is more dull; The latter because the Body hath in part attained his Nature, when it is some Depth in the Earth. For as for the Morning to a +Point+ or place (which was the opinion of the +Ancients)+ it is a meere Vanity.

Did Sir Isaac Newton (1642-1727) ever read that? He did, of course, first discover the mathematical laws governing gravity. His book, +Philosophiae Naturalis Principia Mathematica+ of 1687 is considered one of the greatest contributions to the science of motion and the study of gravitation. Bacon's story about the weight of a body in a mine may be apocryphal, but his conclusions are weirdly and accurately perceptive. Newton would agree that the weight of a rock, measured by a spring balance, would decrease as its distance from the earth increased and that its weight, if+within+the earth, would decrease as it moved nearer to the center of the earth's gravity. Had there been private discussions of these principles in Bacon's time? Had these primal notions been floated about for almost a hundred years afterward, until they struck and inspired Newton's mind?

In Century I, experiment 100, Bacon says:

There is nothing more Certain in Nature, than that it is impossible for any +Body+, to be vtterly +Annihilated;+ But that, as it was the work of the Omnipotency of +God+, to make +Somewhat of Nothing+; So it requireth the like Omnipotency, to turn +Somewhat+ into +Nothing+. And therefore it is well said, by an Obscure writer of the +Sect+ of the +Chymists;+ That there is no such way to effect the Strange +Transmutations+ of Bodies+, as to endeouour and vrge by all means, the +Reducing+ of them to +Nothing+. . .

What Bacon is saying here is a preview of the first law of atomic physics, the law of conservation. This is that neither matter nor energy may be created or destroyed. One may be changed to another, it has recently been discovered, but neither of these elemental things may be utterly annihilated. In this passage he also disparages the alchemists and their attempts to change lead into gold.

Bacon has been criticized because, it is said, he was not a scientist. Of course, science has now become a way of working. If his inductive demands had not, in his time, yet been adopted, then there were no contemporary scientists. It has been said that he was not a mathematician and that he contested the proofs of Copernicus that the earth circuted the sun. European mathematics was then itself in its infancy, while ordinary calculations presented great difficulties and the chances of error were multiple. Copernicus' theory was filled with faults and was greatly improved by Johannes Kepler by the later publication, in Central Europe, of his three laws of planetary motion. But that was not soon enough for English scientific opinions to alter.

At the time long division was done by the "scratch" method invented by Fibonacci about 1202. Here is an example of his way of dividing 65284 by 594: (" \backslash " indicates that the number preceding has been scratched over).

$$\begin{array}{r}
 1 \backslash 5 \backslash \\
 5 \backslash 3 \backslash 3 \backslash \\
 1 \backslash 6 \backslash 8 \backslash 7 \backslash 8 \backslash \\
 6 \backslash 5 \backslash 2 \backslash 8 \backslash 4 \backslash \\
 5 \backslash 9 \backslash 4 \backslash 4 \backslash 4 \backslash \\
 5 \backslash 9 \backslash 9 \backslash \\
 5 \backslash
 \end{array}
 \quad (=109)$$

Math aficionados may wish to try to determine how the answer, 109, was arrived at. And the answer, of course, is wrong. It should be 109.90572+, as our little pocket calculators can instantly compute. But there was not, published in England until late in Bacon's life, even the concept of the decimal system. There were no log tables to immensely reduce calculating time and error in the science of astronomy. There was really no handy way to check up on Copernicus and, until there was, maybe Bacon reached

the correct scientific conclusion: not adequately proven. Not until Napier, Stevin and Briggs who made logarithmic tables and instructed the scientific community in the decimal system.

J. G. Crowther, author of 35 books on the history of science, has this to say about Francis Bacon's understanding of mathematics:\1\

Bacon regarded mathematics as belonging to what he called metaphysics or the principles of nature. It was the auxiliary or handmaid to every branch of science. But it had come to pass, he knew not how, that mathematics and logic had presumed to domineer over science on the strength of their certainty. Profound though it is, mathematics should be kept in its place. He suggested that there was room for improvement in "the abridgment of compilation," and in the use of infinite series in physics. Napier's invention of logarithms, the invention of the calculus, and of modern calculating machines bear him out.

He predicted that as physics "advances farther and farther every day," it will "require fresh assistance from mathematics in many things. . .If men be not idle, many new branches of applied mathematics will come into existence. . .The inquiries will have the best result when they begin with physics and end with mathematics."

Patent laws did not exist, and Bacon counseled:

If any man out of his own wit, industry or endeavour, find out anything beneficial to the Commonwealth, or bring any new invention which every subject of this kingdom may use; yet in regard of his pains and travel therein, her Majesty perhaps is pleased to grant him a privilege to use the same only by himself or his deputies for certain time. . .If a man could succeed not in striking out some particular invention, however useful, but in kindling a light in nature. . .and bring into sight all that is most hidden and secret in the world,--that man (I thought) would be the benefactor indeed of the human race,--the propagator of man's empire over the universe, the champion of liberty, the conqueror and subduer of necessities."

In these thoughts Bacon went beyond the principle of the government-bestowed patent; he was suggesting basic research as the duty of the new scientists. Later he proposed that basic research, being both expensive and neglected, should be supported by the government. Yet then and now many have regarded him as a promoter of applied science, rather than of the "pure science" which his detractors somewhat piously profess.

Loren Eiseley was a famous anthropologist who found new and much earlier dates for the fossils of the Pleistocene Epoch. Among such remains were specimens of the bones of humans, or humanoids, more than a million years old. He was fascinated by Bacon and wrote prose poems in his praise. In a chapter entitled "The Man who Saw Through Time,"\2\ he speaks of his accomplishments:

It is not possible to realize the full magnitude of Bacon's achievement without some knowledge of this age of the scientific twilight--an age when men first fumbled with the instruments of science yet, in the next breath, might consider the influence of stars upon their destinies or hearken to the spells of witchcraft. . .Not all men, like Sir Francis Bacon, are fated to discover an unknown continent, and to find it not in the oceans of this world but in the vaster seas of time. Few men would seek through thirty years of rebuff and cold indifference a compass to lead men toward a green isle invisible to all other eyes. . .Appropriately there lingers about this solitary time-voyager a shimmering mirage of fable, an atmosphere of mystery, which frequently closes over and obscures the great geniuses of lost or poorly documented centuries.

It is in the use to which he put inductive logic that he strove to break out of the old, unproductive circle of the Aristotelian schoolmen. In essence his argument is as follows: we must refrain from deducing general laws or principles for which we have no real evidence in nature. Instead, because of our human tendency to leap to unwarranted conclusions, we must dismiss much of what we think we know and begin anew patiently to collect facts from nature, never straying far from reality until it is possible through surety of observation to deduce from our observations more general laws. . .

Yet Bacon, for all his emphasis on observation, was ahead of his time

and writes, indeed like a modern theoretical physicist, when he argues that "many parts of nature can neither be invented, that is observed, with sufficient subtlety, nor demonstrated with sufficient perspicuity without the aid and intervening of the mathematics."

Eiseley continues and quotes Bacon's "draft" will (it was a later one that was offered for probate):

"I leave my name," wrote Francis Bacon, Lord Chancellor of England under James the First, "to the next ages, and the charity of foreigners, and to mine own countrymen after some little time be passed." Men like Bacon are not easily loved or used: something terrific exists in them, however humbly they speak. . . "Even to deliver and explain what I bring forward," Bacon once remarked in weariness, "is no easy matter, for things in themselves new will yet be apprehended with reference to what is old." In the passage of long centuries the endless innovations of science have not quieted that lust for power which still blocks the doorway to the continent of Bacon's dreams. . .

"The unlearned man," wrote Bacon carefully, "knows not what it is to descend into himself, or call himself to account. . . whereas, with the learned man, it fares otherwise that he doth ever intermix the correction and amendment of his mind with the use and employment thereof." . . .

Bacon himself, perhaps out of bitter self-questioning and disappointment, referred to the world he inhabited as one of shadow rather than of light. . .

I have said that his building is huge beyond our imaginations, drafty and unfinished. Like all such monuments of genius, it is never truly of the past. Lights flicker mistily in its inner darkness, stones are still moved about by unseen hands. Somewhere within, there is a ghostly sound of hammering, of a work being done. The work is ours, the building is as we are shaping it, nor would Bacon have it otherwise. Since Bacon was a statesman and a pathfinder, no man quite escapes his presence in the haunted building of science, nor the whispers of his approbation or unease.

Occasionally the voice grows louder, as now [1962], in our overtopping part of the structure. To those who listen, the harsh Elizabethan line strikes once more like surf around the shores of his far-off New Atlantis, warning us of man's double nature and perhaps his fate, for Bacon did not hesitate to write: "Force makethe Nature more violent in the Returne."

Eiseley might have agreed with Crowther who said, "Bacon was an autodidact who thought everything out for himself. When this kind of man possesses great mental power his work has a perpetually stimulating originality, because it owes exceptionally little to conventional ideas. . ."

These were the supernal thoughts growing in Bacon's mind almost four centuries ago; these, while raw sewage still flowed through the open gutters of the London streets.

+ + +

John Napier was born in Edinburgh, Scotland in 1550.

The spelling of his name is of particular consequence, as will be shown in a later chapter. Webster's Biographical Dictionary gives it as "Napier" or "Neper," as do other books of reference. Another spelling is shown on the title-page of +Mirifici Logarithmorum+, printed in Edinburgh in 1614. This is "Nepero."

On the title-page of +Arithmetica Logarithmica+, published by Gvlielmvs Iones in London in 1624, the name is spelled "Nepervs." In John Speidell's +New Logarithmes+, London 1624, the name is "Nepair." The orthography of Napier's name was then quite variable which may offend the modern eye, but it is clear that it was spelled auricularly, much as it sounded.

A Scottish nobleman, he was the eighth Laird of Merchiston. He had studied at St. Andrews college and on the continent. He had a religious bent and wrote a defense of Protestantism in 1593;\3\ this became very popular and was translated into several languages. He lived in a castle at Gartness and fathered twelve children. Somewhat of a polymath, he studied agriculture and promoted the use of manure and ordinary salt as fertilizer. He invented a hydraulic screw machine to pump water out of the coal pits.

He also suggested designs for armaments, such as burning mirrors for setting fire to ships, artillery, and an armored chariot built so that its occupants could fire in any direction. He showed an early interest in mathematics by writing, in 1572, a treatise on arithmetic and algebra. This work showed that he knew something about the imaginary roots of equations, which was rare in those times. He also invented a device known as "Napier's bones"; this was an early calculator, a sort of mechanical multiplication table made of square sticks and operated by manipulation and inspection. Because of his many talents he was once accused of being a wizard.

In the +Dictionary of Scientific Biography+⁴, it is said that in the last section of Napier's 1617 +Rabdologiae+ he described another device, "a mechanical method of multiplication that was based on an 'areal abacus' consisting of a checkerboard with counters in which numbers were expressed in the +binary scale+. . .The calculation of the canon was a tremendous task and occupied Napier personally for over twenty years." It is known that he began work on logarithms and the tables about 1590.

However painful it may be to those far removed from high-school math, some explanation of logarithms should be offered from a text.⁵

The logarithm is defined as the exponent of a base number raised to a power. Thus, if

$$a^{(superscript)} b = c$$

then b is the logarithm of c to the base a, or

$$b = \log_a^{(superscript)} c$$

Powers of the same base are multiplied by adding the exponents:

$$a^{(superscript)} b \times a^{(superscript)} n = a^{(superscript)} b+n$$

Therefore, the logarithm of a product is the sum of the logarithms of the factors. Thus

$$\log_a^{(superscript)} (c \times d) = \log_a^{(superscript)} c + \log_a^{(superscript)} d$$

There are two standard systems of logarithms: the [early] Napierian, or natural, system, with the base $e = 2.71828+$ and the Briggs, or common, system with the base 10. The former is generally used in algebraic, the latter in numerical calculations. . .The tables are useful for performing repeated multiplication or divisions, when greater than slide rule accuracy is desired.

By using logarithms we substitute the simple process of addition for the more involved process of multiplication. Instead of multiplying two numbers together, as

$$123 \times 456 = 56,088$$

we add their logarithms, and look up the corresponding number in a log table:

$$\log 123 + \log 456 = 2.08991 + 2.65896 = 4.74887 = \log 56,088$$

And, of course, Napier's invention was also used for division, to determine square and other, higher order roots, and especially in trigonometry and geometry. He made the tools for astronomers to study the planets in their travels and to determine why they sometimes appeared to follow retrograde epicycles, to temporarily reverse their courses while orbiting the sun.

Napier must have communicated with Henry Briggs (1556-1631) before the publication of +Mirifici Logarithmorum Canonis Descriptio+ in 1614, though they did not meet until a year later. Briggs was a professor of geometry at Gresham college in London; he had graduated from Cambridge in 1581.

Briggs wrote to Archbishop Usher in March of 1615, "Napper, lord of Markinston, hath set my head and hands at work with his new and admirable logarithms. I hope to see him this summer, if it please God, for I never saw a book which pleased me better or made me more wonder." In a

life of Briggs, Dr. Thomas Smith says of his regard for Napier's +Canon Mirificus,+ "He cherished it as the apple of his eye; it was ever in his bosom or in his hand, or pressed to his heart, and, with greedy eyes and mind absorbed, he read it again and again. . .It was the theme of his praise in familiar conversation with his friends, and he expounded it to his students in the lecture room."

In the summer of 1615 Briggs traveled from London to Edinburgh. William Lilly, an astrologer, wrote of his meeting with Napier at Merchiston Castle:

I will acquaint you with one memorable story related unto me by John Marr, an excellent mathematician and geometrician whom I conceive you remember. He was servant to King James I and Charles I. When Merchiston first published his Logarithms Mr. Briggs, then reader of the astronomy lectures at Gresham College in London, was so surprised with admiration of them that he could have no quietness in himself until he had seen that noble person whose only invention they were. He acquaint John Marr therewith who went into Scotland before Mr. Briggs purposely to be there when these two so learned persons should meet. Mr. Briggs appoints a certain day when to meet at Edinburgh; but, failing thereof, Merchiston was fearful he would not come. It happened one day as John Marr and the Lord Napier were speaking of Mr. Briggs. "Oh! John," saith Merchiston, "Mr. Briggs will not come now"; at the very instant one knocks at the gate. John Marr hastened down and it proved to be Mr. Briggs to his great contentment. He brings Mr. Briggs into my Lord's chamber, where almost one quarter of an hour was spent, each beholding the other with admiration, before one word was spoken. At last Mr. Briggs began, "My Lord, I have undertaken this long journey purposely to see your person, and to know by what engine of wit or ingenuity you came first to think of this most excellent help unto astronomy, viz. the Logarithms; but, my Lord, being by you found out, I wonder nobody else found it out before, when, now being known, it appears so easy."

They spent a month together and Briggs came for another visit in the following year. He planned to return again until he received news of Napier's death.

Alfred Hooper, in his +Makers of Mathematics+\7\ has this to say about the invention of the decimal system:

Decimal fractions are the most important development of arithmetic since the introduction of Hindu-Arabic number-symbols. They enable parts of a whole to be added, subtracted, multiplied and divided, etc., as whole numbers, and thus avoid the clumsy and complicated methods involved in handling other fractions. Their use was first clearly advocated by a mathematician named Simon Stevin of Bruges, better known as Stevinus, in a work published in 1582 and called +La Practique d' Arithmetique+. Many previous mathematicians had almost, but not quite, hit on the idea of decimal fractions. For instance, tables of square roots had been drawn up for numbers which had first been multiplied by 1,000,000. The roots as given in the table were, of course, 1,000 times too great, but by this method it was possible to avoid the use of fractions, at least for approximate values of the roots. We have seen the somewhat similar method adopted by compilers of the values of trigonometric functions. The idea that lies behind our present "decimals" was only gradually reached, the process of thought involved in its development covering hundreds of years. . .

Napier seems to have been the first writer to use a period to mark the end of the whole numbers, and to realize that the decimal fractions occupied places which could be regarded as lying on an extended abacus, to the right of the units' wire. In the +Constructio+, Napier said, "In numbers distinguished by a period in their midst, whatever is written after the period is a fraction, the denominator of which is unity with as many ciphers [zeros] after it as there are figures after the period...In computing tables, these large numbers may again be made still larger by placing a period after the number and adding cyphers. . ." Here is yet another example of a very simple idea that was to have tremendous consequences. In this connection, it must be remembered that the +Constructio+ was not published until two years after Napier's death. So it is impossible to say with certainty whether these sentences were inserted

by Napier or by Briggs, who revised the work before publication. The fact that Napier does not use a decimal point or its equivalent in his +Descriptio+ seems to indicate that this simple yet fruitful invention is due to Briggs. On the other hand, it is difficult to imagine how Napier's calculations. . . could have been carried out without the use of the decimal point.

Napier invented natural logarithms and at some time after 1590 he suggested to Henry Briggs changing the system so that the logarithm of unity would be zero. Briggs worked out the tables for the "common" system, but credits that idea to Napier in the preface to his +Arithmetica Logarithmica+ of 1624.

In his +Descriptio+ of 1614 Napier says, "It was indeed left at libertie in the beginning, to attribute nothing, or 0, to any sine or quantitie [for its logarithm]." And Briggs says, in the +Arithmetica Logarithmica+ of 1624, "I myself. . . to my auditors in Gresham College, remarked that it would be much more convenient that 0 should be kept for the logarithm of the whole sine. . . And concerning that matter I wrote immediately to the author himself [Napier]; and as soon as the season of the year. . . permitted I journeyed to Edinburgh, where. . . he said that he had for some time been of the same opinion. . . that the change should be. . . that 0 be the logarithm of unity. . ."

Professor George A. Gibson, M.A., L.L.D. sums up in a "Handbook"\6\ for the Napier Tercentenary Celebration:

At the first visit Napier and Briggs discussed certain changes in the system of logarithms. In a letter to Napier before the first visit, Briggs had suggested that it would be more convenient, while the logarithm of the whole sine was still taken as zero, to take the logarithm of the tenth part of the sine as a power of 10, and he had actually begun the calculation of tables of his proposed system. Napier agreed that a change was desirable, and stated that he had formerly wished to make a change; but that he had preferred to publish the tables already prepared as he could not, on account of ill-health and for other weighty reasons, undertake the construction of new tables. He proposed, however, a somewhat different system from that suggested by Briggs, namely, that zero should be the logarithm, not of the whole sine but of unity, while, as Briggs suggested, the logarithm of the tenth part of the sine should be a power of 10. Briggs at once admitted that Napier's method was decidedly the better, and he set about the calculation of tables on the new system, which is essentially the system of logarithms now in use.

So, the general idea had occurred to them both; Napier had first recommended that logarithms be calculated to the base 10 in which the log of 1=0, and the use of some form of decimal fractions was required for its application.

In 1619 there was imprinted at London a description of the construction of Napier's tables with the title +Mirifici Ipsius Canonis Constructio+. In the appendix appeared this statement:

On the construction of another and better kind of Logarithms, namely one in which the Logarithm of unity is 0. . . Among the various improvements of logarithms, the more important is that which adopts a cypher as the Logarithm of unity and 10 000 000 as the Logarithm of either one tenth of unity or ten times unity. Then these being once fixed, the Logarithms of all other numbers necessarily follow.

Simon Stevin's French treatise, +De Thiende+ of 1585, was translated by Robert Norton and published in London in 1608 under the title of +Disme: the Art of Tenths, or Decimall Arithmetike+. The name for our U. S. coin, the dime, has its derivation in the word "Disme."

There is no reason to believe that all of this mathematical activity was a deep secret within the London philosophical (scientific) community, or to Francis Bacon who lived among them and showed great respect for mathematics in his published works. It should not be surprising that Bacon in 1609--the year following the publication of +Disme+--made, as we shall see, a hidden notation that the expression 00 represented Napier's ciphers. That was the foundation of the logarithm to base 10 and equaled unity (the number 1). The fact that he did so +in a concealed cipher+, and called attention to it with thirty anomalous decimal points, demonstrates the peculiarity

and strangeness of his imagination.

Notes for Chapter 5:

1. +Francis Bacon, the First Statesman of Science+, J. G. Crowther, Cresset Press, London 1960.
2. +Francis Bacon and the Modern Dilemma+, Loren Eiseley, Univ. of Nebraska Press, Lincoln 1962. Also excerpted from +The Man Who Saw Through Time+, Copyright 1973 Loren Eiseley. Reprinted with permission of Charles Scribner's Sons.
3. +A Plaine Discovery of the whole Revelation of St. John+, John Napier, Edinburgh 1593
4. +Dictionary of Scientific Biography+, Charles Coulston Gillispie, Ed., Charles Scribner's Sons, New York 1974
5. +Mathematics for Science and Engineering+, Philip L. Alger (based on Engineering Mathematics by Charles Proteus Steinmetz), 1957, McGraw-Hill Book Co. Inc.
6. +Handbook of the Exhibition+, Napier Tercentenary Celebration, Royal Society of Edinburgh, 1914.
7. +Makers of Mathematics+, Alfred Hooper, Random House New York 1948

Bentley.

+And do as adversaries do in law,
Strike mightily, but eat and drink as friends+.
--Shakespeare

Chapter 6

Lawyers and judges, and the best of them, have been attracted to "The Controversy." Such a one was the late Richard Bentley. After graduating from Yale University and Northwestern University, he was a captain of infantry in WWI and a Navy captain in WWII. He began the practice of law in Chicago in 1922 and, among other professional honors, he became President of the Chicago Bar Association. He was a member of the Board of Editors of the American Bar Association Journal beginning in 1946.

In 1959 he contributed an article to the ABA Journal, \1\ The Lawyer's Magazine. It is so succinct and so eruditely persuasive that I have requested permission to reprint most of it, and have been given kindly leave to do so by that journal. The reader will notice that Mr. Bentley is not necessarily convinced that "Bacon done it," but he is certain that Shakespeare didn't.

Elizabethan whodunit:
who was "William Shake-Speare"?
By Richard Bentley

Three and a half centuries, more or less, have rolled by since the Bard of Avon "shuffled off this mortal coil." Since then Shakespeare has become big business in Stratford, with vested interests worth millions a year in tourist trade. He has become a "sacred cow." To question his authorship is considered "bad form," like eating peas with your knife or even spitting on the rug. If you question it you are branded by Shakespeare scholars as either a knave or a fool, or perhaps both.

The scholars help us to understand Shakespearean language, to appreciate the content and structure of the writings and to learn the literary sources upon which the author drew. These are primarily literary questions and strictly within the sphere of scholars. But the question of the identity of the author is not purely a literary question; it is also a question of evidence. It is, therefore, properly within the province of lawyers to inquire as to the authorship and to judge of the competence and validity of the evidence.

The known facts are few. The first real biography of Shakespeare was published ninety-three years after his death and covered four pages. This and subsequent biographies are based largely upon inferences from the works and upon assumptions and guesswork. There is admittedly no direct proof of the authorship. We can arrive only at the most probable solution upon the preponderance of the evidence. And we should not reject a new conclusion merely because it may be different from an old one, long accepted.

Consider by analogy the classic belief that Richard III was an unmitigated villain. The Shakespeare play so portrays him. But research very recently has shown this reputation probably was undeserved and was politically inspired by his enemies of the House of Lancaster who doctored the evidence.

The Piltdown man was accepted as authentic for fifty years until it was proved, and later admitted, to be a hoax. Historians now know Betsy Ross did not design our flag, but tourists still pay admission to her house in Philadelphia to see the "Birthplace of Old Glory."

Let us, therefore, summarize the only contemporaneously recorded and substantiated facts, carefully reviewed and checked. Let us consider the question of the authorship of the Shakespeare works +de novo+ in the light of what is now known, in order to reach our own individual solutions of the greatest literary "whodunit" of all time.

In what follows it seems appropriate to refer to the Stratford man as Shaksper, the name he himself used, and to refer to the author by the published name, Shakespeare. The problem is simply stated: was Shakespeare the same man as Shaksper, and if not, who was he?

A William Shaksper (+not+ Shakespeare) was baptized April 26, 1564, in Stratford, a town of 1,600, a squalid and "a bookless neighborhood." Like most of the inhabitants his parents were illiterate. Nothing whatever is known of him until he was 18, when a license was issued for his marriage to Anne +Whateley+ of Temple Grafton. The next day a bond was filed for his marriage to Anne +Hathwey+ (sic) of Shottery. No marriage to either Anne is recorded, but a daughter was baptized barely six months later, and two years later, twins.

By 1597, at 33, he had mysteriously become wealthy and contracted to buy perhaps the most pretentious residence in Stratford. In the earliest biography it is reported he received a large payment, the modern equivalent [in 1959] of some \$20,000 from the Earl of Southampton to help him purchase some property, but no +quid pro quo+ nor date is suggested.

The rest of the records in Stratford show activity in the grain and malt business, transactions in real estate and litigated matters in which he was usually the plaintiff, once suing for less than two pounds. He was godfather to an alderman's son. The only contemporary record of any conversation of his was about his proposed enclosure of common pastures, to deprive the poor of their rights. The town of Stratford successfully opposed this.

He signed his will in three places in March, 1616, and died a month later. His will left to his wife his "second best bed with the furniture," and disposed in detail of various articles such as a sword, a bowl, jewelry, plate, etc. It mentioned no interest in a theater, no writings, no books, nor any literary property whatever.

No public mention was made of his death. His son-in-law wrote in his diary, "My father-in-law died on Thursday." These are all the known facts about his life in Stratford.

Records in London show that in 1612 he signed a deposition in a lawsuit between two men whom the court found to be low characters, with one of whom he had been a lodger in 1604. He and two others bought a house in London and he signed a deed and a mortgage. Two years later there was a lawsuit about the title. The three signatures just referred to and the three on his will are the only signatures ever known to have existed. All are written in a scrawled, unformed hand, all are spelled differently, but none is spelled "Shakespeare."

London records show him as a legatee of a small bequest, that he was put under a peace bond in 1596, and was a tax defaulter that year and the next.

These are all the known facts about Shaksper of Stratford. The name William Shakespeare does appear as an actor in 1598, 1603 and 1604, with no reference to any part he played. Nowhere apart from the works themselves was a Shaksper or Shakespeare referred to during his lifetime either as a playwright or a poet.

There is an anecdote, probably apocryphal, in the diary of a barrister of the Middle Temple in an entry for March 13, 1601. This tells that during a performance of Richard III, one of the audience became so enamored of the actor "Burbidge" (Burbadge), that she arranged for him to come to see her that night. It says, "Shakespeare overhearing their conclusion went before, was +in+tertained, and at his game ere Burbidge came." When Burbadge arrived, Shakespeare sent him word that "William the Conqueror was before Rich. the 3." This Shakespeare is not identified further.

There is a doubtful record, of a William Shakespeare, unidentified, as receiving thirty-four shillings for work on a pictorial design.

Nothing whatever is known of the last years of Shaksper's life. The parish register in Stratford records the burial of "Will. Shaksper(e), gent." on April 25, 1616. . .

The above are all the established facts about the Stratford man who is considered the greatest literary mind of all time. In the words of Hamlet, "The rest is silence."

No contemporary historian mentions either Shaksper or Shakespeare. One antiquarian published in 1656 an engraving of a monument in the Stratford church with a bust of Shaksper. It showed a sad-eyed man with a drooping mustache and bald head holding a sack of grain in his lap. In 1747 this bust was replaced with the bust seen in the church today. In the new bust the face was wholly changed to look somewhat like the portrait in the First Folio, a pen was shown in his hand and a writing tablet on a tasseled cushion replaced the grain-sack.

We find no external evidence to identify William Shaksper of Stratford, or Shakespeare the actor, as an author. What of the works themselves?

Two poems, +Venus and Adonis+ and +The Rape of Lucrece+, were published in 1593 and 1594 bearing the name "William Shake-Speare." This name had never previously been published anywhere. It appeared at the end of unauthorized dedications to Henry Wriothesley, the Earl of Southampton. The first referred to the work as "the first heir of my invention." Of the thirty-six plays attributed to Shakespeare, published in the First Folio of 1623, seven years after the death of Shaksper, only fifteen, all quartos, were published during his lifetime. Of these only nine bore the name Shakespeare as the author, the other six being published anonymously. Only three plays published in that name during his lifetime were ever registered for copyright purposes. Some plays were produced and pirated earlier.

Between 1595 and 1611 eight other plays were published also in quarto form, some by the same publishers, with authorship attributed to Shakespeare. Seven of these eight are rejected by Shakespeare scholars as not having been written by him. The eighth is considered doubtful. The scholars thus accept as authentic six quarto plays never attributed to Shakespeare during his lifetime and reject as spurious seven quarto plays which were published under his name or initials. Clearly then they reject title-page evidence as the test of authenticity. Their test is comparison with other works they consider authentic. However, there is extant no manuscript nor any literature whatsoever proved to be Shakespeare's. There exists, therefore, no true basis for any such comparison, and this test of authenticity is necessarily a "boot-strap" operation, a syllogism with no major premise.

In 1599, a book of miscellaneous verse, much of which is rejected by Shakespeare scholars (called the +Passionate Pilgrim+), was published under the Shakespeare name. In 1609 +SHAKE-SPEARES SONNETS Never before Imprinted+ appeared containing 154 sonnets and also a poem which scholars reject as not by Shakespeare. The sonnets were dedicated to "Mr. W. H." It is generally thought by scholars that these are the reversed initials of Henry Wriothesley, the man to whom +Venus and Adonis+ and +The Rape of Lucrece+ were dedicated. The sonnets are regarded by scholars as autobiographical. They refer frequently to a fair youth and to a dark lady. The Earl of Southampton, who was nine years younger than Shaksper, is thought to be the fair youth. There is no agreement as to the identity of the dark lady, for whom apparently the author had a hopelessly passionate attachment, in spite of her faithlessness to him. The sonnets indicate the author's devotion to the fair youth. They suggest some scandal about him and that a turn of fortune bars the author from public honor. They express, however, a conviction that the lines will live and give immortality to the person about whom they are written.

There are a few references to the works in contemporary writings. During Shaksper's entire life, however, not one of his contemporaries ever referred to him personally as a writer. The only references to Shakespeare were to writings with which that name was connected, and none referred otherwise personally to a writer of that name. Thus neither in the writings themselves nor in their authorship is there anything whatsoever which identifies the Stratford man with the author of any of the works or identifies the two different names, Shaksper and Shakespeare, with each other.

The negative evidence is significant. There is no record that Shaksper ever attended school; none that he ever wrote anything. There are no early writings reflecting the development of his skill. Yet he was in his thirtieth

year when the first publication appeared, with the literary style fully developed. Then after prolific publication of deathless writings the flow suddenly stopped and he spent his last years in utter obscurity. If he wrote the Shakespeare works, he did so without being paid; and he let them be pirated freely during his lifetime, although this same man was consistently penurious, frequently suing debtors for small sums. Though twenty of the thirty-six plays were unpublished when he died, his will which makes detailed disposition of his belongings, was silent as to any books.

It does not appear this man ever traveled abroad or could have become familiar with Latin, Greek or foreign languages. Yet the author's works show familiarity with foreign countries and languages, familiarity with Latin, especially Ovid; and he coined thousands of English words of Latin and Greek derivation. He had a vocabulary of 15,000 words, almost twice as many as the 8,000 words in the vocabulary of John Milton, the scholar.

Shaksper of Stratford did not frequent court circles so as to become closely familiar with court life and manners, chivalry, tournaments, falconry and sports of the nobility. If he was the author of the works, we cannot account for his intimate knowledge of these things and of the law; nor can we understand how one of his consistently materialistic interests could soar to the heights of sublime imagery found in the poetry.

The Shakespeare scholars say that this is all accounted for by his genius. The argument seems to run like this: Shakespeare for centuries has been regarded as the author of the works. The author of the works was a man of superlative genius. Therefore Shakespeare was a man of superlative genius, and for that reason must have been the author of the works. That is to say, the greater the ignorance and lack of preparation, the greater the genius, and hence the greater the likelihood that Shaksper was the author. This of course is nonsense. Macaulay said of Dryden: "Genius will not furnish a poet with a vocabulary; it will not teach what word exactly corresponds with his idea and will most surely convey it to others. Information and experience are necessary for strengthening the imagination."

Ben Jonson wrote, "a good poet's made, as well as born." One would expect scholars as well as lawyers to be among the first to recognize the necessity of education, training and preparation.

Shaksper lived unknown as a literary man, and died unnoticed. There was not even sufficient interest in him for anyone to have inquired about him of any of his children or of his grand-daughter, nor to write even a four page biography about him until almost a hundred years after his death. Ralph Waldo Emerson said, "I cannot marry the works to the life." Charles Dickens said, "The life of William Shakespeare is a fine mystery, and I tremble every day lest something should turn up." Others who are said to have doubted the authorship include persons of distinction in many fields: Nathaniel Hawthorne, Lord Palmerston, Walt Whitman, Sir George Greenwood, Mark Twain, Prince Bismarck, Oliver Wendell Holmes, Sigmund Freud, John Bright, Henry James, Lord Brighton, Lord Penzance and John Greenleaf Whittier.

It is noteworthy that (in 1769) within twenty-five years after the memorial bust in the Stratford church was changed to represent a literary man instead of a grain-dealer, the first book appeared seriously questioning the Shakespearean authorship.\2\

The presence of legal allusions and the similarity of certain passages to writings of perhaps the greatest legal scholar and philosopher of the day prompted claims that Francis Bacon was the author.

The facts of Bacon's life are well known. He was born three years before Shaksper (1561) and died ten years after him (1626). Bacon was educated at Cambridge University (1574-6). He then went to Paris in the suite of the English Ambassador. After his return he studied law and was admitted to the Bar at the age of 21 years. He became a Bencher at Gray's Inn. He supported the Essex rebellion and was given a substantial estate by Essex, but shortly afterward acted as Queen's Counsel in prosecuting him.

[Bacon had supported Essex but was not aware that he planned an armed rebellion. He deserted him after he marched through London with 200 soldiers carrying weapons. It should be added here that Bacon very rarely practiced law. He was elected to Parliament in 1584 and served almost continuously until about 1615. There were many lapses of time between the sessions, and the duties of a member were light. At one period he received a small income from Queen Elizabeth, but it is not known how he supported himself otherwise. Except for one small volume of his essays, he published nothing under his own name until 1605, +The Ad-

William Shaksper, of Stratford (1564-1616)

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Francis Bacon (1561-1626)

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* * *

[Here Richard Bentley concludes his remarks about Bacon, and I will omit his comments concerning any possible attribution of the works to Marlowe or Edward De Vere; arguments in favor of their authorship are about to become moot. Bentley's article provoked a "torrent of letters" to the ABA Journal, many written by staunch Stratfordians. So, in the November 1959 issue, he replied to his detractors in a story entitled "Elizabethan Whodunit: Supplementary Notes." In that he explained that his original essay was severely condensed from a long manuscript (later to become a book) and in his reply he elaborated on his original theme. It will be condensed as follows]:

* * *

First we should agree if we can upon what sources of facts we can accept. The records as given in Sir Edmund K. Chambers' +William Shakespeare: A Study of Facts and Problems+, published in 1930. . . seem to be acceptable to most Stratfordians. Those records of the facts themselves (not necessarily the conclusions drawn from them) are accordingly accepted for the purpose of these supplementary notes.

. . . The fundamental question simply stated is whether or not Shaksper and Shakespeare were the same man. Since the Stratfordians believe the man of Stratford and the author were the same man, they dislike this distinction, prefer to eliminate it, and with it to eliminate the fundamental question at issue.

All will agree that the name of the Stratford man was spelled in many different ways. In the baptismal entry it is spelled "Shaksper" (with either a final "e" or the customary flourish following the Gothic letter "r"). In the entry of Nov. 27, 1582 of his license to marry Anne Whateley of Temple Grafton, the name is spelled "Shaxper," and in the Nov. 28, 1582 record of the marriage bond for his marriage to Anne Hathway of Shottery it is spelled "Shagsper(e)." The burial record spells it "Shaksper(e)." In the body of the will, the scrivener spelled the name "Shackspeare." The letter from Abraham Sturley to Richard Quinej (usually written "Quiney") asked him to procure a loan from "Mr. Wm. Shak."

There are six signatures, the only ones ever known to have existed, all written in a shaky hand, some with blots and with some letters illegible. The earliest, on the deposition in the case of Belot v. Montjoy (1612), was spelled "willn Shaks(blotted)p"; that on the conveyance (1613) was spelled "w(blotted)illiam Shakspe" (with a short flourish over the "e"); that on the mortgage (1613) was spelled "wm Shakspr" (with what might have been intended as a small "a" over the "r"). The signatures on each of the three pages of the will (1616) are spelled respectively, "willia(blotted)m Shakspere," "willm (with a short flourish over the "m") Shakspere," and "William Shaksper" with either a final "e" or a flourish after the "r." Some read this last signature as "Shakspeare" but Chambers quotes an expert, Sir E. M. Thompson, to the effect that the last signature originally ended with a contraction, and that the last three letters were added later.\7\ An imaginative and resourceful Stratfordian--needless to say, not a lawyer--has suggested that the testator spelled his signature in different ways so as to make sure there could be no doubt about the identity of the testator!

Obviously Elizabethan spelling was diverse. However, it was phonetic, and "any spelling that fairly represented the sound of a word. . . was considered as correct as any other." \8\ Every one of the thirty odd spellings in the Stratford records of Christenings, marriages and burials of members of the family, with the one exception of the registration of Susanna's Christening, spelled the name in such a way as to require its pronunciation with a short "a" in the first syllable. These Stratford spellings, with the one exception noted, are quite inconsistent with the spelling and pronunciation of the published name of the author of the works. Sir Edmund K. Chambers collected eighty-three variations in the spelling of the name in England (whether or not related to the Stratford man), the large majority of which

phonetically require the short "a." Not one of these eighty-three variations hyphenated the two syllables into the artificial looking name Shake-Speare, as the author's name originally appeared in the first published poems, in the sonnets and in a number of the quarto plays.

In the original article it was stated that Shaksper's parents were illiterate. The Stratfordian reply is that although his father, John Shaksper, always signed official and other papers with a mark, he might have been able to write his name. There is no evidence that he ever did so. They also reply that he held office as alderman, deputy chamberlain and bailiff (mayor) of Stratford, was a man of substance, and so might not have been illiterate. However, J. O. Halliwell-Phillips, the orthodox Shakespearean scholar, is authority for the positive statement that neither John Shaksper nor his colleagues in office could even write their names. Not more than one third of the aldermen and burgesses of Stratford during the latter half of the sixteenth century could write their names.\9\ An application was made for a grant of arms to John Shaksper, but the records about it are contradictory. There is no definite record that the grant ever issued, and William Dethick, "Garter principal King of Arms," who it is thought may have issued it in 1596 was later charged with accepting bribes for making grants of arms to "base persons" who were not entitled to them. . .As for John Shaksper's being a man of substance, although he apparently had some little business success earlier, he had a prison record, was convicted of having a pile of manure in front of his house, and in 1592 was recorded as one of nine persons in Stratford who ". . .coom not to church for feare of process for debtte." \10\

William Beeston, the actor, is reported to have said of Shaksper, "if invited to writ, he was in paine." \11\ His six known signatures appear to bear out this statement. But it is said that the appearance of a shaky, "scrawled and unformed" handwriting, as of one unaccustomed to holding a pen and "in paine" when he wrote, is due to his having written "in the old English script." There are, however, plenty of examples of that script available, including the three pages of the will itself. Shaksper's six signatures, all spelled differently and none spelled Shakespeare, compare unfavorably with almost every example we have seen. Many other examples of this script are beautifully written.

In answer to the statement "there is no indication that Shaksper ever attended school," Mr. Hauser's article agrees, but says "There is no reason to believe John Shakespeare did not send william to the school" in Stratford. This double negative statement seems hardly convincing as to Shaksper's schooling. Sir Edmund Chambers says that there was a grammar school in Stratford, that its actual curriculum is unknown, but that it was probably based upon that of other contemporary schools. These generally required an entrant to be able to read and write Latin and English. But we are given no suggestion as to how one of William Shaksper's background, or lack of it, could possibly have met such entrance requirements.

Orthodox scholars seem to take curiously inconsistent views of Shaksper's education and training. Questioners ask how one of his background and necessarily limited schooling, if any, (no one claims he could have had more than a few years of it, at the most) could have produced works exhibiting such familiarity with the classics, with foreign countries and languages, with court life, with the law, etc. The reply is first that he cribbed some of his material from such sources as Holinshed's Chronicles, that he made many errors such as giving a sea-coast to Bohemia which they say was natural in view of his limited advantages, and that he showed little erudition. Then in almost the same breath they say that the grammar school at Stratford, which they simply assume he attended for a few years, gave him an excellent education. They appear to consider that sufficient to have enabled him to write the world's greatest literature, comprehending the widest range of contemporary human knowledge and thought. Stratfordians also take a third position, attributing the distinction of the writings entirely to genius, and saying that no education was necessary for one having such native talents. The weakness of this argument was pointed out in the original article. . .

We have yet to see any reasonable explanation as to how this man of Stratford, without exceptional education and background, no matter how great his genius, could possibly have mastered a vocabulary of 15,000 (some say 17,000 or even 20,000) words, by far the largest and most extraordinary ever possessed, and the most tellingly used by any writer of English literature. . .Chambers honestly sums up the problem of Shaksper's education, training and the first twenty-eight or thirty years of his life. He states:

". . .after all the careful scrutiny of clues and all the patient balancing of possibilities, the last word for a self-respecting scholarship can only be that of nescience." [something beyond natural explanation which the mind is incapable of understanding.]

The familiarity of the law exhibited by the author of the Shakespeare works has always interested scholars and lawyers alike. In fact the author's proficiency in the law was so clearly apparent that it presented a problem to orthodox Stratfordians. It was they who sought to reconcile it with Shaksper's authorship by evolving the theory that he was at one time an attorney's clerk, although there is not a scintilla of evidence to support that. Lord Campbell wrote his views on the subject about one hundred years ago. These were expressed in a letter to John Payne Collier, the Shakespeare scholar, critic and literary historian who, as librarian to the Duke of Devonshire, had access to rare collections of early English literature and was implicated in a number of forgeries of Shakespearean evidence including a forgery of Shakespeare's signature. Lord Campbell characterized the author's "legal acquirements" as "a deep technical knowledge of the law" and as exhibiting an "easy familiarity with some of the most abstruse proceedings in English jurisprudence." Since it seemed impossible to reconcile this with what is known of Shaksper of Stratford, doubt as to the authorship was confirmed. To the rescue came Charles C. Allen, a Boston lawyer, who wrote a chapter entitled "Bad Law in Shakespeare", contending that Shakespeare made many errors in his legal allusions. To this replied Sir George Greenwood, English barrister and scholar and expert in Elizabethan law. In a small book, "Shakespeare's Law", (1920) Sir George showed with conclusiveness that the "bad law" is in Allen's book and not in the Shakespeare works.

* * *

[Here I will interrupt Richard Bentley for some brief quotations. The following is from George C. Greenwood's "The Shakespeare problem restated:"]

It has been suggested that it was in attendance upon the courts in London that he picked up his legal vocabulary. But this supposition not only fails to account for Shakespeare's peculiar freedom and exactness in the use of that phraseology, it does not even place him in the way of learning those terms his use of which is most remarkable, which are not such as he would have heard at ordinary proceedings at nisi prius, but such as refer to the tenure or transfer of real property: "fine and recovery, statues merchant, purchase, indenture, tenure, double voucher, fee simple, fee farm, remainder, reversion, forfeiture," etc. This conveyancer's jargon could not have been picked up by hanging round the courts of law in London two hundred and fifty years ago, when suits as to the title of real property were comparatively rare.

[Lord Penzance (Sir James Plaisted Wilde, Q. C.), who was one of the finest legal authorities of the mid-Eighteenth Century, should also be quoted:]

The mode in which this knowledge was pressed into service on all occasions to express his meaning and illustrate his thoughts was quite unexampled. As manifested in the plays, this legal knowledge and learning had therefore a special character which places it on a wholly different footing from the rest of the multifarious knowledge which is exhibited in page after page of the plays. At every turn and point at which the author required a metaphor, simile, or illustration, his mind ever turned first to the law. He seems almost to have thought in legal phrases; the commonest of legal expressions were ever at the end of his pen in description or illustration. . .it protruded itself on all occasions, appropriate or inappropriate, and mingled itself with strains of thought widely divergent from forensic subjects.

[We return now to Richard Bentley:]

* * *

But now the Stratfordian contention is that other contemporary writers used as many or more legal allusions, which display equal familiari-

ty with legal terms.\14\ To this effect they quote a book published in Baltimore in 1942,\15\ on references to the law of property in Shakespeare and other Elizabethan works. Other contemporary writers did indeed use legal terms. However, in many instances, such as in the examples taken by Mr. Hauser from Ben Jonson's +The Staple of News and Epicoene+, the use of such terms consisted in no more than the mere rattling off of a string of legal terms in gibberish mockery of lawyers.

It would seem that Lord Campbell, who wrote without reference to any question as to the authorship, who was consecutively Lord Chief Justice and Lord Chancellor of England, and who was particularly well versed in early English law, would have a deeper and more comprehensive knowledge of the subject than most of the other writers who have discussed it, and would be an unprejudiced witness. His conclusions as to the remarkable legal attainments of the author are substantially those of Edmond Malone, the Shakespeare scholar (also a barrister), of Sir George Greenwood, and of most other leading legal Shakespeare scholars.

It is hardly an answer to those conclusions to take a few isolated examples such as the word "tripartite" in +Henry IV, Part 1+, and to show that the term could have been cribbed from Holinshed's +Chronicles+. Nor is it an answer to compare without analysis the use of legal terms by other contemporary writers (such as Mr. Hauser's examples from Ben Jonson's plays) merely on a quantitative basis, without qualitative evaluation of their significance in showing the degree of legal knowledge required to use legal terms with pertinence as well as accuracy.

The Stratfordians urge that one reason there was no mention of literary property in the will of the Stratford man was that the Shakespeare plays were sold to the companies that produced them. However, we find no evidence whatever that this was so. On the contrary there are the detailed records kept by Philip Henslowe, who was a London theatrical producer. These records cover the period 1591 to 1609. Henslowe produced a number of the Shakespeare plays. His records show payments to actors and payments of royalties for dramatic works. Among the many names of persons to whom such payments were made are found the names of Ben Jonson, and of Chapman, Chettle, Day, Dekker, Drayton, Heywood, Marston, Middleton, Munday, Porter, Webster, Wilson, and the other leading playwrights of the time with their signatures and handwriting. But not once does the name Shaksper or Shakespeare appear.

Edward Alleyn was Henslowe's son-in-law and partner, and was himself one of the leading actors of the day. Alleyn, like his father-in-law, kept careful records. His papers and memoirs were published in 1841 and 1843. Sir George Greenwood\16\ wrote that these ". . . contain the names of all the notable actors and play-poets of Shaksper's time, as well as of every person who helped, directly or indirectly, or who paid out money or who received money in connection with the production of the many plays at the Blackfriars' Theatre, the Fortune, and other theatres. His accounts were minutely stated, and a careful perusal of the two volumes shows that there is not one mention of William Shaksper or Shakespeare in his list of actors, poets, and theatrical comrades."

Another reason given for the absence of any reference to literary property in Shaksper's will is that there was no copyright law at that time. It is true there was no statutory copyright; but there existed the so-called "common law copyright." This right to literary property at the very least protected an author with respect to his unpublished works. Authority for this statement is found in the case of +Millar v. Taylor+, decided by the Court of King's Bench and reported in 4 Burrows Reports, pages 2303 to 2417, in which it was held:

That at common law an author of any book or literary composition had the sole right of first printing and publishing the same for sale, and might bring an action against any person who printed, published and sold the same without his consent.

When Shaksper died, twenty of the Shakespeare plays were unpublished and thus protected, yet the will made no reference to such valuable property. Also, notwithstanding the legal protection, the Shakespeare plays were pirated ("stolne and surreptitious copies") during Shaksper's lifetime without objection from the man who repeatedly sued debtors for small sums of money. If Shaksper was the author of the works it is impossible to reconcile this utter disregard for valuable property, even prodigality, with his consistently avaricious record. . . .

The original article. . . stated: "Nowhere +apart from the works themselves+ was a Shaksper or Shakespeare referred to during his lifetime either as a playwright or a poet. . ."

Some readers seem to have misunderstood what these words mean. As a result of assuming that the Stratford man was the writer, they have fallen into the easy error of construing any reference to Shakespeare or to the works as a reference to the Stratford man, or even as evidence that it was he who was the author. This is understandable and natural to all of us who were taught the orthodox tradition; but it is nonetheless an error. There are, of course, the works themselves, some of which were published during Shaksper's lifetime as having been written by Shake-Speare (Shakespeare). There are allusions in contemporary writings during Shaksper's lifetime to the Shakespeare works, and to a person who wrote them, without otherwise identifying him in any way. However, not one of these allusions during the lifetime of the man of Stratford referred to him in any way as a writer, or connected him with the writer, or made any allusion whatever to the writer to identify him even remotely with the man of Stratford. Accordingly none of those allusions has the slightest probative value as to the identity of the author. . .

All of the allusions during the Stratford man's lifetime to the works or to someone who wrote them are part of what the orthodox Stratfordians call the "documentary proof" of the authorship. But of what are they proof? Only of the fact that there was a writer who wrote magnificent poetry and plays under the name of William Shake-Speare (Shakespeare). On that point, however, there is and has been no disagreement whatsoever, anywhere. But to offer these allusions as proof of who the writer was, whether the man of Stratford or someone else, in another matter. On that point all of these allusions are, in legal jargon, "incompetent, irrelevant and immaterial," for not one of them even purports to identify the writer with anyone.

The contemporary allusions by others to the author's works are virtually unanimous in their lavish praise, but they reveal nothing about who the author was. The Shakespeare plays were immensely popular at the time. Yet Camden, the historian, made but one allusion to Shakespeare, placing him last in a list of ten poets but never mentioning one other fact about him or identifying him. In Camden's list of worthies of Stratford in 1605, there is no reference whatever to Shaksper or Shakespeare. Camden wrote 7000 words on the events of the year 1616, but never mentioned the death in that year of Shaksper or Shakespeare. Stowe in his Annals made no mention of Shaksper or Shakespeare whatever, nor, so far as has been discovered did any other contemporary historian.

Although eulogies were commonly written upon the occasion of the death of a well-known writer, not one word appeared even taking notice of the death of the man of Stratford.

The records in Stratford and in London during the lifetime of Shaksper are set forth and quoted at length in Appendix A--"Records" in Chambers' work. There are records of christenings, marriages and burials in the family of the Stratford man, and some two dozen contemporary records about him in real estate transactions, actions at law, wills, tax defaults, business activities, etc. There are two contemporary references (before 1616) to a William Shakespeare as an actor. These are briefly summarized in the original article. Examination of all these records, which, with Chambers' comments on them, cover the first 185 pages of Volume 2 of Chambers' work, reveals not one contemporary record to identify the man of Stratford or the actor as a writer.

Appendix C in the Chambers' work is called "The Shakespeare Mythos." It includes the various fanciful myths, fables, rumors and hearsay about the poet, which could not with honesty be included in Appendix A, "Records," or in Appendix B, "Contemporary Allusions." The earliest source quoted in Appendix C is dated 1625, almost ten years after Shaksper's death. Chambers has included all these legends apparently in the interest of omitting nothing; but he also points out wherein they are unreliable. For example, he quotes the account given by Thomas Plume (about 1657) which tells of Shaksper:

He was a glover's son--Sir John Mennis saw once his old Father in his shop--a merry Cheekd old man--that said--will was a good Honest Fellow, but he durst have crackt a jeast with him at any time.

Chambers tells us that Shaksper's father died in September, 1601 and that Sir John Mennis was born in Kent, March 1, 1599, little over two and

one-half years earlier. Sir George Greenwood characterized this account as the ". . . sweetly unsophisticated impression of the innocent little toddler, who at the age of two and one-half traveled with his nurse from Kent to Stratford for the purpose of interviewing Shaksper's father!"

. . . It cannot be seriously contended, and Chambers himself does not appear to believe, that the contents of Appendix C constitute valid evidence. . .

It has been shown that during the lifetime of Shaksper of Stratford, there was not one recorded word, nor any allusion to the writer nor to the actor nor to the Stratford man which identifies the writer with either of the others. Not until seven years after the Stratford man's death did any allusion appear to identify the author with the Stratford man, nor was there any recorded fact which would connect the Stratford man with the Shakespeare works. The First Folio appeared in 1623. Here, posthumously by seven years, appeared the first words which conceivably might purport to attribute authorship to the Stratford man. It is this posthumous publication which contains what the Stratfordians call the "documentary proof" that the man of Stratford was the author. Sir Edmund K. Chambers includes in his Appendix B--"Contemporary Allusions" the dedicatory epistles and the commendatory verses which appeared in the First Folio, as well as some other subsequent allusions by Basse, Taylor, Richardson, walkley, Salisbury, Milton, Davenant and Benson, the last of which appeared in 1640. The other allusions dated after 1616 and prior to the Folio add nothing to enlighten us about the identity of the author. If the First Folio were eliminated, there would be no evidence whatever even remotely purporting to connect Shaksper, the man of Stratford, with Shakespeare, the author. The First Folio is crucial to the Stratfordian case and must be carefully scrutinized.

This volume contains thirty-six plays. One of them is not included in the "catalog" or index, and one play is rejected by Shakespeare scholars as not having been written by him. The page numbering is confused in places. The title page of the Folio is headed "MR. WILLIAM SHAKESPEARES COMEDIES, HISTORIES, & TRAGEDIES. Published according to the true Originall Copies." Immediately beneath the title, and occupying more than half of the title-page is the grotesque Droeshout engraving, made by a youth not more than twenty years old, and not done from life. Chambers includes this portrait in his Appendix C--"The Shakespeare Mythos" (the dubious evidence). Careful examination of the drawing reveals a line down the edge of the face by the left ear, suspiciously like an indication of a mask. The face is as expressionless as a mask. The left and right sides of the doublet appear to be deliberately drawn so as not to match, and the right side looks as if it might be the back of the left side turned around. The body might be that of a dummy, "a mere stuft suit" (in the words of Ben Jonson in +Every Man Out of His Humour+). We suggest that the open-minded reader carefully examine the drawing and then ask himself whether or not it could be a fictitious portrait.

Next follows the dedicatory epistle "To the most Noble and Incomparable Paire of Brethren," William, Earl of Pembroke and Philip, Earl of Montgomery. In sycophantic tones the epistle states that the works are "trifles," but that since their lordships thought well of them and of the author, the writers of the epistle have seen fit to bring out the works after the death of the author, as a service to their worthy friend and fellow, Shakespeare, and humbly to offer them to their lordship's patronage. The writers say they are rash in their undertaking to bring out the book and are fearful of its success. Part of the epistle, dealing with the eminence of the Earls and the humbleness of the presenters, is couched in language which appears to be a paraphrase of Pliny's dedication to the Emperor Vespasian of his +Natural History+. The epistle closes with "Your Lordshippes most bounden, / IOHN HEMINGE / HENRY CONDELL."

On the following page appears over the same names the epistle "To the great Variety of Readers." This opens with an exhortation to buy the book. It refers to the plays as having been successfully produced. It states that the writers of the epistle have collected and published them, cured of the defects which had previously appeared in "diverse stolne, and surreptitious copies, maimed, and deformed by the frauds and stealthes of iniurious imposters," and that they now appear "cur'd and perfect of their limbes; and all the rest, absolute in their numbers: as the author (unnamed and unidentified) conceived them." They say of him "His mind and hand went together: And what he thought, he vttered with that easinesse, that wee have scarce received from him a blot in his papers."

Next follow Ben Jonson's verses under the caption "To the memory of my beloved, The AUTHOR MR. WILLIAM SHAKESPEARE: AND what he hath left us." These verses are extravagantly laudatory of Shakespeare. They refer to him as "a monument without a tomb." Without otherwise identifying Shakespeare the verses apostrophize the "Sweet Swan of Avon."

On the following page is a laudatory sonnet over the name Hugh Holland (who was a traveler and poet of Cambridge). This in no way identifies the author. Then follows the "Catalina" or index with the defects mentioned above. Next appears the poem over the name "L. Digges" (a translator of Oxford) which says the works will live when "Time dissolves thy Stratford Monument." Then eight laudatory but unidentifying lines appear over the initials I.M., thought by Chambers to be James Mabbe.

The final prefatory page is headed "The workes of William Shakespeare, containing all his Comedies, Histories, and Tragedies: Truly set forth, according to their first ORIGINALL." Then follows a list of "The Names of the Principall Actors in all these Playes" with the name William Shakespeare heading the list and preceding those of Richard Burbadge (sic) and the other leading actors of the day.

On the subsequent pages appear the plays. Although the prefatory epistle states they are cured of the defects which previously appeared, as published they perpetuate many earlier errors and are full of patent mistakes in language, in grammar and in orthography which have baffled scholars and given rise to extended controversy over suggested corrections and emendations.

In the colophon appear the words "Printed at the Charges of W. Iaggard, Ed. Blount, I. Smithweeke, and W. Aspley, 1623."

This then is the First Folio which, published seven years after the death of Shaksper, the man of Stratford, contains the first bit of evidence which might identify him with Shakespeare, the author. The posthumous evidence in the First Folio is the keystone of the Stratfordian case.

The will of Shaksper has been previously referred to herein, and also more at length in my original article. The will contains bequests "to my ffellowes John Hemyng Richard Burbage & Henry Cundell xxvjs viij d A peece to buy them Ringes." These bequests are part of what is called the principal "documentary proof" of the Stratfordian authorship. The fact that 26 shillings and 8 pence were left to each of these three, who were actors, and were referred to as fellows, of itself would not tend to establish anything more than that the testator had been a fellow actor. By themselves, these bequests have no bearing upon the question of the authorship of the works. It is only in relation to the First Folio that they could have any relevance to that question. Richard Burbage died in 1619 and had no connection with the First Folio except that his name appears in the list of actors. The names of the other two legatees have been variously spelled Hemynges, Hemyng, Hemyngs, Hemyng, Cundell, Condell, Cundaile, Condell, etc. Chambers adopts Hemynges as the spelling of the former's name. Hemyng and Condell are the spellings used in the First Folio, and are used herein for convenience.

Chambers in his Appendix B gives two allusions to a Shakespeare as an actor, in 1603 and 1604, in association with Burbage, Hemyng, Condell, Augustine Phillips, and others. (In 1605 he and Condell were legatees under Phillips' will.) These are the only references to this name as an actor recorded before 1616, the year of the Stratford man's death. There are two other subsequent references to a Shakespeare as an actor with Burbage, Hemyng, Condell and Phillips. Both of these, however, were in the First Folio of Ben Jonson's works, which was not published until 1616, the year Shaksper died. They show the name of William Shakespeare as having been that of an actor in 1598 in Jonson's "Every Man in His Humour", and in 1603 in "Sejanus".

Mr. Clary's article states that the three legatees were members of the Lord Chamberlain's Men and that the official records show that William Shakespeare was a member of their company. The Lord Chamberlain's books do show an entry of payment to William Kempe, William Shakespeare and Richard Burbage as "servants to the Lord Chamberleyne" for performances before the Queen on December 26 and 28, 1594. But this "official record" which is offered as "documentary proof" is open to grave question. Sir Thomas Heneage was Treasurer of the Chamber from 1569 to 1582 and later Vice Chamberlain from 1588 until his death in 1595. After his death, a shortage was found in his accounts. The Queen wrote a stern demand to his widow, who succeeded him as Treasurer, that she either explain the shortage or make good the amount of it. It was after this

demand and several years after the purported date, that the entry of the payment was made. It also appears in the same books that, contrary to the statement in the entry in question, it was the Admiral's and not the Chamberlain's company that played before the Queen on December 26; and Henslowe's diary shows that the Lord Chamberlain's company played +The Siege of London+ at his theater on that date. Furthermore, the records of Gray's Inn show that on December 28, the Lord Chamberlain's company played +The Comedy of Errors+ at Gray's Inn and not at Court before the Queen. Chambers notes these discrepancies in dates. Thus there is ample ground for questioning the genuineness of this "official record."

Elsewhere in Appendix B there are many references to the legatees or some of them as actors in various plays. These indicate specific roles played by them. But there is no other reference to Shakespeare as an actor until the Shakespeare First Folio appeared in 1623. Nowhere is there any indication of any role assigned to him. In the First Folio list of the leading actors who are said to have taken part in the plays, the fact that the name of Shakespeare leads all the rest gives it a prominence utterly unwarranted by any other record.

Burbage was by far the best known, and was a leading actor of the day. Little else is known of the other two legatees, Heminge and Condell. The former is named in the 1613 deed and mortgage with the Stratford man, whose name is signed to these two documents as "William Shakspe" and "Wm Shakspr," respectively. These documents related to the Blackfriars Gate-House. Burbage, Heminge and Condell, as well as Shakespeare and others are named in the answer of Heminge and Condell in the case of +Witter v. Heminge and Condell+ in the Court of Requests in 1619 as having had interests a score of years earlier in the Globe and Blackfriars. Chambers tells us that Heminge stuttered by 1613 and dropped out by 1620. There is an account that Heminge became a grocer and died in 1630; and that Condell became a publican and died in 1623. The testimony of Heminge and Condell appearing in the First Folio is discussed below.

It is necessary to take special note of the fact that the bequests to Heminge, Burbage and Condell in Shaksper's will were not in the body of the will as it was originally written. They are in an interlineation, added some time later, no one knows when, not even whether it was before or after the death of the testator. Chambers points out other "odd features" in the will. According to Chambers, the will was found by Joseph Greene in 1747. That the will, as we know it, may have been tampered with is also suggested by the statement of Sir E. M. Thompson, the expert, who, as stated above, is cited by Chambers as thinking that the last signature on the will does not appear as it was originally written.

Hugh Holland, Leonard Digges, and James Mabbe, whose verses in the First Folio eulogize the author of the works, were closely associated with Ben Jonson in school or in literary work. Of these, Jonson was, of course, by far the best known. It is upon Jonson's testimony, particularly his two poems in the First Folio, that the Stratfordians place the greatest reliance. As for identification of the author, Digges' reference to "Thy Stratford Monument," is perhaps the strongest evidence for the Stratfordian case; but it is certainly not definitive. Jonson's testimony is curiously vague.

William Drummond reported of Jonson: "His Censure of the English Poets was this. . . That Shakesperr wanted Arte."

Drummond also quoted Jonson as ridiculing the author with the words: "Sheakspear in a play brought in a number of men saying they had suffered Shipwrack in Bohemia, wher ther is no Sea neer by some 100 miles."

Jonson apparently did not know that Bohemia did have a sea-coast in the thirteenth century.

In +Timber: or, Discoveries Made upon Men and Matters+, Jonson said that: ". . . the Players have often mentioned it as an honour to Shakespeare, that in his writing, (whatsoever he penn'd) hee never blotted out a line. My answer hath beene, would he had blotted a thousand." And then he explained that although this was thought a malevolent speech, "I lov'd the man, and doe honour his memory (on this side idolatry) as much as any."

Elsewhere, in Rowe's +Life of Shakespeare+, it is said: "Sir John Suckling, who was a profess'd admirer of Shakespeare, had undertaken his Defence against Ben Jonson with some warmth. . . Ben frequently reproaching him with want of Learning, and Ignorance of the Antients. . ."

In John Dryden's +Essay on Dramatique Poetry of the Last Age+ appears the following passage: "In reading some bombast speeches of Macbeth, which are not to be understood, he [Ben Jonson] used to say it was

horror."

Drummond, in 1619, said of Jonson: "He is a great lover and praiser of himself, a contemnor and scorner of others, given rather to loose a friend than a jest, jealous of every word and action of those about him (especially after drink), which is one of the elements in which he liveth, a dissembler of ill parts which raigne in him, a bragger of some good that he wanteth. . . vindicative, but if he be well answered, at himself for any religion being versed in both."

In 1620 Jonson made a list of the distinguished persons he had known. It contained no mention of Shaksper or Shakespeare. Then within three years the First Folio was published containing his unrestrained praise of "The Soul of the Age," "Star of Poets," etc.

Jonson's principal testimony upon which the Stratfordians rely is that contained in the lines in the First Folio. The first of these relating to the portrait have already been briefly discussed. They do not identify the author in any way. The only other testimony of Jonson's which could relate to the question of the authorship is contained in his extravagantly laudatory poem about Shakespeare, in whose name the works were published. It consists simply in the apostrophe to the "Sweet Swan of Avon." (This may be a significant metaphor, since a swan is believed to have no voice except at its death.) [Another reference by Jonson is to the author as a "monument without a tomb," thus implying that he was still living when the 1623 Folio was published.] But do those words allude to Shaksper, the man of Stratford? There are three rivers in England named Avon. Their combined length is 235 miles. Certainly the Stratford man was not the only person associated with any of these rivers. For instance, the Earl of Oxford (whether or not he wrote the works) owned three estates on the Upper Avon, the one which flows through Stratford. His estate, Bilton on Avon, was a few miles distant from Stratford, on the other side of the forest of Arden. If the phrase was intended to refer to Lord Oxford it would be just as apt.

That Jonson was a prime factor in the publication of the First Folio can hardly be questioned. Steevens suggested that Jonson wrote part of the epistle to the readers and revised the rest. Chambers favors this view. All of those who appear as authors of the prefatory material in the First Folio were close associates of Jonson's. The recorded facts show that the Earl of Pembroke, who in 1615 became Lord Chamberlain, raised Jonson's stipend in 1616 from 20 pounds a year (which Jonson mentioned to Drummond) to 100 marks. In 1621, when Jonson was financially hard pressed, and the First Folio was being prepared for publication, the Earl of Pembroke further increased Jonson's stipend to 200 pounds, or about \$8,000 in our [1959] money. The Folio was dedicated to the Earl of Pembroke and to his brother, the Earl of Montgomery. The Oxfordians call attention to the fact that the latter was Lord Oxford's son-in-law. They and the others who doubt the Stratfordian authorship point out the weaknesses and even the suspicious character of what is offered as Jonson's testimony, as well as its quite possible financial motivation.

It is in truth difficult to know how to evaluate the testimony of such an equivocal and self-contradictory witness as Jonson. In any event, his praise of Shakespeare does not identify the man, and at the very best Jonson's testimony is vague and indefinite. It is a slender reed to support so weighty a matter as the authorship of the Shakespeare works.

So much reliance is placed by Stratfordians upon what is called the "documentary evidence" in the First Folio, that it is frequently cited as the answer to all doubts about the authorship. Doubters are told that this First Folio settles every question. But does it?

The first question it fails to answer is why this volume, published seven years after the death of Shaksper of Stratford, should be the very first evidentiary link between him and the Shakespeare works. But there are several other questions.

Canon G. H. Rendall in +Ben Jonson and the First Folio Edition of Shakespeare's Plays+ wrote as follows:

Financially the Folio implied expenditure on a large scale, in addition to the heavy costs of actual printing, production and distribution; these alone were far beyond the means at the command of William Jaggard, who at this stage of his career was in no position to embark capital in so large a venture. From 1612 onwards, when Jaggard himself was stricken with blindness, the firm declined in productive energy and enterprise, and from 1617 to 1621 were further embarrassed by bad debts and law suits. . . In 1621 printing of the Folio had already been put in

hand, and Jaggard himself died before its issue in 1623.

William Jaggard was succeeded by his son Isaac in 1623 and the Folio appears as printed by Isaac Jaggard and Ed. Blount, who had already printed some of the quarto plays. In the Colophon William Jaggard's name is given as one of the printers, indicating that the printing was already in hand when William died.

As for the purported sponsors of the Folio, John Heminge and Henry Condell, those who attested the authenticity of the plays published in the Folio and represented themselves as being the speculative backers of it, Canon Rendall continues:

As a business proposition the published price is 22 shillings for an issue of (say) 500 copies [as estimated by Dr. Samuel Johnson], even if realised in full, must have resulted in a deficit, far beyond the resources of the avowed editors, Heminge and Condell.

Quite obviously, the financing of the Folio must have come from the outside. And what printer, even if he were not blind, would in such straitened circumstances as Jaggard's be likely to be too inquisitive about the authorship or to ask too many questions of those who brought him a substantial piece of business with its financing already provided?

The dedicatory epistle addressed to the Earls of Pembroke and Montgomery is in substantial part an apparent paraphrase of the dedication of Pliny's *Natural History* [It is worth mentioning that Francis Bacon also wrote a *Natural History* (*Sylva Sylvarum*) and finished it two years before his death in 1626]. This indicates classical learning far beyond that which could be expected of two ordinary actors such as Heminge and Condell. It adds to the suspicion that their names were used, probably because they had some association with the man of Stratford. The view, concurred in by Chambers, that Ben Jonson was the actual writer of at least part of the epistle, merely using the names of Heminge and Condell, is credible because of Jonson's own familiarity with the classics which he often paraded, as when he spoke disparagingly of Shakespeare's learning.

The suspicious appearance of the Droeshout portrait and of Ben Jonson's verses relating to it has already been mentioned.

The close association between Ben Jonson and the others who appear as authors of the prefatory epistles and poems is another circumstance to be considered in connection with the contention that a subsidy was paid to Jonson to undertake the actual promotion of the publication.

Jonson's various other equivocal statements about Shakespeare as an author, his own failure to provide any real identification of the author of the contents of the First Folio, and the large payments to him at a time when he was financially embarrassed, add to the suspicion.

The listing of the name of William Shakespeare on the list of "The Principall actors in all of these Playes," ahead of the names of those who were otherwise well known as leading actors of the day, is at variance with every other record and seems to have no reasonable warrant in good faith.

In the prefatory epistles to which the names of Heminge and Condell are subscribed (probably by Jonson) it is stated that they were friends of the author, Shakespeare. This statement is the only link with the suspiciously interlined bequest in the will of Shaksper of Stratford.

The statement over the names of Heminge and Condell asserts that they collected the works "according to the true originall copies" and that they cured them of the defects which appeared in the "stolne and surreptitious" copies. Manifestly this is untrue, since the First Folio is full of obvious errors and defects.

The statement also asserts that they scarcely received a blot in the author's papers. Chambers' comment is "what one does not find is the absence of 'blots' for which Heminges and Condell especially lauded Shakespeare." The gist of the purported statement of Heminge and Condell is that the author wrote with such facility that he made few corrections and scarcely blotted a word. Can this truly be a reference to the man of Stratford, in whose six painfully scrawled signatures there are no less than three blots?

When we contemplate the probability that the financing of the publication was provided from the outside, the concern expressed by Heminge and Condell as to the financial success of the venture sounds hollow indeed.

The letters over the names of Heminge and Condell contain so many

patent misstatements that it is difficult to believe they were made in good faith inadvertently, and not deliberately intended to deceive. The Stratfordians place much reliance upon this testimony. But the statements themselves, if indeed Heminge and Condell really made them, contain no direct identification of the author whose works they purport to have collected, corrected, published and sponsored.

Thus even the First Folio, containing as it does the principal evidence for the Stratfordian authorship, is itself subject to persistently haunting doubts. The Stratfordians either dismiss or ignore them, and accept the First Folio as settling all questions about the authorship. To others, however, the Stratfordian authorship appears factually unsupported at best, and moreover seems an utterly incredible paradox--a phenomenon contravening human experience. To them the unlikelihood of the Stratfordian authorship, the absence of other evidence and the doubts about the First Folio quite naturally suggest clues to a deliberate masquerade.

These supplementary notes will, it is hoped, make clearer the basis for the doubts about the Stratfordian authorship. They at least expand the "all-too-condensed" summation of the external evidence in the case of William Shaksper of Stratford as given in the original article. . .

With all these in mind perhaps you, ladies and gentlemen of the jury, will wish again to retire and consider further your verdict. It is for you to answer the two questions put to you at the outset: was Shakespeare the same man as Shaksper, and if not, who was he? was the author William Shaksper; Francis Bacon; Christopher Marlowe; Edward de Vere, Earl of Oxford; or someone else?

In arriving at your own individual answers to these questions, each one of you will be solving for yourself the most baffling, and what is indeed, "the greatest literary whodunit of all time."

* * *

Thus ends Richard Bentley's summary of the "Great Controversy." He was not the first able trial lawyer who weighed the positive evidence in this case and found most of it, favoring the authorship of William Shakespeare, to be inadmissible. The negative evidence showing the incompetence of this supposed writer is exceptionally persuasive. To the contrary, the works betray the unmistakable signs of an attorney's practiced hand. To me, experienced lawyers like Bentley, those who must evaluate dispassionately the proofs before they are presented to a court and who have a sharpened cynicism toward the kind of evidence that can, at best, be considered as speculative, are the most practical judges of a hard case like this. Yet the real judges, whose opinions have again and again become final without hope of appeal, are the schoolmasters. They are accustomed to speak with conclusive authority to their students whom, upon graduation and happy relief from such literary quarrels, must carry the scars of scholastic dogmatism forever after. Those outside the classrooms, those with opinions unpopular to the teachers within them, are easy victims for classification as amateurs or hobbyists, or even cranks if they should obtrude unwelcome doubts concerning their Most worshipful Bard.

Richard Grant White, an American Shakespeare critic, described the Bard's home at Stratford as "hardly equal to a rustic cottage, almost a hovel, poverty stricken, squalid, kennel-like." The town itself he portrayed as "A dirty village. . .the streets foul with offal, mud, muck-heaps and reeking stable refuse." J. O. Halliwell-Phillips wrote that the birthplace was "in the vicinity of middens, fetid watercourses, mud walls and piggeries." David Garrick described the place as, "the most dirty, unseemly, ill-paved, wretched looking town in all Britain."

But the managers of the Shakespeare Birthplace Trust seem to view these reports as matters to be disregarded, and to call attention to them a sign of prejudice and intolerance. A new publication, "The Shakespeare Handbook," (G. K. Hall, 1987) written by a "team of leading international scholars under the editorship of Levi Fox" revives the Shakespeare legends. They buy, for example, the Thomas Plume tale referred to by Bentley, that Shakespeare was a glover's son. Levi Fox has been the director of the Shakespeare Birthplace Trust at Stratford-upon-Avon since 1945. The "Birthplace" is visited by a more than a million tourists each year. Obviously, this editor may entertain some bias in favor of orthodoxy and enduring revenue. A passage must be quoted:

It is important to emphasize this: One of the curiosities of Shake-

speareana is that peculiar popular myth, now at last disappearing, that Shakespeare was not, so to speak, Shakespeare, but someone else altogether, such as Bacon or the Earl of Oxford. This has been a curiously tenacious myth which still, from time to time, is put forward with much enthusiasm, but little scholarship. This strange notion was nourished by the conviction that Stratford in the 16th century was a dirty and insignificant huddle of squalid dwellings. The argument, in part, ran that the extraordinary knowledge shown by Shakespeare could only have come from someone socially elevated--in London and at court, preferably. Thus was snobbery wedded, as always, to ignorance.

Poor Shakespeare--set upon by snobs of little scholarship!

Richard Bentley was Editor-in-Chief of the American Bar Association Journal from 1961 until his death in 1970. His essays, including those quoted above, were published by the A.B.A. Journal as part of a book entitled +Shakespeare Cross-Examination+.

* * *

Did a lawyer write Shakespeare's sonnet 46?

MINE eye and heart are at a mortall warre,
How to deuide the conquest of thy sight,
Mine eye, my heart their pictures sight would barre,
My heart, mine eye the freedome of that right,
My heart doth plead that thou in him doost lye,
(A closet neuer pearst with christall eyes)
But the defendant doth that plea deny,
And sayes in him their faire appearance lyes.
To side [decide] this title is impannelled
A quest of thoughts, all tennants to the heart,
And by their verdict is determined
The cleere eyes moyitie, and he deare hearts part,
As thus, mine eyes due is their outward part,
And my hearts right, their inward loue of heart.

Lord Chief Justice Campbell comments on this stanza:

I need not go further than this sonnet, which is so intensely legal in its language and imagery, that without a considerable knowledge of English forensic procedure it cannot be fully understood. A lover being supposed to have made a +conquest+ of (i.e. to have gained by +purchase+) his mistress, his +eye+ and his +heart+, holding as +joint-tenants+, have a contest as to how she is to be partitioned between them--each moiety then to be held in severalty. There are regular +pleadings+ in the suit, the +heart+ being represented as Plaintiff and the +eye+ as Defendant. At last issue is joined on what the one affirms and the other denies. Now a jury (in the nature of an inquest) is to be impaneled to "side" and by their verdict to apportion between the litigating parties the subject matter to be decided. The jury fortunately are unanimous, and after due deliberation find for the +eye+ in respect of the lady's outward form, and for the +heart+ in respect of her inward love. . .

* * *

Did Francis Bacon's contemporaries believe that he was a lawyer turned poet?

In the +Scourge of Folly+, John Davies of Hereford (1565-1618) wrote this epigram:

+To the Royall Ingenious and All-learned Knight--
Sr Francis Bacon+

Thy +bounty+ and the +Beauty+ of thy Witt
Compris'd in Lists of +Law+ and the learned +Arts+,
Each making thee for great +Employment+ fitt,
Which now thou hast, (though short of thy deserts)
Compells my pen to let fall shining +Inke+
And to bedew the +Baies+ that +deck+ thy +Front+;

And to thy health in Helicon to drinke
 As to her +Bellamour+ the +Muse+ is wont;
 For thou dost her embozom; and dost vse
 Her company for sport twixt graue affaires.
 So vtter'st Law the liuelyer through the +Muse+.
 And for that all thy +Notes+ are sweetest +Aires+;
 +My Muse thus notes thy worth in ev'ry Line.
 With ynke which thus she sugers; so, to shine+.

Thus John Davies in 1610 states plainly that Francis Bacon was a poet and that he had woven into his works spirited illustrations of the law. John Davies was the same man to whom Bacon had written a letter which concluded, "so desiring you to be good to concealed poets."

* * *

Sir Edmund Chambers, writing in +William Shakespeare: a Study of Facts and Problems+, quotes a statement of Edmund Howes' in 1615:

Our moderne, and present excellent poets which worthely florish in their owne workes, and all of them in my owne knowledge lived together in this Queenes raigne, according to their priorities as neere as I could, I have orderly set downe (viz) George Gascoigne, Thomas Churchyard, Edward Dyer, Edmond Spencer, Philip Sidney, John Harrington, Thomas Challoner, Frauncis Bacon, John Davie, Iohn Lillie, George Chapman, W. Warner, Willi Shakespeare, Samuell Daniell, Michael Draiton, Christopher Marlo, Benjamine Johnson, Iohn Marston, Abraham Frauncis, Frauncis Meers, Joshua Silvester, Thomas Deckers, John Flecher, John Webster, Thomas Heywood, Thomas Middleton, George Withers.

Thus did Edmund Howes rank Bacon with Shakespeare among these twenty-seven contemporary "excellent Poets." He put him a few names ahead of "Willi."

* * *

The +Manes Verulamiani+ is a collection of laudatory poems written in Elizabethan Latin. It was published in 1626, a few months after the death of Francis Bacon and in his commemoration. John Haviland (who before had printed several of Bacon's books) was also the publisher of these tributes. The "Manes" was reprinted in facsimile with translations by W.G.C. Gundry, Barrister-at-Law (Chiswick Press, London 1956).

In this volume there is a translation of a Latin verse signed by "H.T., Fellow of Trinity Colledge" (Cambridge). H.T. was Herbert Thorndike (1598-1672) who later became deputy Public Orator to George Herbert, Bacon's friend and elegist.

Thorndike's poem speaks of Francis Bacon in this manner:

[Nature says] "Stay your advance and leave to posterity what will delight the coming ages to discover. Let it suffice for our times, that being ennobled by your discoveries they should glory in your genius. Something there is, which the next age will glory in; something there is, which it is fit should be known to me alone: let it be your commendation to have outlined the frame with fair limbs, for which no one can wholly perfect the members: thus his unfinished work commends the artist Apelles, since no hand can finish the rest of his Venus. Nature having thus spoken and yielding to her blind frenzy cut short together the thread of his life and work. But you, who dare to finish the weaving of this hanging web, will alone know whom these memorials hide."

(H. T. Coll. Trin. Socius)

In an Introduction to this facsimile of +Manes Verulamiani+, Gundry quotes Parker Woodward (Baconiana, Oct. 1905):

Directly as men were aware that the main purpose of the published plays was not so much to entertain them as to put them to school, the +New Method+ was certain to become a failure. Long and patient trial of the system could alone attain success. To disclose the author was to reveal the schoolmaster, whose work would be resented as an imperti-

nence by those for whom it was most fit.

Woodward's inference was that the Shakespeare plays were written more to instruct than to entertain, though they served both purposes. We have all served too many of our years in the schoolhouse; we have suffered the drynesses of uninspired pedagogy. We are not amused by repetitions of those lessons unless we can be surprised and delighted to find the same lectures in a novel or a play or a motion picture. We learn from these subtle teachings as we laugh, reflect or cry. Bacon, in *+De Augmentis Scientiarum+*, says:

Dramatic poesy, which has the theatre for its world, would be of excellent use if well directed. For the stage is capable of no small influence both of discipline and of corruption. Now of corruption in this kind we have enough; but the discipline has in our times been plainly neglected.

Gundry says:

Without a mask, Bacon's plan for his *+Instauratio Magna+* would not have been possible; William Shakespeare was a necessary feature in the vast scheme of Bacon's philosophic experiment which had the world for its theatre, ages for its accomplishment, and posterity for its beneficiaries.

* * *

Professor Rowse, a Fellow of All Souls College, Oxford and a Fellow of the British Academy, is, according to the jacket of his book, "the greatest living authority on Elizabethan England." His biography¹⁷ of the Bard, consisting of 484 pages and replete with endnotes, is an example of what Sam Clemens had to say about Shakespearean biographers. It is a veritable Thesaurus of synonyms for phrases such as, "we are justified in assuming."

The real meat of his book is explained as follows: "We can build up a picture of the kind of youth Shakespeare was from the information he drops as to his choices and preferences in his writings, though we must watch for corroboration from external evidence. After all a writer writes about his own experience--he cannot exclude himself from his work, even if he would. . ."

In other words, aside from the doubtful traditions and aside from the "we must presume" assurances from this author, the most reliable way to get acquainted with Shakespeare is to read his works. The proof that Shakespeare lived Shakespeare's life is obvious: even reading Rowse seems not to be a requirement; we may read Shakespeare instead. The tired circular argument survives; begging the question remains a matter of Stratfordian principle.

Is an old book, with Shakespeare's name printed on it as the author, any proof that Shakespeare wrote it? Not necessarily. One may be surprised to read this in the good Professor's own book:

From this year, too, [1613] we have some of Shakespeare's last handiwork, his contribution to Fletcher's play, *+The Two Noble Kinsmen+*. When this play was published in 1634, as "presented at the Blackfriars by the King's Majesty's Servants, with great applause," Shakespeare's name appeared along with Fletcher's on the title-page. This in itself is no decisive evidence, for his name was made use of on other playbooks, with which he had no connection, to help sell them. On the other hand, its exclusion from the First Folio is decisive, for in our time the honesty and fidelity of Heminges and Condell have been completely vindicated--nor need they ever have been questioned. What this means is that they did not regard *+The Two Noble Kinsmen+* any more than *+Pericles+*, as wholly, or even mainly, by Shakespeare.

So, in many cases, and particularly in the Quartos, we need not assume that Shakespeare wrote this or that merely because it has his name to it. This damaging pedantic admission is: Shakespeare did not write some of Shakespeare's books. It is a matter of opinion, first of Professor Rowse and then, especially, the opinions of Heminges and Condell, our honest and faithful servants who signed the "To the Reader" blurb for the 1623 Folio. They were businesslike, though, and told their readers, ". . .you will stand

for your priuilidges wee know: to read, and censure. Do so, but buy it first. . ."

A. L. Rowse has a chapter on the Sonnets. "The Sonnets of Shakespeare have hitherto presented the greatest problem in our literature. . .the answers to these questions are of fundamental importance not only to Shakespeare's life, but to our conception of him; and the Sonnets are documents of the first importance, for they are the most autobiographical ever written." We must conclude that "hitherto" refers to Before Professor Rowse who continues: "Now, for the first time, certainty as to dating has been achieved and the consequences are immeasurable: a flood of light pours in, all the main problems of the Sonnets receive their solution, the questions are answered. . ."

Then follow many expository pages and other "floods of light," and quarrels with previous Sonnet annotators who were not Historians. "Hitherto they have provided an unsolved problem. . .After all Shakespeare did not write his sonnets to provide a puzzle for posterity: he wrote them simply and directly, straightforwardly and rapidly. . ."

Professor Rowse has not only discovered the speed with which Shakespeare's quill flashed over the foolscap, but he knows when the Sonnets were written: ". . .in the years 1592-5, though they mostly belong to the two plague years of crisis in Shakespeare's career when the theaters were closed, 1592 and 1593." And, "we all know the rapidity with which Shakespeare worked, with which his imagination carried him away. . ." As imagination might carry us all away, if we didn't keep our eyes open.

The unerring Professor has no love for Francis Bacon. Bacon and Essex had been friends, until Essex mounted an armed rebellion against the Queen that failed dismally. Bacon was ordered to participate in the prosecution which was led by Coke. These events provoke Rowse to say, "Francis Bacon had been the first rat, understandably, to leave Essex's leaky vessel."

Behinde the Arras, hearing something stirre,
He whips his Rapiere out, and cries "a Rat, a Rat."
And in his brainish apprehension kills
The vnseene good old man.

+Hamlet+ (iv, 1, 9).

Baconians, at least of the English variety, are also distasteful to our Oxford scholar. He has referred to them as "crackpots."

The Professor has recently published a book.\18\ He explains the connection between Shakespeare and his patron, the Earl of Southampton, and how he fathomed it. "One needs to be pretty subtle to catch the exact tone of this complex, not wholly unparalleled relationship--no wonder ordinary minds fail to do so and have made such a mess of it." Rowse's perceptions are so subtly acute that he declares, "Really, unless +drenched+ in the Elizabethan age, poets, novelists, critics should not hold forth on what they do not, perhaps cannot, understand." He forgot to mention undrenched lawyers.

Also recently published is an attack upon +all+ of the leading pretenders to Shakespeare's throne.

H. N. Gibson, M. A., Ph. D., describes himself as a lecturer "on Shakespeare to senior forms in schools and to adults in W.E.A. classes." (H. N. Gibson, +The Shakespeare Claimants+, Methuen & Co. Ltd., London 1962).

Gibson, the Refuter, places Francis Bacon first on his list of unworthy impostors and then disposes neatly of Edward De Vere, the Sixth Earl of Derby, and Christopher Marlowe. He denies that he carries a brief for Shakespeare, saying that he is "no opponent of the various theories in the sense that I wish to stop them from being propagated." Yet he cannot desist from scorn (p. 306):

Before bringing this book to a close there is one other point with which I wish to deal. Though they may not be great Elizabethan scholars, some of the theorists are eminent men in other walks of life, and certainly they are not fools. How is it then that they can seriously put forward such hopelessly inadequate and often ludicrous arguments as we have examined in these pages?

Then schoolman Gibson begins to apologize for the answer he is about to supply to his own question. He calls it his "theory of theorists." Those who have suggested any author, other than the Stratford actor, he tars with this interesting accusatory brush: ". . .I do not think that +subcon-

sciously+ they believe in their theories, though no doubt +consciously+ they have persuaded themselves that they do. . ." He says, concerning the insincerity of lesser doubters, "there are a few about whom I have darker suspicions. I do not think they really believe their own theories...I incline to the belief that they are playing a gigantic practical joke upon their readers to see how much these will swallow. . ." Thus spake Gibson the Refuter--but is (or was) he the last of the Troglodytes? No. Yet he often implies that Baconians, of whatever ilk, sometimes added to Elizabethan and sixteenth century history a few verifiable facts. One must cherish a concealed Bardolater who retreats even an inch. Can you hear me, Sam?

* * *

Queen Elizabeth I could speak five languages. Francis Bacon's mother Anne could read Greek and Latin and had memorized several Greek tragedies. The well-to-do of the times educated both their sons and daughters.

Shakespeare cannot be blamed that his father and mother and his two sisters were illiterate. But it is inexcusably and exceedingly strange that his daughter Judith, who signed her marriage record with an "x," was never taught to read or write.

Notes for Chapter 6:

1. Journal of the American Bar Association, "Elizabethan whodunit," Richard Bentley, Chicago, Feb. 1959, supplemented Nov. 1959.
2. +The Life and Adventures of Common Sense+, Herbert Lawrence 1769.
3. +Was Lord Bacon the Author of Shakespeare?+, Joseph C. Hart 1848.
4. +The Shakespearean Ciphers Examined+, William F. and Elizebeth Friedman, Cambridge University Press 1957.
5. +Selig vs. Fabyan+, Gen. No. 19054, Circuit Court of Cook County, Ill., 1916.
6. +The Bacon Controversy+, Lord Penzance.
7. +William Shakespeare: a Study of Facts and Problems+, Sir Edmund Chambers, Oxford at the Clarendon Press, 1930.
8. +Shakespeare's England+ (Oxford 1917), Vol. 2, p. 546.
9. +This Star of England+, Dorothy and Charlton Ogburn, p. 1221
10. Chambers, Vol. 1, p. 15
11. Chambers, Vol. 2, p. 252
12. +A Mystery Solved+, Charlton Ogburn, ABA Journal, Mar. 1959.
13. +Notes on the Bacon-Shakespeare Question+, Charles C. Allen, Boston 1900.
14. +The Shakespeare Controversy: A Stratfordian Rejoinder+, John N. Hauser, ABA Journal July 1959.
15. +The Law of Property in Shakespeare and the Elizabethan Drama+, Clarkson and Warren, 1942
16. +The Shakespeare Problem Restated+, Sir George Greenwood, 1908, 1937.
17. +William Shakespeare+, A Biography, A. L. Rowse, Harper & Row, New York and Evanston, 1963.
18. +Shakespeare's Self-Portrait+, A. L. Rowse, The Macmillan Press, London, 1985.

Friedman

+Books must follow sciences, and not sciences books+.
--Francis Bacon

Chapter 7

William F. Friedman, who is best known for leading a team that broke the Japanese Purple Code at the beginning of world war II, was born in 1891 of well educated Rumanian parents. Mostly by accident, and through scholarships in various fields, he became an agricultural geneticist and a graduate of Cornell University.

Meanwhile George Fabyan, who had made a fortune in the textile business, had been operating scientific laboratories on his Riverbank estate near Geneva, Illinois. Friedman was hired by Fabyan to work on genetic

experiments. Known as "The Colonel," he had very little education but he was interested in agriculture, chemistry, acoustics and cryptology; he had established departments for each discipline in the buildings on his 500 acre property. Also working at Riverbank was Mrs. Elizabeth Wells Gallup. She had convinced Fabyan, and many others, that there was a cipher concealed in the typography of first editions of Shakespeare, Bacon, and other writers of the Elizabethan and Jacobean era.

She relied on a description of a system that Francis Bacon had published called the Bi-literarie Cipher and which he had illustrated by using two slightly different styles of engraved (not typeset) printing. Mrs. Gallup said that she had found two such diverse fonts of type, as set in the printing of such books and then, financed by George Fabyan, she worked diligently to decipher the messages. David Kahn, in his consummate work *"The Codebreakers"*, describes the circumstances, and here enter love, romance and marriage versus the imagined evils of Elizabethan courtly life:

Neither she [Elizabeth Smith, an English major and a former librarian] nor Friedman had given any particular previous thought to cryptology, but they began to get personally interested in the work. It is yet another of the ironies of cryptologic history that the interest of the two foremost cryptologists was aroused by a false doctrine--a doctrine, moreover, against which they later were to wage a lifetime battle. For at table at the Riverbank cottages they heard gaudy tales of lusty Elizabethan life, of the not-so-Virgin Queen, of courtier's intrigues and the secret histories of the great names of English history--all actually invalid decipherments of Shakespeare's plays tending to prove that Bacon had written them, and related by the gentle, upright but self-deluded woman who had deciphered them, Mrs. Elizabeth Wells Gallup. These stories stirred Friedman's dormant interest; he began to do some of the cryptology, and inevitably its puissant magic seeped like the fume of poppies into his mind and spirit and intoxicated him. . .

He soon found himself head of the Department of Ciphers as well as the Department of Genetics at Riverbank. The attraction he felt for cryptology was reinforced by the attraction he felt for a cryptologist: the quick-witted and sprightly Miss Smith. In May of 1917 they were married and started the most famous husband-and-wife team in the history of cryptology.

The Friedmans went on into other, more respectable, fields of this science, and with remarkable success. Toward the end of the First World War the British were about to adopt a cipher device invented by one Vincent Pletts of their War Office cryptanalytic bureau. They dispatched to the Riverbank Laboratories five short messages to be tested for security. Kahn describes the result:

The [Pletts] machine was a modification of the Wheatstone apparatus, proposed as a field cipher. So highly did the British regard it that one argument advanced against its adoption was that if the Germans captured one and adopted it, the Allies would no longer be able to solve enemy messages! Friedman, however, at once recovered the keyword CIPHER to one of the mixed alphabets. But he could not seem to get anywhere with the other keyword and, stymied, he resorted to a bit of psychological cryptanalysis. He turned to the new Mrs. Friedman and asked her to make her mind a blank.

"Now," he went on, "I want you to tell me the first word that comes into your mind when I say a word." He paused.

"Cipher," he said.

"Machine," she replied.

It turned out to be the very key desired. Three hours after Friedman received the cryptograms, their plaintexts were being cabled to London. (The first one read, in a phrase dear to proud inventors, *"This cipher is absolutely undecipherable."*) Needless to say, it ended consideration of the Pletts device for Allied use.

As will be seen later in this book, enciphering the word *"cipher"*, or some variation thereof, is unusual and perilous but not in antiquity unprecedented. To do so is more like a favor.

At Riverbank, Friedman went on to write successive monographs on the subject of cryptography and showed, again and again, new ways to crack the most difficult ciphers. Kahn says of this work:

Riverbank Publication No. 22, written in 1920 when Friedman was 28, must be regarded as the most important single publication in cryptology. It took the science into a new world. Entitled "The Index of Coincidence and Its Applications in Cryptography", it described the solution of two complicated cipher systems. . . In it, Friedman devised two new techniques. One was brilliant. It permitted him to reconstruct a primary cipher alphabet without having to guess at a single plaintext letter. But the other was profound. For the first time in cryptology, Friedman treated a frequency distribution as an entity, as a curve whose several points were causally related, not just as a collection of individual letters that happen to stand in a certain order for noncausal (historical) reasons, and to this curve he applied statistical concepts. The results can only be described as Promethean, for Friedman's stroke of genius inspired the numerous, varied, and vital statistical tools that are indispensable to the cryptology of today

Before Friedman, cryptology eked out an existence as a study unto itself, as an isolated phenomenon, neither borrowing from nor contributing to other bodies of knowledge. Frequency counts, linguistic characteristics, Kasiski examinations--all were peculiar and particular to cryptology. It dwelt a recluse in the world of science. Friedman led cryptology out of this lonely wilderness and into the broad rich domain of statistics. . . This is why Friedman has said, in looking back over his career, that "The Index of Coincidence" was his greatest single creation. It alone would have won him his reputation. But in fact it was only the beginning.

After the war Friedman resigned from the Riverbank Laboratories and began teaching and writing about cryptography, first with the Army Signal Corps and later in civil service. His text, "Elements of Cryptanalysis", became a standard. At his suggestion, the Army adopted the M-94 Jefferson-Bazeries cylinder cipher device for field use. He tested various other instruments which were claimed to produce unbreakable ciphers, and he broke them all. Kahn describes one of them:

Most difficult of these was the machine with five wired codewheels --rotors--invented by Edward H. Hebern, whose principle is today [1967] the most widely used in high level cryptography. Each of the rotors generates a progressive cipher, and in 1925 Friedman devised the kappa test and extended his "Index of Coincidence" analyses to determine the order and starting positions of the rotors. The five progressive ciphers intertwine in a cipher of hideous nightmare complexity, but in a later solution Friedman sorted them out and reconstructed the wiring of the rotors. This work was of the utmost importance, for it laid the foundations for the PURPLE machine solution and for today's many solutions of modern rotor machines. The technique was far in advance of its time. So far as is known, not another cryptanalyst on the globe could duplicate it--and none did, apparently, for more than two decades. With this solution of Friedman's, world leadership in cryptology passed to America.

In 1929 the U. S. State Department abandoned cryptographic research. The Secretary of State, Henry L. Stimson, had declared that "Gentlemen do not read other people's mail." Quickly the Army established the Signal Intelligence Service and named Friedman as its first director. His later conquest of the Japanese PURPLE code (actually a cipher) is described by David Kahn:

. . . The solution of the PURPLE machine was, in fact, the greatest feat of cryptanalysis the world had yet known.

The cipher machine that Americans knew as PURPLE bore the resounding official Japanese title of 97-shiki O-bun In-ji-ki. This meant Alphabetical Typewriter '97, the '97 an abbreviation for the year 2597 of the Japanese calendar, which corresponds to 1937. The Japanese usually referred to it simply as "the machine" or as "J", the name given it by the Imperial Japanese Navy, which had adapted it from the German Enigma cipher machine and then had lent it to the Foreign Ministry, which in turn had further modified it. Its operating parts were housed in a drawer-sized box between two big black electrically operated Underwood typewriters, which were connected to it by 26 wires plugged into

a row of sockets called a plugboard. To encipher a message, the cipher clerk would consult the thick YU GO book of machine keys, plug in the wire connections according to the key for the day, turn the four disks in the box so the numbers on their edges were those directed by the YU GO, and type out the plaintext. His machine would record that plaintext while the other, getting the electric impulses after the coding box had twisted them through devious paths, would print out the ciphertext. Deciphering was the same, though the machine irritatingly printed the plaintext in the five-letter groups of the ciphertext input. . .The guts and heart of the machine were the plugboards and the coding wheels. They diverted the current flowing along the connections from the input typewriter to the output one so that when the +a+ key was depressed on the input keyboard, an +a+ would not be typed on the output machine. The diversion began with the plugboard connections. If the coding box were not present, a plugboard wire would take the electric impulse from the +a+ key of the plaintext typewriter and bring it directly to, say, the R typebar of the ciphertext machine. Other wires would similarly connect the plaintext keys to noncorresponding ciphertext typebars. This would automatically produce a cipher, though a very elementary one. Each time plaintext +a+ was depressed ciphertext R would appear. So simple a system affords no security. The plugboard connections can be changed from message to message, or even within a message, but this does not noticeably augment the system's strength.

Here is where the four coding wheels came in. Interposed between the plugboard of the plaintext typewriter and that of the ciphertext machine, they were shifted constantly with respect to one another by their supporting assembly. The enciphering current had to traverse their winding wire paths to get from one typewriter to the other, and the constant shifting continually set up different paths. Thus impulses from a given plaintext letter were switched through the box along ever varying detours to emerge at ever differing cipher-text letters. Plaintext +a+ might be represented in a long message by all 26 letters. Conversely, any given ciphertext letter might stand for any one of 26 plaintext letters. Switches on the coding wheels could be flicked one way or the other; this constituted part of the key and was done by the code clerk before enciphering. Usually the plugboard connections were changed each day.

These factors united to produce a cipher of exceptional difficulty. The more a cipher deviates from the simple form in which one ciphertext letter invariably replaces the same plaintext letter, the harder it is to break. A cipher might replace a given plaintext letter by five different ciphertext letters in rotation, for example. But the Alphabetical Typewriter produced a substitution series hundreds of thousands of letters long. Its coding wheels, stepping a space--or two, or three, or four--after every letter or so, did not return to their original positions to recreate the same series of paths, and hence the same sequence of substitutes, until hundreds of thousands of letters had been enciphered.

. . .As William Friedman recalled, "When the PURPLE system was first introduced it presented an extremely difficult problem on which the Chief Signal Officer asked us to direct our best efforts. After work by my associates when we were making very slow progress, the Chief Signal Officer asked me personally to take a hand. I had been engaged largely in administrative duties up to that time, so at his request I dropped everything else that I could and began to work with the group.

. . .Lighting his way with some of the methods that he himself had developed, he led the cryptanalysts through the murky PURPLE shadowland. He assigned teams to test various hypotheses. Some prospected fruitlessly, their only result a demonstration that success lay in another direction. Others found bits and pieces that seemed to make sense. . .Errors, caused perhaps by garbled interceptions or simple mistakes in the cryptanalysis, jarred these delicate analyses and delayed the work. But slowly it progressed. A cryptanalyst, brooding sphinxlike over the cross-ruled paper on his desk, would glimpse the skeleton of a pattern in a few scattered letters; he tried fitting a fragment from another recovery into it; he tested the new values that resulted and found that they produced acceptable plaintext; he incorporated his essay into the over-all solution and pressed on. Experts in Japanese filled in missing letters; mathematicians tied in one cycle with another and both to the tables. Every weapon of cryptanalytic science--which in the stratospheric realm of this solution drew heavily upon mathematics, using group

theory, congruences, Poisson distributions--was thrown into the fray.

Eventually the solution reached the point where the cryptanalysts had a pretty good pencil-and-paper analog of the PURPLE machine. S.I.S. then constructed a mechanism that would do automatically what the cryptanalysts could do manually with their tables and cycles. They assembled it out of ordinary hardware and easily available pieces of communication equipment, such as the selector switches used for telephones. It was hardly a beautiful piece of machinery, and when not running just right it spewed sparks and made loud whirring noises. Though the Americans never saw the 97-shiki O-bun In-ji-ki, their contraption bore a surprising physical resemblance to it, and of course exactly duplicated it cryptographically. . .

Beginning in August, 1940 the S.I.S. began regularly delivering the deciphered Japanese messages, which were code-named MAGIC.

Friedman humbly gave the credit for the solution to his team. Some have tried to take away that honor, claiming that the improved German ENIGMA machine, secretly obtained by the British in 1938 from two Polish cryptographers, and later confided to the United States, was the basis for their cryptographic victory. But both that device and the Japanese version were based on earlier machines which had been sold for commercial use as long before as 1923. David Kahn continues:

Friedman was, despite his partial disclaimer, the captain of that team. The solution had taken a terrific toll. The restless turning of the mind tormented by a puzzle, the preoccupation at meals, the insomnia, the sudden wakening at midnight, the pressure to succeed because failure could have national consequences, the despair of the long weeks when the problem seemed insoluble, the repeated dashings of uplifted hopes, the mental shocks, the tension and the frustration and the urgency and the secrecy all converged and hammered furiously upon his skull. He collapsed in December, 1940. After three and a half months in Walter Reed General Hospital recovering from the nervous breakdown, he returned to S.I.S. on shortened hours, working at first in the more relaxed area of cryptosecurity. By the time of Pearl Harbor he was again able to do some cryptanalysis, this time of German systems. . .

The usefulness of MAGIC, the term for the decryption of messages by the PURPLE machine, continued throughout World War Two. The Japanese, though unsuspecting, changed the coding of their wheels from time to time but they never abandoned their general system. Our admirals knew the current position of every group of the Japanese battle fleet; the messages were often deciphered before the enemy commanders received them. The advantage thus acquired was enormous.

Friedman received almost every civilian decoration that the U.S. government could bestow, including the Commendation for Exceptional Civilian Service, The Medal of Merit, presented to him by President Truman himself, and then, from Allen W. Dulles, director of Central Intelligence, the National Security Medal. MAGIC alone did not win the war with Japan, but it certainly shortened it and saved thousands of lives.

He retired in 1955. Surprisingly enough, he became a historian of what he considered to be false cipher methods. Kahn says:

As the pressure of his duties declined, Friedman and his wife returned to the cryptologic field that had gotten them started--the Baconian ciphers. They summed up the experience of a lifetime in a long and exhaustive report that won them the Folger Shakespeare Library literary prize in 1955. After his retirement, they collaborated in preparing this work for 1957 publication by the Cambridge University Press as *The Shakespearean Ciphers Examined*. While, as *The New York Times Book Review* accurately said, they buried "these pseudocryptograms beneath a mass of evidence as crushing as an avalanche," they also introduced their readers to a rogues' gallery of pseudocryptologists not to be met elsewhere in literature. The Friedmans here display a rather surprising--surprising to one who has perused only his technical writing--wit and talent for personality sketches.

In the Preface to his book, Friedman acknowledged his thanks to the officers of the London Francis Bacon Society during his visits to their headquarters, Canonbury Tower, in 1953 and again in 1954. He refused,

Cmdr. Martin Pares (the Chairman) later said, to become a member. Yet one cannot read into the Friedman's book any outright denial of the possibility that Francis Bacon had a hand in composing the Shakespeare manuscripts; much less is there an evidentiary refutation of that theory.

Neither does he seriously attack the historical evidence favoring the Bacon hypothesis which exists outside of the alleged Baconian "cipher solutions." One must credit that he and his wife Elizebeth had read deeply in that spectrum of legitimate literary research wherein the authorship is seriously questioned.

In their first chapter the Friedmans sum up a few of the historical arguments raised against the authorship of the works by William Shakespeare, and most briefly mention the names and grounds for nominating several other Elizabethans as being likely candidates. They hardly could cover the field in so few pages and, after all, they were writing a book on cryptography. They conclude, "In fact the historical argument can never produce certainty either way: there is always a counter-argument, always an appeal to the lack of evidence, a counter-interpretation of what evidence there is, much inference, some coincidence and, despite Mr. Percy Allen [a spiritualist], no voice from the grave...It is with relief that we turn to the more certain ground of cryptology. . .where, if properly handled, it is a matter on which great things are decided. . ."

What the Friedmans do object to are claims for cipher in the Shakespeare works where none can be proven in a respectable scientific manner. More than that, they object to the imaginative "history" derived from the decryption of such ciphers. Nevertheless, I have quoted in this book extracts from thirty years of Baconiana, the journal of the Francis Bacon Society, and I doubt that they would have seriously controverted much that is included there. But that is not to say that they might agree with every allegation ever printed in Baconiana. Many Baconians, within their field (and one that is beyond the verge of organized academia) have been and still are genuine private scholars. The modern sort has drawn away from the enthusiastic errors of turn-of-the-century Baconians; the emphasis on now-disproven cryptographic methods has mostly turned elsewhere, toward the historical and literary arguments which, compared to those of the Stratfordians, beckon rather more persuasively. The silent doubters, the moles within the learned disciplines are growing in number, to the consternation of a shrinking group of others that Sam Clemens referred to as troglodytes. Sam's word, not mine.

It is worth observing that, before the Second World War, and especially before the Friedmans, the science of cryptography was almost unknown to the universities and to the public. Except for the rare and scattered and concealed professional practitioners, there were hardly any authorities for those interested to consult. Where it was taught, it was taught secretly. Books explaining cryptography were mostly out of print and never had much circulation. The casual reader became aware of the topic through Herbert O. Yardley's book, "The American Black Chamber" which was published in 1931. The U.S. State Department had closed its own cipher room in 1929. There was really no way for a reader to make a sophisticated judgment of the cipher "systems" which were invented. Very possibly some of the authors of these methods, in their ardor, had no better way to innocently judge their own creations. It is too bad, but many of them actually harmed their cause.

The Friedmans, using wry but cheerful humor, took aim at the Baconian crypto-cryptologists and sank their frail, poorly armed, mostly 19th century vessels. The litany of the names of the drowned and the dates of their too-early ventures into combat with the forces of science and mathematics, not to mention the Friedmans, is a grievous sorrow; they sailed forth almost unarmed. To wit: Ignatius Donnelly, 1887; Dr. Orville Owen, 1893; William Stone Booth, 1909; Sir Edward Durning-Lawrence, 1910; Walter Arensberg, 1921; Frank and Parker Woodward, 1923; Elizabeth Wells Gallup, 1899; Mrs. Henry Pott, 1891. Their bones, already bleached, were exhumed, sorted, categorized, mounted, and illuminated by the Friedmans in their entertaining treatise. (A much longer version of their original manuscript exists in the Folger Shakespeare Library, but the curator cannot permit quotations because of copyright laws.)

Thus the Friedmans spoke mostly about those who had written on the subject prior to or about the time that they left the service of Col. George Fabyan at the Riverbank Laboratories in 1921. We too must turn with a shudder, though with ill-concealed grief, away from the plight of those pitiable unfortunates who became their bleeding victims. Since the

Friedmans published +The Shakespearean Ciphers Examined+, the rule in academia for someone tempted to enter the lists has become "Don't publish lest you perish."

And the Friedmans were right. They had been hoodwinked by the wealthy and devious Col. Fabyan and wanted to correct the records. That Col. Fabyan (whose military rank was self-imposed) was, nevertheless, a fine judge of intellect. Without him, without board and room and \$50 a month and the fascination of cryptography, the Friedmans might have gone to work as geneticists for Henry Wallace on his corn farm. A small bronze memorial to George Fabyan might be appropriate to nail on the wall of the Marine Barracks at Midway Island.

The Friedmans touch us easily with their pointer of logic; they explain what must be done, if there is anything to be done. Gently they elucidate the rules by which to judge a valid cipher. These will be paraphrased as follows:

The first rule is that a cipher system must have rules; to use such devices one must methodically follow the rules. A cipher unit (the "cipher-text") is formed of one letter of the alphabet, and it must correspond to another letter in the deciphered text (the "plaintext").

There may be, and there often is, more than one rule; if there is a key there may be more than one key. But the rules and the keys must be unambiguous and they must be precisely applied.

Finding the right solution to a cryptogram is not a matter of opinion; there must be scientific confirmation. Every decipherer must reach the same conclusion.

The plaintext solution must make sense; the message must say something. However, a name alone may be sufficient to establish the authorship of the work in which the cipher is found.

The cryptologist must become convinced that the solution could not have happened by accident. If the odds against a chance occurrence of the solution are one in a thousand million, his confidence in the decipherment is justified.

There must be a key to the cryptogram, such as a modification or rearrangement of the alphabet which is used to reach the solution, and the cryptogram must be of a reasonable length. For a mono-alphabetic substitution cipher, about 25 letters are necessary before the cryptanalyst can be sure that his is the only possible solution.

Whether or not the message may be considered to be long enough for theoretical justification, corroboration of the cipher method, by the analysis of other messages which yield to the same system, provides conclusive proof.

An allowance may be made for the mistakes of the encipherer. Every solution must be considered on its own merits, but ordinarily not more than about ten percent of such errors are tolerable.

To change the key, or alphabet, on a given signal is a common and accepted practice in cryptography.

Acrostics, in which the first, last or other specific letters of succeeding words constitute the cipher letters, have often been found in literature and are an acceptable form of encipherment.

Discovery of an enciphered name (however spelled) leaves no doubt that the author of the open text must also have been responsible for the message; evidence of this kind must be taken as decisive.

The rules for selecting the letters of an acrostic must be invariable and the letters must be chosen in a particular order. One cannot at random select letters, whether in order or not; nor may one select letters in a particular order and then rearrange them until an anagram is found that represents a message or name.

Acrostics were popular in Elizabethan literature in which spelling was, compared to modern orthography, very diverse. Even proper names were spelled variably. The Friedmans go so far as to say this: "We should not be surprised if it is claimed that acrostics appear in Shakespeare's works, for they abounded in the literature of the time; nor should we be surprised if these devices concern the authorship of the works, for they have often been used to this end. We should even be tolerant of variable and erratic spelling, for this was to some extent a common Elizabethan practice."

The Friedmans particularly do not insist that the existence of a cipher be clearly signaled in the open text. In fact they consider it unreasonable to expect to find signs calling attention to concealed information. They quote Francis Bacon himself, who wrote "The vertues of cyphars whereby they are

to be preferred are three; that they be not laborious to write and read; that they be impossible to decypher; and in some cases, that they be without suspicion." [steganographic] The Friedmans' view was that "One does not put something in a secret hiding-place and then put up a sign saying, 'Notice: Secret Hiding-place'."

So, they do not "demand any external guide to the presence of the secret texts." As to the additional probative value of an actual external beacon and guide, they are silent. Neither do the Friedmans comment upon the reverse situation, where a reference might be made in the deciphered information to the open text, or vice-versa.

The book, if I can read between the lines of their scorching logic, was written with a fond sigh. It was a masterful lecture, addressed to a few of the (otherwise often credible) Baconian scholars, warning that they had stepped off the paths of their expertise. It was the last professional thing the Friedmans did, so far as I know, and they placed their more extended manuscript in the vaults of the Folger Shakespeare Library. They had apprenticed in an unsuccessful search for the validation of a faulty Shakespearean cryptogram and they denied any verification, yet they may have detected an odor of cipher there. As good scientists must, they refrained from any conviction. I wonder if this lengthy paper was not both a nostalgic review of their early careers, and an exercise in instruction for others who might dare to swim in such dark pools.

Notes for Chapter 7:

1. +The Codebreakers+, The Story of Secret Writing, David Kahn, The Macmillan Company, New York, 1967.

2. +The Shakespearean Ciphers Examined+, William F. Friedman and Elizebeth S. Friedman, Cambridge University Press, 1957

Sonnets.

+Scorn not the sonnet. Critic, you have frowned,
Mindless of its just honours; with this key
Shakespeare unlocked his heart+.

--William Wordsworth

Chapter 8

Only thirteen copies of +SHAKE-SPEARES SONNETS+ survive, making it a very rare volume indeed. It was published in 1609, although some of the stanzas may have been written as long before as 1592. Two of them, +Sonnets+ CXXXVIII and CXLIV, had already appeared in "versions" in the +Passionate Pilgrim+ of 1599, according to Sir Edmund Chambers. Chambers, who from his writings appears to be a no-nonsense scholar, seems to have mistakenly popularized Roman numerals for the identification of the +Sonnet+ stanzas. However the numbering in the original +Sonnet+ quarto was printed in familiar Arabic characters, such as 138 and 144; these correspond to Chambers' Roman numeral notation. This example will serve as a warning: facsimiles of originals are the only ones suitable for careful analysis.

This book of +Sonnets+ was a paperback having 80 pages; on the first 67 were printed the 154 +Sonnets+. At the end were attached the ten pages of +A Lovers complaint,+ "By William Shakespeare." Though that claim of authorship is thus made in print, it is unacceptable, among most Shakespearean scholars, to insist that he wrote both titles. Many proper judges of style and literary technique have determined that +A Lovers Complaint+ is an inferior and spurious work, one unworthy of the Master's pen, though it was appended to his book of +Sonnets+ and the Bard is plainly identified as the author.

Thomas Thorpe, an experienced publisher, registered the book at Stationer's Hall in London on May 20 of the same year. It attracted very little notice, in fact almost none at all. An actor, Edward Alleyn, wrote in his household accounts diary that he had bought it for five pence. It was not republished until 1640 when a mangled version was done by John Benson. The complete text of +SHAKE-SPEARES SONNETS+ was not reprinted until 1711. The late Fifteenth and early Sixteenth Century in England was a remarkable period of literary renaissance yet the book fell noiselessly upon that scene. There had been previous mention of "Shakespeare's Suger'd Sonnets" and these were said to have been privately circulated among his

friends, but no other contemporary comment about this 1609 book seems to exist. Shakespeare was, of course, a well-known actor and many of the plays attributed to him had already been published in quarto size. Perhaps his +Sonnets+ didn't sell well.

At the present time there has been accumulated an enormous bulk of literary criticism of the +Sonnets+ which is exceeded only by that devoted to "Hamlet." It has been suggested that this book of love-poems was withdrawn or suppressed shortly after publication.

It also has been speculated that Thomas Thorpe somehow acquired the manuscript and had it printed without the author's permission. Registration was the usual form of copyright then, and the first man to enter a book at Stationer's Hall was granted permission to publish under that title and was thus recognized as the owner. Critics have said that the book must not have been proofread by the author, or anyone else, because of the very many errors to be found in the text; some appear to go beyond mere typographical blunders.

However the Shakespeare quartos of the plays published before 1623 also contained sundry serious misprints. Some of them were corrected when the plays were republished in the 1623 Folio edition. They were not only corrected, they were amended, rewritten and supplemented, and this seven years after Shakespeare's death in 1616. Yet other plays to be found in the Folio were republished with most of the quarto typographical errors intact.

* * *

The following is a (hopefully accurate) list of the "Shakespeare" works first published, or republished, in quarto:

Date:	Title:	Author named:
1591	Troublesome Raigne of King John	Anonymous
1593	Venus and Adonis (poem)	William Shakespeare
1593	The Rape of Lucrece (poem)	William Shakespeare
1594	Titus Andronicus	Anonymous
1594	The Taming of a Shrew	Anonymous
1594	First Part of the Contention	Anonymous
1594	Second Part of Henry VI	Anonymous
1594	Tragedie Richard Duke of York	Anonymous
1595	2nd & 3rd Parts of Henry VI	Anonymous
1595	*Tragedie of Locrine	W. S.
1596	The Taming of the Shrew	Anonymous
1597	The Taming of the Shrew	Anonymous
1597	Tragedie of Romeo and Juliet	Anonymous
1597	Tragedie of King Richard 2nd	Anonymous
1597	Tragedie King Richard third	Anonymous
1597	Romeo and Juliet	Anonymous
1598	History of Henrie the 4th	Anonymous
1598	Famous Victories (Henry V)	Anonymous
1598	Tragedie King Richard 2nd	William Shake-speare
1598	Richard the Third	William Shake-speare
1598	First Part of Henry IV	Anonymous
1598	Loves labors lost	W. Shakespeare
1599	Romeo and Juliet	Anonymous
1599	First Part of Henry IV	W. Shake-speare
1600	Cronicle History of Henry 5th	Anonymous
1600	Second Part of Henry VI	Anonymous
1600	2nd & 3rd Parts of Henry VI	Anonymous
1600	Titus Andronicus	Anonymous
1600	Henry V	Anonymous
1600	Historie Merchant of Venice	William Shakespeare
1600	Much adoe about Nothing	William Shakespeare
1600	A Midsummer nights dreame	William Shakespeare
1600	*Life of Sir Iohn Old-castle	William Shakespeare
1602	The merrie wives of windsor	William Shakespeare
1602	*Life of Thomas Lord Cromwell	W. S.
1602	Henry V	Anonymous
1602	Richard III	William Shake-speare
1603	Tragicall Historie of Hamlet	William Shake-speare
1604	Tragicall Historie of Hamlet	William Shake-speare
1604	First Part of Henry IV	W. Shake-speare

1605	*The London Prodigall	VV. Shakespeare
1605	Richard III	william Shake-speare
1605	Hamlet	william Shakespeare
1607	*The Puritaine	W. S.
1608	Chronicle Historie King Lear	M. william Shak-speare
1608	Richard II	william Shake-speare
1608	Henry V	william Shake-speare
1608	First Part of Henry IV	w. Shake-speare
1608	*A Yorkshire Tragedy	VV. Shakspeare
1609	Historie Troylus and Cresseida	william Shakespeare
1609	Pericles, Prince of Tyre	william () Shakespeare
1609	Romeo and Juliet	Anonymous
1609	Romeo and Juliet (2nd quarto)	Anonymous
1609	Troilus and Cressida	william Shake-speare
1609	Shake-speares Sonnets	Shake-speare
1611	Titus Andronicus	Anonymous
1611	Hamlet	william Shake-speare
1611	Troublesome Raigne of King John	w. Sh. . .
1612	Richard III	william Shake-speare
1613	First Part of Henry IV	w. Shake-speare
1615	Richard II	william Shake-speare
1619	Henry V	Anonymous
1619	2nd & 3rd Parts of Henry VI	Anonymous
1619	Pericles	william Shakespeare
1619	*A Yorkshire Tragedy	william Shakespeare
1619?	The Merchant of Venice	w. Shakespeare
1619?	A Midsummer Night's Dreame	william Shakespeare
1619?	The Merry Wives of windsor	w. Shakespeare
1619?	K.Lear	M.william Shake-speare
1622	Troublesome Raigne of King John	w. Shakespeare
1622	Richard II	william Shake-speare
1622	First Part of Henry IV	william Shake-speare
1622	Othello	william Shakespeare

Those marked "*" were not written by Shakespeare according to Sir Sidney Lee, Edmund Chambers and other orthodox scholars. The six plus "Pericles," a play which is also regarded with scholarly suspicion, were omitted from the first and second Folios, but included in the third and fourth. Those questioning whether Shakespeare wrote any plays at all have remarked upon this. Three of the plays that are now declared to be spurious have the full name of william Shakespeare on their title-pages, while two others are stamped with the name "VV. Shakespeare. why this clear evidence is not accepted by conventional Stratfordians, the arbiters of "stylistic difference," as certain proof that he wrote them is not satisfactorily explained. So far as the remaining quarto plays are concerned the appearance of Shakespeare's name, or even of no name (anonymous), is regarded as compelling evidence of his authorship.

And why were the plays published anonymously until 1598? In 1597 Queen Elizabeth had objected vigorously to the play of "Richard II," claiming that it was traitorous; she asked Francis Bacon who wrote it. His devius reply has been mentioned in a previous chapter. The following year the play was published with Shake-speare's name upon the title-page.

In Nicholas Rowe's +Life of William Shakespeare+, this is said about the Earl of Southampton, a close friend of Francis Bacon:

There is one Instance so singular in the Magnificence of this Patron of Shakespeare's, that if I had not been assur'd that the Story was handed down by Sir William D'Avenant, who was probably very well acquainted with his Affairs, I should not have ventur'd to have inserted, that my Lord Southampton, at one time, gave him a thousand Pounds, to enable him to go through with a Purchase which he heard he had a mind to.

Had Lord Southampton also "heard" that the actor Shakespeare "had a mind to" reveal the source of his manuscripts?

Sir Sidney Lee\1\ says:

On May 4th [1597], he purchased the largest house in the town, known as New Place [in Stratford]. It had been built by Sir Hugh

Clopton, more than a century before; it had fallen into a ruinous condition. But Shakespeare paid for it, with two barns and two gardens, the then substantial sum of sixty pounds.

If an old twelve-room house, two barns and two gardens (farms if they had barns) cost only sixty pounds in 1597, what must a thousand pounds have been worth in today's inflated dollars? And why was this gift made almost contemporaneously with the first appearance of William Shakespeare's name on a quarto of one of the plays?

Well, for some reason, the various antecedent title-deeds for this house and its barns and gardens, upon which the new owner's title crucially depended, were kept in the seller's possession and not delivered until the Bard sued the deceased seller's heir six years later. It has been suggested that these earlier conveyances were retained (as a kind of mortgage) so as to insure the performance of some clandestine bargain.

Following the publication of "Pericles" in 1609, Shakespeare a year later returned permanently to Stratford and lived until 1616. Seven years after he died twenty new plays were published in the First Folio. When were they written? The Stratfordian scholars presume, as they very often are obliged to do, that he must have written them before he died. If so, such plays were of great commercial value. Why did he not publish them instead of suing his Warwickshire neighbors for a few shillings? Litigants so greedy as that are, in my experience, in dire circumstances. What had he done with the rest of the thousand pounds--made other bad loans, a few shillings at a time, at usurious interest?

Richard Grant White (+Life and Genius of William Shakespeare+, c. 1900) was a strong admirer of the poet. However when confronted with Shakespeare's litigious record in the Stratford courts, he wrote:

The pursuit of an impoverished man for the sake of imprisoning him and depriving him both of the power of paying his debts and supporting himself and his family, is an incident in Shakespeare's life which it requires the utmost allowance and consideration for the practice of the time and country to enable us to contemplate with equanimity--satisfaction is impossible. . .The biographer of Shakespeare must record these facts because the literary antiquaries have unearthed and brought them forward as new particulars of the life of Shakespeare. We hunger and receive these husks; we open our mouths for food and we break our teeth against these stones.

This William of Stratford, we are asked to concede, was the man who wrote +The Merchant of Venice+.

* * *

We shall be concerned, for the time being, not with the quality of the +Sonnets+ but with the first two leaves thereof. A page is one side of a leaf and there are two, just two, blank pages in the +Sonnets+. These vacant spaces follow the title-page and the Dedication. In Robert Giroux's +The Book Known as Q+, \2\ he takes exception to such waste. He says (p. 164): "[These are] the only blanks among the cramped eighty pages--while the +Sonnets+ run on, page after page, in annoyingly crowded fashion." Giroux, a publisher himself and familiar with the printing of the afterward folded large sheets (signatures) with which two, four or more pages of a book were then bound, says that this appears to be intentional. He thinks, or perhaps suspects, that some emphasis was intended for these two pages, or at least for the infamous Dedication.

He says, but does not particularly notice, that the words of the Dedication are separated by "full stops," the punctuator's method of adding points--the periods. Thirty of such points appear, in a most unnecessary sort of way. Still, he does characterize it as "peculiar."

So far I can tell, from scattered readings, it is unique. No book of that time had such an emphasized dedication, or any similar strange ornament on its pages. The compositor must have had plenty of quad in his font of type, for white spaces to set between the words, without filling in the lines with so many bothersome periods.

Giroux quotes from Northrop Frye about the wording of the Dedication; it is "one floundering and illiterate sentence...no more likely to be an accurate statement of fact than any other commercial plug." Giroux examines the various explanations and the critics' apologies for the senseless

wording of the Dedication. He concludes, "No, this rendering won't do, and it was chosen from scores of others to illustrate the peculiar fact that there is +no+ interpretation that does not have a flaw."

On p. 163 of his book Giroux prints the Dedication to the +Sonnets+.

TO.THE.ONLIE.BEGETTER.OF.
THESE.INSVING.SONNETS.
Mr.W.H. ALL.HAPPINESSE.
AND.THAT.ETERNITIE.
PROMISED.

BY.

OVR.EVER-LIVING.POET.

WISHETH.

THE.WELL-WISHING.
ADVENTVRER.IN.
SETTING.
FORTH.

T.T.

He introduces it in this way:

The peculiar punctuation of the thirteen lines--as much as the ambiguity of the word "begetter"--makes a circular and unsolvable puzzle out of the strange concoction that Thorpe signed "T.T." "T.T.," a poor stationer with good taste earned a niche for himself in literary history, as the author of an enigmatic dedication destined to become the most notorious red herring in English literature, and as the publisher of William Shakespeare's +Sonnets+.

Lytton Strachey\3\ wrote in 1905:

He is a bold man who sets out in quest of the key which shall unlock the mystery of Shakespeare's +Sonnets+. In that country the roads make heavy walking, and 'airy tongues that syllable men's names lure the unwary traveller at every turn, into paths already white with the bones of innumerable commentators.

Yet the fascination of the search seems to outweigh its dangers, for each year adds to the number of these sanguine explorers, while it engulfs their predecessors in deeper oblivion. . .its solution seems to offer hopes of a prize of extraordinary value--nothing less than a true insight into the most secret recesses of the thoughts and feelings of perhaps the greatest man who ever lived.

The belief that the +Sonnets+ contain the clue which leads straight into the hidden +penetralia+ of Shakespeare's biograph is at the root of most of the investigation that has been spent upon them. . .

Many others have battled with the confusion of the Dedication. There has been endless speculation as to the identity of "Mr.W.H.", the "ONLIE.BEGETTER." of the +Sonnets+. These initials were very common and the foremost candidates are:

William Herbert, Third Earl of Pembroke.

Henry Wriothesley, Third Earl of Southampton, with his initials reversed, or with his name spelled "wriotHesley." As a measure of then commonplac enunciation, the name was pronounced "wrizly."

William Hall, a printer of low repute.

William Hathaway, Shakespeare's brother-in-law.

William Hughes ("Hews" is an italicized word in +Sonnet+ 20).

William Harvey (Hervey?).

William Holgate.

William Hatcliffe, a law student.

Henry Willobie (initials reversed again).

William Himself, a choice showing an elementary imagination.

Someone who stole the manuscript and sold it to Thomas Thorpe.

In a scholarly college-level text\4\ it is stated, about the Dedication:

The chief enigmas embodied in the wording are as follows:

1. What is a "begetter"?
2. What does "onlie" mean?
3. Who was Mr. W. H.?
4. Who was the well-wishing Adventurer?
5. What is the meaning of "setting forth"?
6. What does "promised" mean; to whom was "eternitie" "promised"?
7. Who was T. T.?
8. What is the syntax of the Dedication?

Hard questions indeed. Dyson, and some other editors of +The Case-book+ series, attempt to answer them; they summarize the various available opinions which often conflict with one another. Putting aside all but the last, an interesting comment is made:

+The syntax of the Dedication+: The printing of the Dedication is lapidary, i.e. closely similar to that of many inscriptions in stone. It has a full stop after every word. The pointing, therefore, does not help in determining the syntax. . .

Perhaps they were thinking of the riddle of Robert Burton's tomb ("Democritus Junior," 1577-1640); his monument displays an inscription engraved in stone, with a +comma+ after every word. It was erected in Christ Church Cathedral at Oxford, and is reminiscent of old Roman tombs on which the words of the inscription were usually separated by various small marks or symbols.

It seems that there were two +printings+ of the +Sonnets,+ distinguishable by variances in their respective title-pages (see photo illustrations). This is not to say that there were two editions, in the parlance of librarians and rare-book collectors. The other pages were unchanged.

And the avowed +date+ of the +Sonnets,+ 1609, is by no means certain. Other books of the period were printed with false dates, as were some of the quarto plays. It has been proposed by some experts in Elizabethan literature that this issue was actually published ten or fifteen years before the year indicated.

The surviving 13 copies of the +Sonnets+ are scattered. In England two are at the Bodleian library at Oxford, two more at the British Museum, one at Trinity College in Cambridge and another at the John Rylands Library in Manchester. In the States there are another six copies: two at the Folger Shakespeare Library in Washington, D. C., two at the Huntington Library in California, one in the library of Harvard University and another at the Elizabethan Club, Yale. A final copy, to make 13, is at the Bibliotheca Bodmeriana, Geneva Switzerland. Seven have the Iohn wright imprint, four have William Aspley on the colophon, and two have no surviving title-pages. The Folger has both the wright and Aspley printings.

During the printing, one or the other of the wright-Aspley title-page forms was torn down and a new chase put into the press. No one knows which one came last or first.

Yet the provocative periods, between each word of the strange Dedication, were not disturbed from one printing to the next.

Notes for Chapter 8:

1. +A Life of William Shakespeare+, Sir Sidney Lee, London 1898.
2. +The Book Known as Q+, Robert Giroux, Atheneum, New York, 1982.
3. "The Spectator," London 1905.
4. +Shakespeare: The Sonnets: a Casebook+, A. E. Dyson, ed., Macmillan, New York, 1977

Cryptology.

+To learn the order of my fingering,
I must begin with rudiments of art+.
--Shakespeare

As he was in many other things of a scientific nature, Francis Bacon was interested in cryptology. In the 1640 English translation of +The Advancement of Learning+, (Gilbert wats) Book VI, he says:

+Wherefore let us come to +CYPHARS. Their kinds are many as, +Cyphars simple; Cyphars intermixt with Nulloses+, or non-significant Characters; +Cyphers of double Letters under one Character; wheele-Cyphars; Kay-Cyphars; Cyphars of words; Others+; But the virtues of them whereby they are to be preferr'd are Three; +That they be ready, and not laborious to write; That they be sure, and lie not open to Deciphering; And lastly, if it be possible, that they may be managed without suspition+. For if Letters Missive fall into their hands, that have some command and authority over those that write; or over those to whom they were written; though the Cypher it selfe bee sure and impossible to be +decypher'd+, yet the matter is liable to examination and question; unless the +Cypher+ be such, as may be voide of all suspition, or may elude all examination. +As for the shifting+ off examination, there is ready prepared a new and profitable invention to this purpose; which, seeing it is easily procured, to what end should we report it, as +Deficient+. The invention is this: That you have two sorts of +Alphabets+, one of +true letters+, the other of +Non-significants+ for true +Letters+; one which may carrie the secret, another such as is probable the writer might send, yet without perill. Now if the Messenger be strictly examined concerning the +Cypher+, let him present the +Alphabet+ of +Non-significants+ for true +Letters+, but [not] the +Alphabet+ of true +Letters+ for +Non-significants+: by this Art the examiner falling upon the +exterior Letter+, and finding it probable, shall suspect nothing of the +interior Letter+. But that jealousies may be taken away, we will annexe an other invention, which, in truth, we devised in our youth, when we were at +Paris+: and is a thing that yet seemeth to us not worthy to be lost. It containeth the +highest degree of Cypher+, which is to signifie +omnia per omnia+, yet so as the +writing infolding+, may beare a quintuple proportion to the +writing infolded+; no other condition or restriction whatsoever is required. It shall be performed thus: First let all the +Letters+ of the +Alphabet+, by transposition, be resolved into two +Letters+ onely; for the transposition of two +Letters+ by five placeings will be sufficient for 32. Differences, much more for 24. which is the number of the +Alphabet+. The example of such an +Alphabet+ is on this wise.

An Example of a Bi-literarie Alphabet.

A aaaaa	B aaaab.	C aaaba.	D aaabb.	E aabaa.	F aabab.
G aabba	H aabbb	I abaaa.	K abaab.	L ababa.	M ababb.
N abbaa.	O abbab.	P abbba	Q . abbbb.	R baaaa.	S baaab.
T baaba.	V baabb.	W babaa.	X babab.	Y babba.	Z babbb.

The excerpt above is exactly copied, including the periods and their placement. It may be worth noticing that three of the periods are missing, while one is misplaced. The following is a table of the Binary Scale, upon which the calculating ability of modern computers is based:

0 00000	1 00001	2 00010	3 00011	4 00100	5 00101
6 00110	7 00111	8 01000	9 01001	10 01010	11 01011
12 01100	13 01101	14 01110	15 01111	16 10000	17 10001
18 10010	19 10011	20 10100	21 10101	22 10110	23 10111

Charles S. Ingram (who wrote under the name of Jacobite) seems to

have been the first to notice the similarity between the Binary Scale and Bacon's Bi-literarie alphabet; he called attention to it in the English periodical *Baconiana* (No. 160, March 1960, p. 12). The invention of the Binary Scale traditionally has been credited to Leibniz who devised a calculating machine in 1671 and found the binary useful for his purposes, though there is evidence that it was known in an earlier century. The binary scale has been extended and continues as the ASCII "code" which is now used in most computers and telecommunication systems.

Therefore, Bacon in an earlier Latin edition of the *+Advancement of Learning+* (*De Augmentis Scientiarum* published in 1623) and Leibniz in 1671 produced the same tables; in Bacon's cipher version "0" = "a" and "1" = "b", and this is imitated in Leibniz' arithmetical notation. And John Napier, who invented logarithms, had previously illustrated the use of the binary scale in his *+Rabdologiae+* published in 1617.

This is hardly a trivial coincidence. It should be recognized that Francis Bacon had more than a passing interest in basic mathematics, in addition to his known and often published "call for papers" in experimental, observational and empirical scientific research. And, as will be seen, Bacon and John Napier were in communication.

To continue with Francis Bacon's exposition of the Biliteral (or Bi-literarie Alphabet, as he called it) cipher:

Neither is it a small matter these *+Cypher-Characters+* have, and may performe: For by this *+Art+* a way is opened, whereby a man may expresse and signifie the intentions of his minde, at any distance of place, by objects which may be presented to the eye, and accommodated to the eare: provided those objects be capable of a twofold difference onely; as by Bells, by Trumpets, by Lights and Torches, by the report of Muskets, and any instruments of like nature. But to pursue our enterprise, when you addresse your selfe to write, resolve your inward-infolded Letter into this *+Bi-literarie Alphabet+*. Say the *+interiour Letter+* be. . .

Here Bacon gives an example of his method, using two dissimilar styles of letters in order to convey a message. The compositor of the book used italic characters having fairly obvious differences, but not by typesetting them; he engraved the letters in 5 letter groups. It should also be noted that, although Bacon illustrated his scheme by thus varying the form of the letters in his books, he spoke always of "writing" and never of printing.

The system suffered from the fact that the ciphertext had to be five times longer than the plaintext message, but the method had the advantage of almost perfect safety. *+If no one noticed+* the varying style of the handwritten characters, the cipher was quite secure. Bacon's description of his Bi-literarie cipher was a single example of a general stratagem that has become known as steganography; the term includes the many ways by which the very existence of a cipher is concealed (as in the following passage). Francis Bacon continues:

+The knowledge of Cyphering+, hath drawne on with it a knowledge relative unto it, which is the knowledge of +Discyphering+, or of Discret-ing +Cyphers+, and the Capitulations of secrecy past between the Parties. +Certainly+ it is an Art which requires great paines and a good witt and is (as the other was) consecrate to the Counsels of Princes: yet notwithstanding by diligent prevision it may be made unprofitable, though, as things are, it be of great use. For if good and faithfull +Cyphers+ were invented & practised, many of them would delude and forestall all the Cunning of the +Decypherer+, which yet are very apt and easie to be read or written: but the rawnesse and unskilfulnesse of Secretaries, and Clarks in the Courts of Princes, is such that many times the greatest matters are Committed to futile and weake Cyphers. But it may be. . .

And here, without pausing for breath or a new paragraph, he breaks off into a discussion of "Arts." He never returns to the subject of "Cyphars," or "Cyphers," or even of "Cyphras" as he spells it in the original Latin version of *+De Augmentis Scientiarum+*, 1623. To quote a few lines:

Ad +Ciphras+ igitur veniendum. Earum Genera haud pauca sunt. +Ciphrae simplices; Ciphrae Non significantibus Characteribus intermixtae, Ciphra duplices Literas uno Characterem complexae; Ciphrae Rotae, Ciphrae Clavis, Ciphrae verborum+, aliae. . . Quod si quis Ciphra severe interrogetur. . .

* * *

The ciphers discussed in this book are mainly elementary, but a glossary of cipher terms may be helpful:

+Acrostic+

Any cipher system which generally depends upon the occasional and regular appearance of ciphertext letters within an apparently unsuspecting plaintext. An example of the cryptographer's use of this method is the selection of the initial letters of each line of a poem so as to spell a word or name. The letters may first be superenciphered to make the solution more difficult.

+Anagram+

An intelligible word or phrase produced by rearranging the letters of the original according to no particular pattern. This is not useful for communication, and thus is not an ordinarily acceptable cipher method.

+Caesar Cipher+

A simple substitution cipher which is accomplished by replacing each ciphertext letter with some other, preceding or following, letter of the alphabet in a regular manner. Thus to encipher the word DOG, using the next letter of the alphabet, we may write "eph". Using the next letter after that, the result is "fqi", and so on.

+Cipher Alphabet+

The modern, normal alphabet may be scrambled to produce a very large number of variations, 26 factorial or about 4000 billion billion billion ways. Doing so complicates, for example, the cryptanalysis of a Caesar substitution cipher; sometimes the alphabet is disarranged by using an easily remembered keyword. Further complication may be added by changing to a new alphabet each time a letter is enciphered. For a monoalphabetic cipher, if the text is long enough, a solution may sometimes be found by tabulating the frequency of the use of each letter and comparing that to the ordinary frequency of letters in English words.

+Cipher+

In the uses of cryptography (not mathematics), the cipher is defined as a method of transforming a text to conceal its meaning (1) by systematically replacing the letters of the plaintext by substitutes in the same sequence, either singly or in pairs or in other polygraphs (as by writing 1 for A, 2 for B, etc., or F for A, S for B, etc., or QL for AB, etc.) or (2) by systematically rearranging the plaintext letters into another sequence (as by writing them normally in a rectangle and then copying them off from the columns taken in an arbitrary succession)--called respectively (1) substitution cipher and (2) transposition cipher (from Webster's Third New International Dictionary, Unabridged). [This definition is most elementary, and there are a multitude of other cipher systems.]

+Ciphertext+

A series of unintelligible letters which results from passing a plaintext (a message) through a cipher system.

+Cleartext+

A message sent without encipherment, referred to as "in clear," "en clair," "in plain language," or sometimes "open text."

+Code+

To be distinguished from cipher, though sometimes loosely used as a synonym, as in "decode." A simple code might be expressed in numbers, as 55-7-5. To the decipherer, this would mean to look in a chosen book on page 55, line 7, for the 5th word. Naturally the sender of the message and the recipient must, by agreement, have a copy of the same book; this might be a dictionary, a novel, or whatever. Special books of commercial codes in which the meaning of groups of numbers are printed (as, 34567 = January) are common, and are cross indexed.

+Crib+

From Webster: "a small theft; a plagiarism; hence a translation to aid

a student in reciting." In cryptanalysis, if a word or phrase is known, or suspected, to be contained in an undeciphered message (a "probable word"), then that word can be used as a crib to greatly assist in cryptanalysis.

+Cryptanalysis+

This is the usually difficult process of reading a cryptogram without having the secret key. The word contrasts with "deciphering"; the decipherer is assumed already to have the key, so as to read a message without any obstacle. Again, both words are used loosely in general discussion.

+Cryptogram+

After the plaintext message is enciphered and transformed into ciphertext, the result is a cryptogram. It may be deciphered by one having the key or it may be solved by a cryptanalyst who does not have the key.

+Cryptography+

The science of concealing a message, although the outward form (e.g., five letter "code" groups) may patently show that a cipher system has been used. This is to be compared to steganography, a process of encrypting a secret message within an ordinary looking "open text."

+Cryptography+

This refers to the science of cryptography and cryptanalysis, but the term as it is used now also includes systems of either making message signals secure or of extracting information from them. Such extensions refer to electronics, RADAR, radio communication jamming and so on. It is a general term, loosely used in ordinary discussion.

+Decipher+

To read an enciphered message while knowing the key.

+Decrypt+

Another term meaning to cryptanalyze. Encrypt describes the reverse process.

+Doubles+

The determination of letter frequency in aid of cryptanalysis can sometimes be defeated by doubling ciphertext letters, such as "YY" or "AA".

+Encipher+

The opposite of decipher: to convert a plaintext readable message into a ciphertext while using a cipher system for transmission to an ally who knows the cipher key and can decipher it.

+Encrypt+

(see +Decrypt+).

+Key+

A rule by which the cryptographer may specify the arrangement or number of letters in a cipher alphabet for purposes of substituting one letter for another; or of transposing the letters of an alphabet; or of making mechanical settings on a cipher machine; or of using an algorithm or mathematical formula to program a computer. More than one key may be used in composing a cryptogram.

+Keyword+

An easily remembered word used to disarrange an ordinary alphabet. If the keyword is "DOG", then the cipher alphabet may read "D O G A B C E F H I K L M N P Q R S T U V W X Y Z". The letters of the keyword are used up first and the remaining letters are written in normal order afterward. There are, of course, methods to complicate the process.

+Message+

The text of the information intended to be communicated. If it is enciphered it is called plaintext; if not it is called cleartext or sometimes open-text.

+Monoalphabetic Cipher+

A cipher based upon only one series of letters of the alphabet; however that alphabet may be scrambled or truncated.

+Null+

A letter of the plaintext or of the ciphertext which is not meaningful. Often these, or multiples of them, are included in cryptograms to confuse the cryptanalyst.

+Open-text+

A series of words or sentences having ordinary meaning. Historically, innocent appearing "open-texts" have been found to be steganographic ciphertexts and to contain enciphered letters intended for use in an acrostic cryptogram.

+Plaintext+

A message in its original, readable form before it is converted by a cipher system into ciphertext. Successful decipherment or cryptanalysis of the cipher system returns the ciphertext to plaintext.

+Probable word+

A word which the cryptanalyst has cause to believe might be found in a ciphertext. See +Crib+.

+Solution+

A successful conversion of ciphertext to plaintext, either by decipherment or cryptanalysis.

+Steganography+

Any method of concealing the actual existence of a cipher, such as Bacon's Bi-literarie system. Individual acrostic letters in an ordinarily-worded text may be enciphered. Microdots, invisible inks and grille ciphers are other examples of ways of hiding a message so that no suspicion is aroused. A steganographic solution may be doubly or triply enciphered so as to require further cryptanalysis.

+Substitution+

The process of replacing the letters of a message with cipher letters in a regular pattern so as to produce a plaintext when they are deciphered. See above, cipher.

+Superencipherment+

This often refers to the conversion of code words by a cipher system into ciphertext. It may also mean the re-encipherment of letters of the alphabet which have already been converted by a cipher system into a ciphertext.

+Transposition+

The process of rearranging the original letters of a plaintext message into a different, unintelligible sequence according to a fixed rule. See above, cipher.

* * *

The following is a random collection of Elizabethan spellings. Spelling had not yet been standardized and spellers often followed canons of their own. The words can, with imagination, usually be recognized and understood phonetically.

The Anatomy of wyt, wel, wittie, historie, hony, sugred.\1\sundrie, plaid, citie.\2\ merie, foorth.\3\ THE PVRITAINE Or THE WIDDOVV of Watling-streete, 1607. (title page), peece, yeres, sodainly, yncle, Iuuenall, all eyes saw his eies, betrayed, murtherer, onely, iests, iewell, robes, euerie, shew, perswade, varry, liedge, mallicholie, voyce, iustice, stom-acks, emured, snayles, auoyd, waigh.\4\ chymist, iland, pownd, chuse, beleefe, bannquerout, croysade, cypher, decad, powre, hayre, floud, demayne, demoniack, battell, marre, nale, spue, bee, daies, embryon, bloud, heckticke, suertiship, plyent.\5\ frend, enclosed, digg\6\ ore-charg'd, domb, dumbe, toyle, shaddoe, shadow, greeue, ile, bace, wayling, cauled, farre.\7\

Before judging the validity of an Elizabethan cipher we must consider these unstandardized Elizabethan spellings of words and names. Even

capitalization and punctuation were irregular and followed no rule.

The following are some definitions and spellings of words and names that are critical to our cipher and were commonly understood at the turn of the 16th Century; these are from The Oxford Dictionary:\8\

+Beacon+: (as a noun) a sign, a portent; an ensign, standard; a signal fire, a burning cresset raised on a pole or fixed at the top of a building; a watch tower; a hill on which beacons were lighted; a lighthouse upon the seacoast.

+Beacon+: (as a verb) to raise or kindle, as a beacon; to light up as a beacon fire; to give light and guidance to, to lead; to shine like a beacon. (+beckon+ is a direct descendant.)

+Beacon+: (spellings) "beacen, becen, beacun, baecen, bikene, bekne, bekene, beeken, beken, bekin, beakon."

Mrs. Henry Pott, writing in +Francis Bacon and his Secret Society+ (1891), says:

It is worthy of notice that the Bacon family in early times spelt their name +Beacon+ or +Beacon+. Some of them seem to have written under this name, and there is a work by Thomas Bacon, 1563-4, in which, on the title page of the second volume, his name changes from Bacon to Beacon. And John Florio (in +Second Frutes,+ 1591) once alluded to a "gammon of bakon."

As reported by Nathaniel Holmes +(The Authorship of Shakespeare, 1887)+ Sir John Davies published a book of poems in 1621. In it is the following anagram to Bacon:

To the Right Honorable Sir Francis Bacon, Knight, Lord High Chancellor of England.

Anagram. [Bacone.
[Beacon.

Thy vertuous Name and Office joyne with Fate,
To make thee the bright Beacon of the State.

+Beacon+: (pronunciation) Jean Overton Fuller, in a biography of Bacon\9\, has this to say:

Laymen seldom realise how complex is the history of sound-changes. The sound heard in "beacon" would then have been more open, but so would that in "bacon." In phonetician's language, the sound heard in "beacon" today is a close front vowel (English vowel no. 1); in those days it would have been a half-close front vowel, nearer to Cardinal vowel No. 2. The sound in "bacon" today is a diphthong, but would then have been a half-open front vowel, near Cardinal vowel 3. The sounds would, then as now, have been in different phonemes, with about the same interval between them.

Fuller seems to be saying that the first two vowels in "beacon" were then pronounced more like "wear" or "bear" or "weapon," and far closer to "beckon" than the word is now. Some Britishers still say "tay" for "tea." To use, in print, "beacon" for "Bacon" would then have been to make a pun because the words were formerly pronounced nearly as the same. Here are a few definitions:

+Cipher+: (as a noun) the arithmetical symbol zero; a person of no importance, a nonentity; any arabic number; a symbolic character, as a hieroglyph; a monogram; a secret or disguised manner of writing, whether by characters arbitrarily invented. . .or by an arbitrary use of letters or characters in other than their ordinary sense, intelligible only to those possessing the key; a cryptograph; anything written in cipher, and the key to such a system.

+Cipher+: (as a verb) to use arabic numbers in arithmetic; to express characters of any kind, especially to write in cipher or cryptogram; to decipher; to express by a cipher or monogram; to make a cipher of, make nought of.

+Cipher+: (spellings) sipher, cyfer, cifer, ciphre, sypher, ziphre, scypher, cyphar, cyphre, ciphar, zifer, cypher, cipher (or ciphras, as Bacon spelled

it in Latin).

* * *

The following is an innocent appearing (though nauseous) title-page which might be found in a drug-store paperback book:

LOVE ALWAYS, CAROLINE DARLING!

By
Leslie Webb

+It Happened in Bimini+
A Schoolgirl's Adventure

ACCENT ACADEMY BOOKS
St. Augustine, FL

Despite its unsuspecting appearance, this composition contains a cipher. It has been composed as a steganogram based upon an acrostic method; inside is hidden a ciphered message. There are two keys for this one.

The ciphertext is formed of the third letter of each word (words having fewer than three letters are ignored). The ciphertext letters therefore are: "V W R R S B P M H V C A O G".

After extraction, these still-meaningless letters must again be deciphered. The next system is a simple Caesar cipher. For example, instead of writing "A" one may substitute the 12th letter after "A", which is in this case, using the modern alphabet, the plaintext letter "m". Decryption is assisted by writing the two alphabets one above the other:

Ciphertext:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Plaintext:	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l

Now the cipher letters are taken one at a time and converted to plaintext, being the letter just below each cipher letter. For an easy example "V W R" converts to "h i d", and so on.

The concealed message may then be read:

"h i d d e n b y t h o m a s"

(Thomas being my first name.)

This illustration uses the current twenty-six letter alphabet arranged in normal order. Cryptanalysis can be made far more difficult by scrambling or shortening the keyed alphabet beforehand.

In this simple, test-model title-page the encipherer's intention, the plan and the cleartext artifact are mathematically demonstrable. This title-page was not written by Shakespeare or by "Leslie Webb"; I wrote it as a superenciphered acrostic and I can prove it!

The Friedmans say, in a discussion of acrostics: "Sir John Salusbury, who was as devoted to acrostics as he was to a lady called Dorothy Halsall, enfolded her name in poem after poem." They quote the poem and show that in a complicated acrostic he did indeed enfold the lady's name (though with many irregularities!) and added his own initials within the last line. They continue:

But in another and longer poem, he uses a series of acrostics to spell out five names; here the ubiquitous Dorothy appears as DOROTHI HALSALL, Salusbury as IOHN SALESBVRYE, and the rest of the +dramatis personae+ as FRANSIS WILOWBI, ELIZABETH WOLFRESTONE and ROBERT PARRYE. In all, Salusbury uses six different versions of his own name in various acrostic signatures; spells the name Francis as Fransis wherever it suits him; regards I and IE as interchangeable with Y; and replaces J's with I's or I's with J's according to whim. This disregard for absolute consistency provides an argument for anti-Stratfordians, in that they are often able to cite genuine examples of the various spellings, abbreviations and forms of title to which they resort.

For which fitting example and final remark, my gratitude to the Friedmans.

* * *

A few years ago, Wayne Shumaker, Professor Emeritus of English at the University of California at Berkeley, published a book entitled *Ren-naissance Curiosa*. The Professor shows himself to be a master of Medieval Latin and German.

In one of his fascinating chapters he discusses the copious writings of Johannes Trithemius (1462-1526) who was a German monk. Trithemius' books, written in Latin, were mostly concerned with history and theology but the author has been called "the first theoretician of cryptography." His *Steganographia* was circulated while the manuscript was still in composition and John Dee, later to become a friend of Francis Bacon, copied at least half of it in 1563. Trithemius' complete work was published at Frankfurt in 1606. It was misunderstood by many to be a book about magic or the invocation of spirits (Angels), but it was soon proven to be a text of cryptology. A *Clavis* or key was included in some of the printings to facilitate decryption of the ingeniously hidden messages.

Trithemius gave explicit examples of ways to deeply encipher a concealed plaintext. He is important to our study of the ciphers contained in the works attributed to Shakespeare because at least one of his designs very nearly replicates the poet's own general system.

Steganography was the basis for most of Trithemius' schemes and a key, a hint, was customarily included in the ciphertext. Professor Shumaker explains one method:

PAMERSIEL A NOYR MADRISEL EBRASOTHEAN ABRULGES
I TRASBIEL NADRES ORMENU ITULES RABLON
HAMORPHIEL.

If we ignore the first and last words, which are nulls--that is, insignificant for the meaning--and read only the alternate letters of the rest, we arrive at a key for the decoding of the following cryptogram: "Nym die ersten Bugstaben de omni uerbo," or "Take the first letters of every word." Only the initials of the words in the cryptogram signify.

I omit the second conjuration, intended to be spoken by the recipient but really only another key--the first is supposed to guide the encoder, the second the decoder--and proceed to show the relevance of the instruction to the Latin text which conceals the *sententia*, or meaning. I shall print only enough to show how the system works.

Lucidum jubar aeternae Beatitudinis, Excellentissime Rex,
Gubernator & Tutor robustissime, universorum virtuose
viventium, exulum refugium. . .

The initials, in order, spell "Ljaeber G&truvver." (I have normalized the first v of *Vniversorum*.) Unsatisfactory as this result may seem, in reality it presents no problem. J is alternative for i; ae are equivalent to e; & is regularly construed as et; and vv is the same as w. Making these changes, we obtain "Lieber getruwer" (an archaic form of *getreuer*), or "Dear Faithful One. . ." Proceeding in this way to the end of the cryptogram, we obtain the following: "Lieber getruwer / du wollest uf nest Mantag gerust sin so du aller bast vermagst / und umb die funf / unser an der Lantporten warten / da willen wir / mit unserm gezug erscheinen." This is old-fashioned German for "Dear Faithful One: You will be armed as best you can next Monday and about five will wait for us at the gate; we will appear there with our followers." The meaning is in sharp contrast with the apparent one: "Bright radiance of the eternal Blessedness, most excellent King, most strong governor and defender of all who live virtuously, refuge of exiles. . ."

The example just given is typical: the portions of the *Steganographia* which appear to rely on daemonic help consist of obscure explanations and enciphered messages, the plaintext of which the reader must puzzle out with the help of directions that are themselves enciphered. The heavy obfuscation, together with the increasing complexities of the system, creates difficulties; but with Selenus' help the first two books are consistently comprehensible.

The "Selenus" to whom Professor Shumaker refers was Duke August of Braunschweig and Luneberg; his pen name was Gustavus Selenus (or "Gustavi Seleni," as it appeared on his title-page). He was a scholarly Prince

whose library still exists at wolfenbuttel. It includes manuscripts of the +Steganographia+ from 1516 and 1521 and Trithemius' book of 1606. Selenus published the decipherments again in 1624 as +Cryptomenytices et Cryptographiae+. . .which he had taken from a collection of Trithemius' works. Shumaker says, "Although I cannot discuss them all, I have checked every one of Selenus' explications and have found that they work on Trithemius's cryptograms."

Some of the same steganographic systems were described in 1586 by Blaise de Vigenere in his +Traite des Chiffres+.

Thus in 1606 this interesting cryptographic method had again been explained and newly published. The scheme included the insertion of keys in the cryptogram itself and the use of the initial letters of the ciphertext words to convey the message.

And Trithemius went further with his design. According to Shumaker,

The work contains other complexities of different kinds. Use is made of transposition alphabets. . .in which B, C, or D, and so on, stands for A; C, D, or E for B; D, E, or F for C; and thus clear through the alphabet to X for A, A for B, etc. (The alphabet ends with X; Y is alternative for I, and Z is omitted.) The "Caesar's alphabets," as these are called because of Caesar's supposed invention of the technique, are also given angels' names. . .The transposed alphabets, moreover, are used in conjunction with the ciphers already explained, so that the first alteration of the cryptogram remains meaningless. In "Anael" [code name for one of the angels], for instance, we first read the initial letters of alternate words in "Tuis responderere literis gauderem, ita Xhristus me gaudere faciat; transmitteremque. . ." This yields +r g x g t;+ but each of these stands for the second letter preceding it in the alphabet, as explained above, so that we obtain "Peter." Such double systems are of course especially secure.

Shumaker uses the term "transposition" loosely; the Caesar cipher he describes is technically a substitution device. The substitution is made by the use of the following table (U and w were then considered to be the same letter, V):

Ciphertext:	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	Q	R	S	T	V	X
Plaintext:	v	x	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t

Thus the ciphertext "r" in "responderere" equals a plaintext "p", the "g" in "gauderem" equals an "e", and so on. The result is the deciphered name "Peter".

Also, in the system he describes, the plaintext letters are not doubly but triply enciphered.

Therefore, three years before the publication of +SHAKE-SPEARES SONNETS+ in 1609, a Trithemius cipher method was publicized in which:

- (1) the keys for decipherment were contained in the ciphertext;
- (2) the superenciphered letters were the first letters of the words to which the keys pointed;
- (3) a truncated, normally ordered alphabet was used containing twenty-one letters.
- (4) the superenciphered letters could be read only by submitting them to a Caesar process of decryption in which the abridged alphabets were displaced two letters.

Before beginning the cipher work next to be described, I wish I had first read Professor Shumaker's book. As will be seen, Francis Bacon had, most diligently, studied Trithemius.

* * *

It should be understood that hereafter, in general discussion, I will use the name "Shakespeare" as a generic term to signify the clandestine works of Francis Bacon.

Notes for Chapter 9:

1. +Palladis Tamia: Wit's Treasury+, by Francis Meres.
2. +The Raigne of King Edvvard the Third+, 1596.
3. +Most pleasant Comedie of Mucedorus+, 1598.

4. +Loves Labour's lost+, Shakespeare, 1623 Folio.
5. +The Dictionarie of English Words+, By H. C. Gent, London, 1623, reprinted 1930, Huntington Press, New York.
6. From the inscription on Shakespeare's gravestone.
7. +Shake-speares Sonnets+.
8. +New English Dictionary+, James A. H. Murray, ed., Oxford, Clarendon Press, 1888.
9. +Francis Bacon, a Biography+, Jean Overton Fuller, East-West Publications, London and the Hague, 1981
10. +Renaissance Curiosa+, Wayne Shumaker, Center for Medieval and Early Renaissance Studies, S.U.N.Y at Binghamton, New York 13901, 1982.

Travail.

Duke. +One of these men is genius to the other:
 And so of these, which is the naturall man,
 And which the spirit? who decipherers them+?
 --Shakespeare

Chapter 10

To expand and review our understanding of the word "superencipherment," I shall offer David Kahn's explanation:\1\

Codewords or code numbers can be subjected to transposition or substitution just like any other group of letters or numbers-- the transforming processes do not ask that the texts given to them be intelligible. Code that has not yet undergone such a process--called +super encipherment+ --or which has been deciphered from it is called +placode+, a shortening of "plain code." Code that has been transformed is called +encicode+, from "enciphered code."

Here Kahn is dealing with a code, such as a series of numbers which might indicate a certain numbered word on a certain numbered line on a certain numbered page in a particular book. Such numbers, usually in five digit code groups, can afterward be re-enciphered so that they are scrambled according to some agreed-upon key. Then, conceivably, the result can be converted to letters, readable only with a special alphabet; the alphabet may be one that has been scrambled again with a key word or phrase, or even all the words in a chapter of a different book. The superencipherment process can be continued indefinitely. It need not always begin with a code; it might begin with a cipher.

Such devious methods are not convenient for the encipherer or the decipherer. The messages take too long to read and write, especially during tactical military operations in wartime. The possibility for error multiplies with each successive enciphering or superenciphering. The keys themselves must be inserted somehow in the clear text message, unless they are already known to the receiver of the communication. And, to prevent the enemy from reading the mail, the specific, the secondary keys have to be changed frequently, or even the whole general cipher system.

Kahn defines another word:

The methods of +steganography+ conceal the very existence of the message. Among them are invisible inks and microdots and arrangements in which, for example, the first letter of each word in an apparently innocuous text spells out the real message.

Kahn reveals a reluctance to brook previous attempts to find steganographic cipher in the works of William Shakespeare, especially those directed toward proof of a different authorship. But he finds merit in some other proven cases:

They [those seeking such ciphers] are not entirely without cryptologic warrant. Just as systems of cryptography have transmitted valid messages despite abuses. . .so systems of steganography have preserved legitimate messages beneath an innocent camouflage. Among these are steganograms of authorship. In 1897, the eminent philologist Walter W. Skeat was editing +The Testament of Love+, which had been attributed to Chaucer in its only known copy, a printing of 1532, when he noticed that the initial letters of the various chapters were intended to form an

acrostic. With some emendation they spelled out +Margarete of Vitro, have merci on thin[e] Usk+--indicating as some other scholars had suggested, that the real author was not Chaucer but Thomas Usk.

Kahn recounts another story, "the most famous authorship steganogram":

The book was "+Hypnerotomachia Poliphili+", published by Aldus Manutius at Venice in 1499 with no author listed. . . .As early as 1512, however, readers discovered that the first letters of the 38 chapters spelled out +Poliam frater Franciscus Columna peramavit+ [Brother Francesco Colonna passionately loves Polia]. Colonna was a Dominican monk, still alive when the book was published, and the reason for the secrecy was clear. Polia is still unknown.

There are nearly nine hundred printed pages in the works of William Shakespeare. To find therein a steganogram is not so easily done as to notice the skill by which an amusing dedicatory poem was once conceived. Read now the verse that precedes the text of +The English Dictionarie of 1623: +\2\

He whose self love, or too ambitious spirit,
Envies or carpes at this thy Muses action,
Nere let him live, or of a Muse once merit
Regard or fame, but die in his detraction,
Irrevocably plagu'd with Zolian spight,
Ere he once taste of Hellicons delight.
Could I, oh could I quintessence my skill,
Or with Elixir truly alcumize,
Knowledge with learning should instruct my quill
Effectually to praise thy Muses guise,
Re-felling all the critical disasters,
Among some captious, yet wise seeming masters,
Made by her curious eye, their owne disasters.

Catch on?

Thus the name of the (alleged) author, Henrie Cokeram, which was missing on the title-page, may be readily discovered in the initial capital letters of these lines.

This "Dictionarie" was published simultaneously with the 1623 first edition of the Shakespeare Folio. In it, we are shown an astonishing collection of words which, by a large fraction, had never been used before. They seem to be made-up words, mostly from Latin. Many were never again stained by printer's ink.

Take a few random examples: +Degresse+: To unlight from a horse. +Adipate+: To feed fat.+Glaucitate+: To cry like a whelpe.+Glocidate+: To clocke like a Hen. +Macrologie+: Long or tedious talke. +Oblatration+: A barking or rayling. +Palliardize+: whoredom. +Popination+: An outragious drinking. +Sarcinate+: To lade a beast, to sow clothes.+Sarculate+: To weed. +Superfoetate+: After the first young to conceive another. +Suppenditation+: A giving of that which we lacke. +Supperasitate+: To flatter one for a meales meat. +Susurration+: A whispering.

Such susurrations are subsequently seldom seen! But one wonders: has a bag of ripe pork rind been dragged across the fox's trail?

In my own general reading I have learned that a lot of wartime cryptanalysis was done "by guess and by God." Inspired guesses seem to have been the most successful in attacking the hardest ciphers, and then often by means of a "crib." These cribs were readouts of words or phrases from other messages previously sent in the clear; or sometimes from decryptions of the same strings of letters which had been intercepted while the enemy was changing its system from an old, already successfully cryptanalyzed, cipher to a new one. We will, to some degree, depend upon a name--an outstanding, already mentioned probable name, a "crib"--in the work to be described.

In concluding his discussion of Elizabethan acrostics, Kahn expresses his scientifically hospitable attitude toward the unthinkable: "It was thus perfectly possible for Francis Bacon to have used steganography to simultaneously conceal and reveal his authorship of the Shakespeare works. The question is, Did he?"

Well, of course, I am quite sure that he did. The first two pages of

+SHAKE-SPEARES SONNETS+ contain a steganogram. That is, they conceal from ordinary suspicion an acrostic cipher. The printed cipher letters have, however, already been enciphered and cannot be read as words in plain English. The letters are superenciphered, and may be decrypted only by the use of a key, an abbreviated but otherwise normally ordered Elizabethan alphabet. The final process of re-encipherment follows the ancient Caesar cipher method, and the plaintext is found by shifting the alphabet four letters.

The text in which the cipher is contained is a very unusual one; the Dedication to the Sonnets has often drawn to it the imaginative attention of literary critics. But considering that Shake-speare's name was printed on the just-preceding title-page, the many oddities of its composition have produced no general outcry from conventional scholars.

Once I had determined the general neighborhood of my steganogram, or at least had mightily begun to suspect that area, I wondered what to do next. My methods wouldn't spell "Bacon" or "Francis" (or even "William") in any orderly way, no matter what was done with the letters. And that while trying the initial letters of all words, the capital letters, the letters beginning and ending each line, the penultimate letters in each word, or line, or some other variation.

There was, in fact, no obvious ciphertext to work on.

If any cipher message existed, I thought, it would have to be a short one of the kind that would not respond to an examination of the letter frequency. In any case I had no already determined letters to analyze in that manner. I began to look for hints in the text of the Dedication.

Some Stratfordian scholars have stated and are prepared to argue that, if a cipher had been concealed in a Shakespeare book, the encipherer would never, never have given any clue to its solution. The reason, we are justified in presuming, is that its composer intended that it never, never be discovered. Airy fabrications of this nature are the holy pedestals upon which rise the granite pillars of a consensus, a general agreement among the schoolmen and some of their successors in office that the name of William Shakespeare shall not be taken in vain. The logic is that of Aristotle, that is, to adopt a theory and then deductively support it with plausible rhetoric.

This way of thinking contrasts with the more recent ability of science to "speak truth to power" by logical induction. The initial unfounded surmise, based upon the printed name of Shakespeare in the "works," has been rendered sacred by the collection of whatever agreeable scraps of "evidence" the nineteenth century dogmatists did, among themselves, come to regard as credible. I might still tremble at incurring the wrath of such united pedantry, except that the most quarrelsome defenders of the Shakespearean myth have taken their leaves. They have gone eternally to whisper and study in the Rare Books Room of that forever-to-be-hoped-for Big Library in the Sky.

Hints, or keys, are often given in short ciphers according to some prearranged understanding between the writer and the reader. For example, the editors of +The Cryptogram,+ the journal of the American Cryptogram Association, usually attach a "tip" to each of their cipher problems; these recreational tasks are written in a variety of cipher systems. The tip itself is enciphered, but in an elementary manner known to all readers, in a Caesar. Without such insinuations, very few of the problems could be solved; the cipher texts are just too short for letter-frequency analysis or even other modern, hi-tech cryptanalytic methods. The same is true for most, I shall call them, middle-level code or cipher systems such as are used commercially; the keys are changed frequently and the messages made brief. The British, while breaking the German ENIGMA cipher during WWII, called these tips "indicators."

Why wouldn't the man who put a message in a book 380 years ago hope that it be discovered, and include in his steganogram some veiled inkling to help with the solution? And himself know: that any such brief communication, deserving of preservation, must have a "tip" attached, both to assist a solution and to confirm it. Conversely, if his cipher news had to be permanently rendered inscrutable, he could simply have burned the information.

And so I found what might be clues.

The hints were not altogether unambiguous because they had been inserted in the tradition of Trithemius, as I later discovered. There were homonyms for numbers, for a 2 and maybe a 1, to make 21; then later on appeared a 4th, whatever that might imply. It struck me that those guarded

numerical tips might have something to do with a variation of the Elizabethan 24 letter alphabet. I began to think that the primary cryptic letter substitution problem might have a solution, though I still had no particular letters upon which to make tests.

Still guessing, I thought that the number of letters in the suspected alphabet would be not more than 24; a larger number would be an especially cruel and dirty trick, one beneath contempt; a deed unworthy of the Master; an endless path leading only to the madhouse.

What if, I speculated, there was some more or less obvious way to key the alphabet according to a likely word or name? The "probable word" gambit, as described by Friedman? well, there were a lot of choices, such as Bacon, Francis, Verulam, or possibly Shake or a combination of such keys. These can be inserted at the beginning of a cipher alphabet and then the rest of the letters written out afterward in their normal order, except for the omission of those already used in the key word.

So, I made up a lot of alphabets but I hardly knew what to do with them. I was certain that Bacon was familiar with the elementary Caesar cipher; maybe, after concealing the sparse and crucial acrostic letters and then subjecting them to interpretation through one of many possible alphabetical sieves, he might have made the last step easy. Yet the Caesar itself has as many solutions as there are letters in the selected alphabet, minus one.

A Caesar cipher, with an alphabet in normal sequence, is a piece of cake. Here are two Elizabethan alphabets shifted four places. The top one is for the ciphertext and the bottom represents the plaintext. These omit J and U as was customary in the "cross-row" of the times.

E	F	G	H	I	K	L	M	N	O	P	Q	R	S	T	V	W	X	Y	Z	A	B	C	D
a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	v	w	x	y	z

To encipher the word "cat," one just writes down the letter above each letter in that word. The result is "G E Y". To decipher the letters "G E Y", one reverses the process. Of course it is essential to know how many letters the alphabets have been shifted, or if any letters have been subtracted. (The table above follows the convention of printing ciphertext letters in capitals and plaintext solution letters in lower-case.)

Caesar actually used almost this exact system; he shifted the bottom series of letters three positions. His alphabet was in the same order as the Elizabethan one except that G, W, Y and Z were missing, along with J and U; it had 20 letters.

If I intended to try Caesar on this problem there were many more possible alphabets to be attempted, other than ones with name keys. What if Bacon (my "probable name" candidate) had deleted a letter from the normal 17th century alphabet? what if he had erased more than one letter? Then his antique cross-row would have 23 letters, 22 letters, 21 letters, 20 letters or even (sigh) fewer.

Postulating that my shadowy and theoretical mentor was at least a little familiar with letter frequency in the English language, he would know that the most uncommonly used letters are K, Q, X, J and Z. Elizabethans didn't recognize J anyway (or even U), so there were four left.

One other letter to consider was w; my man was a Latin scholar and wrote more than half of his acknowledged works in that moribund language in which w was unknown. Often, in Elizabethan printing, two V's were substituted for the letter w. w thus seemed unnecessary; if so, as a corollary, V had to remain.

I thought that Y might be a doubtful letter; Y and I were sometimes interchanged in 17th century printing. Q is a popular letter in Latin; he would not discard such an old friend. G was a problem; it was not in Caesar's Latin alphabet, but the language had progressed as it passed into Church and Law Latin.

There remained X and Z. S is a good substitute for Z, and the spelling of many words varies that way between American and British orthographies. X is not much good for anything but Roman numerals; "next" can be spelled "neckst"--not gracefully, but if need be.

Nothing seemed certain and the result of my foggy, alphabetical fantasy was this: V, Q and K ought to remain. The suspects were W, X, Y and Z.

If all four were to be discarded, only one 20 letter alphabet would result. If three were junked, complications would set in. Which letter of the four should be selected? Suppose two were left out and two retained, for a

22 letter alphabet? which two should be kept, and in what order? And what if only one was discarded, which one and what should be the order of the remaining three? I had to try them all, because the alphabet was one of two unknowns; the other was the problem of locating the encrypted, steganographic plaintext letters.

As my list of possible alphabets lengthened, more and more permutations and combinations threatened. Empiricism, cut and try? Mere pragmatism? Are such strategies acceptable in cryptanalysis? Good Heavens, I didn't know.

I turned again to +The Codebreakers+. Kahn reassured me:

Cryptography and cryptanalysis are sometimes called twin or reciprocal sciences, and in function they indeed mirror one another. What one does the other undoes. Their natures, however, differ fundamentally. Cryptography is theoretical and abstract. Cryptanalysis is empirical and concrete. . .

Thus the operations and results of cryptography are as universally and eternally true as those of mathematics. Within the "suitable algebra" of the ordinary 26-letter Vigenere, it would be as logically impossible to deny that plaintext +b+ keyed with C yields d as to deny that $1 + 2 = 3$. And this holds on Mars in the 25th century as equally as in France in the 16th. Different ciphers, like different geometries, yield results that are different but equally valid.

The situation is not at all the same with cryptanalysis. Its methods are those of the physical sciences. They rest, not upon the unchanging verities of mathematical logic, but upon observable facts of the real world. The cryptanalyst must obtain these data by experiment, by measurement. Unlike the cryptographer, who can deduce any enciphering equation in Vigenere from a few initial conditions without recourse to any further experience, the cryptanalyst cannot tell from any number of statements about English which is its most frequent letter. He has to count the letters. The facts may be constants, but they are not logical necessities. They depend upon circumstances, upon reality. . .

The empirical nature of cryptanalysis appears in its operations. These consist of the four steps of what is commonly called the "scientific method," which scientists apply in attacking problems in the natural sciences. They are: analysis (such as counting the letters), hypothesis (X might be +e+), prediction (if X is +e+, then some plaintext possibilities should emerge), and verification (they do) or refutation (they don't, so X is probably not +e+), either case starting a new chain of reasoning. . .

While I could not depend upon Kahn's example of finding letter frequencies, his statement of the classical scientific method seemed adaptable.

First it appeared to be necessary to put the Caesar system into a computer code; "computer cipher" might be more accurate, but the term hasn't caught on. I knew a little about Microsoft MBASIC, which beginners tend to use. In a book I found an elementary computer program to print out any selected line of a Caesar cipher, such as the line readout resulting from moving the alphabets 11 letters apart. Knowing that only a fool re-invents the wheel while programming, I seized upon that listing. But it was hardly good enough; I wanted to read +all+ of the possible lines, one for every forward shift. For a 24 letter alphabet there would be 23 possible plaintext lines. Each line had to be numbered for reference and there had to be an error signal of some kind, in case an illegal letter (such as J or U, or some discarded letter) was entered, or a comma omitted.

After about two weeks and much cursing (true hackers will understand my feelings of frustration), I scraped a program together. There were still a couple of unnecessary lines; a comma had to be entered after every trial letter, which was painful; the line numbers turned out to be meaningless except as markers; and the program had to be substantially altered if the length of the alphabet was changed. But it worked. Without a computer I would have used a cartload of paper. Without a computer I might have given up after eight or ten years. Without a computer, KANBACON would have remained a memory. Thank you, Kaypro, old CP/M pal.

I was, meanwhile, comforted to learn that the National Security Agency and its 10,000 employees in Maryland were still searching for prime numbers and trying to factor more digits than might fit on this page, or maybe on my roof.

Then I had to work out my many trial alphabets. I couldn't take a

chance and not at least try some probable key word programs. Here is a sample:

B A C O N D E F G H I K L M P Q S T V W X Y Z

Here BACON has been placed at the beginning of the alphabet and the unused letters written out in order after that. Others occurred to me, such as using FRANCIS or perhaps FSACON, as he sometimes signed his name. Such keys can be placed at the beginning or the end of the alphabet. I tried both; I tried them reversed and then with shorter alphabets. Then I began working out the series in normal order, except for the letters after T, and leaving out some of the questionable ones which were W, X, Y and Z. Here are the last letters of some of the alphabets that I investigated.

TVW, TWV, TVZ, TZV, TVX, TXV, TVY, TYV, TVXY, TVYZ, TVWY, TVXZ (and a few more).

I also tried reversing the whole alphabet, transposing the first and second halves, reversing every two letters and some other equally random exercises, and then doing the same within other shortened trial alphabets.

There is some science here, such as the process of inspection and elimination; such expedients were, long ago and often, used by my favorite scientist, Sherlock Holmes. He once instructed Dr. Watson, "It is an old maxim of mine that when you have excluded the impossible, whatever remains, however improbable, must be the truth."

Typing in the letters for each program, the letters which might conceal a cipher message, took too much time. I had to string all the programs together in order that the suspected cipher letters could be typed just once and the whole thing run off in series. There were so many programs that I had to make them "menu-driven," so I wouldn't get lost. Still, a separate type of program had to be used for alphabets of different lengths.

Algebra, even the little I knew about that, didn't help. The equation seemed to be $P = A + C$, where P is the cipher solution, A is the arrangement of the key alphabet and C is the series of ciphertext letters to be analyzed. When either A or C is unknown (and, more dismayingly, both), the equation cannot be solved for P, the plaintext. Cannot, that is, without a little help from the author of a cryptogram whose name is already suspect.

There were twenty-six words in the Dedication and four separate capitalized letters, all connected by periods. Which letters might contain the cipher? All of them? The initial letters, terminal letters, penultimate letters, letters from every other word, the second or third letter in each word, or something worse?

Should the title-page be explored? The letters in the Dedication were all capitals (except for the lonely, superscripted "r" in "Mr.") but they were not printed in that way on the title-page and other choices were possible. What method, what rule should be applied?

Months passed. More "floppy disks" were filled with programs. My enthusiasm began to dwindle.

I was working with a copy of the 1609 +Sonnets+; this was an 1885 reprint done by Charles Praetorius and Thomas Tyler, a facsimile of the British Museum copy of the +Sonnets+. Below the two horizontal lines on the title-page was this:

AT LONDON
By +G. Eld+ for +T.T+. and are
to be solde by +Iohn wright+, dwelling
at Christ Church gate.
1609.

There were other books in my library that I hadn't looked at for many years. Some of these also contained facsimiles, and several of them were about the Sonnets.

I began reading them again, hoping that someone else had noticed something strange. Bertram Theobald had written a book about numbers and letters and how they seemed to add up to a Baconian signature, but I doubted his methods. He analyzed the Dedication and the title-page at tiresome length, according to his theories. He was not much help.

Until I did notice the strange thing. In his book was a (sort of) facsimile of the sonnet title-page and it was not the same as mine+. Here is what was printed under the two lines:

AT LONDON
By +G. Eld+ for +T.T+. and are
to be solde by +William Aspley+.
1609.

Not the same colophon, and not the same bookseller at all--who was this Mr. Aspley that had taken the place of Mr. Wright? With a sinking illness in my heart it dawned on me that, perhaps, I had been working on the wrong title page (see photo illustrations of both).

As things turned out, Mr. Wright was wrong. It was Mr. Aspley who was concealing, in two of the letters of his name, a vital fraction of the dreadful truth.

Drat.

* * *

I didn't have to start over completely; I still had the computer programs to test the new, possible ciphertext letters. Let us re-examine the Sonnet Dedication and title-page (William Aspley's this time):

[title-page]

SHAKE-SPEARES

SONNETS.

Neuer before Imprinted.

AT LONDON
By G. +Eld+ for +T.T+. and are
to be solde by +William Aspley+.
1609.

[dedication]

TO. THE. ONLIE. BEGETTER. OF.
THESE. INSVING. SONNETS.
Mr. W. H. ALL. HAPPINESSE.
AND. THAT. ETERNITIE.
PROMISED.

BY.

OVR. EVER-LIVING. POET.

WISHETH.

THE. WELL-WISHING.
ADVENTVRER. IN.
SETTING.
FORTH.

T. T.

I must explain that I had not confined my work entirely to the title and Dedication pages. There are 154 Sonnets following them in which there are all manner of odd references to numbers. These looked interesting, as did the 154 great capitals which began each verse. Sometimes the "w"s were typeset as two "v"s; sometimes italics were used in place of the large Roman caps; sometimes a smaller font was inserted. I ran these notions through my sieve of abbreviated alphabet computer programs, but with no success. More weeks had passed and the winter was almost over. My winter, thus far, of much discontent.

Evenings, when the work at my law office was done, I would return to the weary cryptographical scene of my previous failures; to my place in those initial two leaves of the +Sonnets+. But I had a new, untested title-page

to work on--I was rid of the perfidious John Wright. I began running more alphabet-soup through the computer grinder. Screen after countless screen, line after countless green line trod past; sometimes the letters seemed to blur together so that I had to wipe my eyes and run the program again. But every series of letters spelled garbage--nothing sensible whatever. Should I desert this faith, this creature of my own fanciful intuition? No. Dan Beard, the clean-shaven founder of The Boy Scouts of America, has written in his Handbook, "God hates a quitter." I could not, with good conscience, deny that Eleventh Commandment. Obstinate I stumbled on.

Then, late one cold and bleak March afternoon, my luck changed. I had been running a series of 21 letter alphabets arranged in their normal order but with three letters missing. In one of them the letters "W X Z" had been expurgated. I had also begun including in the ciphertext the four numbers, those in the date, "1609". Those digits, I thought, might have to be converted to letters of the alphabet and retained within the series of potential cipher letters. 16 might be the 16th letter, "Q"; the zero might be an "O"; and the 9 an "I"--perhaps "Q O I". Or, more simply, "A F O I". Or if the zero was a null then "A F I", corresponding to the first, sixth and ninth letters of the Elizabethan alphabet, might be the solution. I ran them all in, using in conjunction the last letters of each capitalized word+(or capitalized initial) in the title-page and in the Dedication.

And after a while I saw something new. I saw new characters added before "K A A N B A C O N," those letters that had haunted me for so many years. I saw "B E K A A N B A C O N". And just before those letters, I saw a new word--an incredible and decisive term.

What, praytell, is the most unlikely word, coupled with a name twice repeated, to be found by an inexpert dabbler in antique cryptanalysis? What is the word that even the most abject idolater of Francis Bacon would despair to find, and to be the most unexpected? What is the word, once uttered on a computer screen, that must cause doubt and consternation and a search for a bug in the program? What is the awful word, the one most sure to strike terror into the stony heartland of academia?

The word is this: "CYPHRS". "Cyphers," or "ciphers," as the word is spelled in dictionaries published 380 years later. "Cyphras," as it was once spelt in Latin by Sir Francis Bacon, Viscount St. Alban and Baron Verulam.

I went back and "listed" the program; sometimes computer disks get scratched and spoil the information magnetically engraved on their surfaces. The coded lines still read as they were written. I re-entered the cipher letters +and+ the converted numbers ("A F I" as I had done before) and held my breath as the lines and letters marched by. To the "FORTH." line again.

No change.

I turned and gazed out the window at some leftover patches of grey snow in the yard. The wind was blowing old leaves in hollow whirlpools and it was beginning to get dark. The dogs came in and nudged me with evening hunger. Marian was at some board meeting. There was no one home to tell. No matter, time had been used but there was time left to tell. I wondered if anyone would believe it; maybe Sam Clemens would--can you hear me, Sam?

* * *

So there were two printings of the +Sonnets;+ one with the name of John Wright on the title page, the other with the name of William Aspley. In the latter, using the title page and the Dedication and a 21 letter alphabet, I found a message containing 25 letters. Bacon's abbreviated key cipher alphabet was found to be this:

A B C D E F G H I K L M N O P Q R S T V Y

Here are the ciphertext letters again:

S S R D T N Y G D T T M Y A F I O E E R F E G S R

Here is the -4 table (using the "FORTH." letter back) for decipherment:

Ciphertext alphabet: E F G H I K L M N O P Q R S T V Y A B C D
Plaintext alphabet: a b c d e f g h i k l m n o p q r s t v y

It has been said that the solution to any cryptogram, once found, looks easy. Here is the easy solution:

o o n y p i r c y p p h r s b e k a a n b a c o n

The ciphertext letters are selected by using the last letter of each capitalized word (and a capitalized letter standing alone is to be recognized as the last letter of a capitalized word) beginning with SHAKE-SPEARES on the title page and ending with the lower case, superscripted "r" in "Mr." in the Dedication. When you come to the date, "1609", enter the letters "A F I" because these numbers represent the elementary, numerically corresponding letters of the Elizabethan alphabet (there is no letter equivalent to the number zero).

Therefore you will enter:

```
| (from title-page) |date |(from Dedication)|
| |1 6 9|
|S S R D T N Y G D T T M Y|A F I|O E E R F E G S R|
```

The first four possible plaintext lines of the -4 (fourth letter back) computer readout look like this:

```
S S R D T N Y G D T T M Y A F I O E E R F E G S R
R R Q C S M V F C S S L V Y E H N D D Q E D F R Q 1
Q Q P B R L T E B R R K T V D G M C C P D C E Q P 2
P P O A Q K S D A Q Q I S T C F L B B O C B D P O 3
O O N Y P I R C Y P P H R S B E K A A N B A C O N 4
```

The solution appears as the fourth numbered line. A computer is not, of course, necessary. At this stage, the decryption may easily be done by hand.

Let us review the title-page and the first three lines of the Dedication. In the following, each of the ciphertext letters are printed as <x>:

```
+ [title page] +
SHAKE-SPEARE<S>
SONNET<S>.
Neue<r> before Imprime<d>.
-----
A<T> LONDO<N>
B<y> <G>. El<d> for <T>.<T>. and are
to be solde by willia<m> Asple<y>.
<16>0<9>
+ [Dedication, first 3 lines:] +
T<O>. TH<E>. ONLI<E>. BEGETTE<R>. O<F>.
THES<E>. INSVIN<G>. SONNET<S>.
M<r>. W. H. ALL. HAPPINESSE.
```

The first two characters, which appear as letter "O"s, represent two zeros; "NYPIR" refers to John Napier who found an indispensable use for decimals while he was perfecting the mathematical theory of logarithms, as has been related. The spelling of his name here should not trouble us. According to the "Handbook" for the 1914 Napier Tercentenary Celebration,\5\ ". . . we do not know the correct spelling of Napier's name, since many forms of the word are found, such as Napeir, Nepair, Nepeir, Neper, Napare, Napar, Naipper. Apparently the forms Jhone Neper and Jhone Nepair are the most usual with John Napier; the form Napier is comparatively modern."

We may observe that the periods separating each word in the Dedication can, with very little imagination, also be interpreted as the decimal points that Napier employed during the 20 years of his calculation of the log tables. "CYPHRS" is a version of the Latin word "CIPHRAS," as Bacon

spelled it in +De Augmentis Scientiarum+ and, as we have seen, there were then many other ways to spell "ciphers." BEKAAN is a paragram, a phonetic or punning spelling of Bacon's name; this form, it has been said, reflects an almost identical Elizabethan pronunciation of "Bacon." "Beacon" is still used as a verb, meaning "to signal." In its 17th century sense, it also meant "to give light and guidance to." And, research has shown, that antecedent members of Francis Bacon's family had spelled the name as "Becon" or as "Beacon." Benjamine Disraeli, made First Earl of Beaconsfield by Queen Victoria in 1876, pronounced his name as "Beckonsfield."

And, of course, BACON is the name of the author of +SHAKE-SPEARES SONNETS+. He was Sir Francis Bacon, later to become Chancellor of England, Baron Verulam and Viscount St. Alban.

There are arithmetical instructions contained in the Dedication. The words "TO" and "ONLIE" represent the letters 2 and 1, or 21; this is the number of letters in the abbreviated, keyed alphabet required to be used to form Bacon's Caesar cipher table. The word "FORTH." in the last line is an instruction to count either backward or forward four letters in order to read the cipher message. There are also +four+ blank lines in the spacing of the Dedication itself. In other words, our subtle instructions explain that this superenciphered, steganographic message may be deciphered by the use of a twenty-one letter Caesar cipher with the plaintext alphabet shifted four letters.

Footnotes for Chapter 10:

1. +The Codebreakers+, David Kahn, MacMillan Co, New York, 1967.
2. +The English Dictionarie of 1623+, Henry Cockeram, reprinted 1930, Huntington Press, New York.
3. "The Cryptogram," c/o ACA Treasurer, 18789 W. Hickory St., Mundelein, IL 60060
4. +Shake-speare's Sonnets Unmasked+, Bertram G. Theobald, Cecil Palmer and Kemp Hall Press, Oxford 1929.
5. +Handbook of the Exhibition of Napier Relics+, Prof. George A. Gibson, Royal Society of Edinburgh, 1914.

Analysis

+Make me to see't: or (at the least) so proue it,
That the probation beare no Hindge, nor Loope
To hang a doubt on: Or woe vpon thy life+.
-- +Othello+, Act iii, Scene 3.

Chapter 11

Is this a genuine cipher?

The epigraph above faces the title-page of the Friedman's book. At the end of their first chapter they say:

To be convinced that the authenticity of a literary idol could never be impugned even by a genuine cipher is an arbitrary attitude, and we do not share it. The question is: has a genuine cipher been found?

If a claim is made for a "genuine" cipher discovery, how must it be demonstrated?

The Friedmans were not sympathetic toward any Shakespearean cipher that they had examined but they did, most charitably and carefully, explain how to prove one to be authentic. In their second chapter, entitled "Cryptology as a Science," they defined the rules for a substitution cipher. The rules must be followed "even where a cipher message is written for posterity. . .there must be a direct and rigid relationship between the plain message and the cryptic version. . .the procedure must admit no doubts."

We can be convinced of the validity of a substitution cipher only by discovering such rules and applying them. One rule will concern the general system; another will follow the general system, but in specific ways: there may be specific keys to deal with such variable elements. As the Friedmans say:

Usually the rules are of two kinds. The first lays down a basic general procedure (e.g. each cipher unit is formed of one letter of the English

alphabet, and each such letter corresponds to one and only one unit in the plain text); technically, these rules are said to belong to the +general system+. . ." The second kind is more specific. It operates within the general system, and deals with its application in a particular cryptogram (e.g. in this cipher, Z corresponds to the letter A in plain text; N to the letter B, etc.) In technical jargon it constitutes the +specific key+ which deals with the +variable elements+. This is quite a familiar distinction: bridge players, for example, are well aware of the difference between the laws of the game (which lay down the general procedure) and the rules governing a particular convention of bidding (which sets out one specific way of acting in accordance with the laws.)

With this in mind, we should read again the twenty-five letters of the ciphertext contained in the title-page and the Dedication page of the +Sonnets+.

S S R D T N Y G D T T M Y A F I O E E R F E G S R

They are still meaningless because the letters of this cryptogram have previously been concealed as an acrostic steganogram and then doubly enciphered. First, the primarily significant+letters+are scattered through the open text according to a general rule: these are the terminal, the very last letters of each capitalized word, and a capitalized letter standing alone is counted as a word; the numbers are treated separately. Such acrostics have been called "null ciphers" because ordinarily all of the letters in each word, except one, are nulls.

The second encipherment is accomplished by the use of a key alphabet having twenty-one letters in normal order but ending in "STVY."

A B C D E F G H I K L M N O P Q R S T V Y

The third encipherment is done in Caesar's fashion by displacing the key alphabet four letters, so that a ciphertext "E" equals a plaintext "a", a ciphertext "F" equals a plaintext "b", and so on, without exception. The cryptographer, within his unique alphabet, has substituted the fourth letter back from each ciphertext letter--we must move backward four characters. However the numbers have undergone an additional encipherment before being submitted to this rule; they have been assigned to the alphabet in the most elementary fashion: 1 = "A", 2 = "B", 3 = "C" and so on. The numbers "1609" must be converted to "AFI", which correspond to the numbers "169". Since there is no letter corresponding to zero, it may be excluded. These rules apply from the beginning ("SHAKE-SPEARES") to the putative end, the lower-case superscripted "r" in "Mr."

The additional step in deciphering the numbers should not be criticized. Bacon himself stated that to use "changes," "nulls," "doubles" and "non-significant" letters was an acceptable procedure within his own apprehension of sophisticated 17th century cryptography. The Friedmans say (p. 62), "To change the alphabet on a given signal is a perfectly normal practice in cipher messages."

It is normal because it is not uncommon for the cryptographer to try to defeat cryptanalysis. In our own cipher problem, after the first twelve ciphertext letters are decrypted, we run into four numbers which represent the date of publication of the Sonnets--"1609". What is to be done with them? Omitting them as nulls, which is permissible in cryptanalysis, there remains in the plaintext the two zeros and the words "nypir" and "cypphr," but deleting the converted numbers (169=AFI) leaves "kaanbacon" dangling. Including them in the ciphertext, of course, completes the plaintext message and matches "bekaan" to the adjoining "bacon," our "probable word" crib. We need not change the general rule, the twenty-one letter keyed alphabet, to incorporate these digits in their proper order and they are submitted to the same Caesar, fourth letter back, system as are the ciphertext letters. The "given signal," to which the Friedmans refer, is obvious enough; after twelve ciphertext letters the numbers are encountered. To omit them would create a gap in the serial regularity of the general system.

On at least one occasion Francis Bacon openly used a number to substitute for some of the letters in a word. The Folger Shakespeare Library has on file (x.d.158) a letter of his written on October 18, 1623. Here is how he dates it: "18. of 8 bre 1623". "Octo" (as in "8") is the Latin word for the Roman numeral VIII. (See photo illustration).

So, after the numbers "1609" are admitted to the chain, the general and specific cipher structure continues as before. We will recall that the first twenty-five ciphertext letters were:

S S R D T N Y G D T T M Y A F I O E E R F E G S R

A view of the critical letters of the title-page and Dedication will, perhaps, be welcome (see photo illustration). The ciphertext letters are bold and underlined in the following table:

SHAKE-SPEARE<S>

SONNET<S>.

Neue<r> before Imprime<d>.

A<T> LONDO<N>

B<y> <G>. E<d> for <T. T>. and are

to be solde by willia<m> Asple<y>.

<16>0<9>.

T<O>. TH<E>. ONLI<E>. BEGETTE<R>. O<F>.

THES<E>. INSVIN<G>. SONNET<S>.

M<r>. W. H. ALL. HAPPINESSE.

The deciphered plaintext is:

o o n y p i r c y p p h r s b e k a a n b a c o n

According to William F. and Elizebeth S. Friedman:

The cryptogram must be keyed and of a reasonable length before it is safe to assume that it has a unique solution. . . about twenty-five letters are needed before the cryptanalyst can be sure that his solution of a mono-alphabetic substitution cipher is the only possible solution [citing Shannon].

We have our twenty-five letters in this solution to a mono-alphabetic substitution cipher.

The Friedmans then apply the principles of probability and chance:

The point must be reached where he (the cryptologist) begins to feel that the whole thing did not and could not happen by accident. . . If the cryptanalyst finds a certain key and (on the basis of the way it is built up) he calculates that the chances of its appearing by accident are one in one thousand million, his confidence in the solution will be more than justified. . .

What are the odds against finding these twenty-five +particular+ letters in this +exact+ order? The elementary probabilities are against it by twenty-one (being the number of letters in the abbreviated alphabet) to the 25th power (being the number of letters in the message). This is a very large number. The odds are unfavorable to the extent of 1.136 billion trillion trillion to one. I am aware that in the science of probability and statistics, this basic figure must be reduced, depending upon what other postulates and variables may reasonably be chosen to represent some particular form and vocabulary of Elizabethan philology; but not to such a degree that these twenty-five letters may be regarded as an ordinary phenomenon. This series is not a solitary prototype; the pattern will be found to repeat itself in many other empirical examples, and each of them must be looked upon as a pragmatic confirmation of the others. (For serious students of probability

and statistics, see +Elementary Course in Probability for the Cryptanalyst+, Andrew M. Gleason, Aegean Park Press, revised 1985).

Two cryptanalysts, the Friedmans say, while working independently must always be able to find a nearly identical solution. If the rules defined here are followed, there can be no other solution. They also say that some concession may be made for the +encipherer's+ mistakes:

In practice, one has to make allowances for a few mistakes here and there; and certainly, occasional errors may lead to minor differences in the solutions offered by different cryptanalysts working independently. . . each case must be treated on its merits, but in practice the allowable error is seldom more than five to ten percent at the outside.

However, we need not here make such an allowance; it does not appear that any mistakes have been made in the planning and composition of this particular twenty-five letter cryptogram.

There is an interesting requirement that the Friedmans +do not+ impose. "Nor is it reasonable to expect," they declare, "that, if cryptic messages actually were inserted in the text, they would be clearly signaled in some way. . . We shall not therefore demand any external guide to the presence of the secret texts. . ." If the decryption is shown to be unique and reached "by valid means we shall accept it, however much we shock the learned world by doing so."

The Friedmans do not offer any extra credibility points if there might be found, in the open text, a signal (a "beacon" we might call it) pointing to the existence of a concealed cipher. Neither do they offer any reward for the discovery of instructions for its solution. Yet in the Dedication to the +Sonnets+ there are such signals and there are such instructions.

The obvious signals are thirty: thirty (I shall call them) decimal points. Where else are such points, periods, full stops, or whatever to be found in the printing of literature in 17th century England or in any age? They are uncommon to the point of distinction. They arrest the attention; they have, historically, caused curious comment. Their insertion follows no known rule of punctuation. And why is the whole Dedication set in capitals (except for that lonely, superscripted "r")? And why are the lines so unevenly filled, with five words standing alone? And how did the bad grammar get past the proofreader?

The structure of the language of the Dedication has the same aspect: nobody really knows what it means in spite of the many opinions that have been offered. It just doesn't make much sense. Having come this far, we can now understand that the first nine words of the Dedication had to be chosen so that their terminal letters would fit the ciphertext. The last letter of each word had to be a particular letter. With this exacting constraint, it is not surprising that the Dedication verges upon nonsense. The very incoherence of the text is a weathercock pointing to a secret.

By contrast, the title-page of the Sonnets is a model of conformity to Elizabethan typographic form. Though it seems above suspicion, it masks a prodigious example of the steganographer's art. Its very antithesis highlights the strangeness of the next page, the nearly impenetrable Dedication.

As I have exemplified them, these are the +signals+ which have for so long been the subject of scholarly discussion, yet their latent significance has been overlooked. And there is more; there are +instructions+ for the decipherer set forth in the Dedication.

As has been mentioned, a short ciphertext presents great difficulty in cryptanalysis. Ordinary methods, such as determining letter frequency, are of no use. In brief modern cipher messages the key, also encrypted, must be inserted somewhere. It may be entered at the beginning or at the end and such messages are kept short so as to defeat cryptanalysis. Bacon understood this principle, yet he did not intend to forever silence some whisper from his grave. He included a few words of advice in his cryptograms.

As previously narrated, before beginning my recent work I had stumbled upon the enciphered name of Bacon in the last letter of the last five of the first nine words of the Dedication. It was extracted by means of the Caesar cipher system, even while using the conventional twenty-four letter, 17th Century English alphabet. I suspected that this name might be a crib which could be employed to extend my search. I could not bear to abandon this "general system," even though the results were meager, so I began to think about a different alphabet. I have described the kinds of abbreviated alphabets that I tried and, while in the midst of this seemingly

endless job, I looked at the Dedication again.

Simple arithmetic and difficult cryptography are still brothers, and each must depend upon the other. At the +very beginning+ of this devious Dedication are the words "TO.THE.ONLIE." At the +very end+ is the word "FORTH." These are words related to +numbers+. "TO." obviously may refer to "two"; at least it is a homonym. "ONLIE." may refer to "one." And "FORTH." is a homonym of "fourth."

We have seen that in the sixteenth Century spelling was in its infancy; spelling was more of a habit with the writer than an object of criticism for his reader or editor. There were no standards; sounding out the letters was sufficient for the contemporary reader to communicate with the writer. But for Shakespeare, his 1609 spelling of "ONLIE." was a singular one. Formerly he had spelled it "onely." For example, in 1596, in "The Merchant of Venice," (iv,1) we read, "I will have nothing else but+onely+this." In the 1598 version of "The Merry Wives of Windsor" (iii, 2) a character says, "Spend all I have +onely+ give me so much of your time in exchange. . ." In the 1602 "Hamlet" (iv, 2) appeared this phrase: "Your +onely+ ligge-maker." In the +Sonnets+ themselves (141, line 13) the author uses "Onely" and again (1, line 10) "only." But, in the Sonnet Dedication, the inconvenient last letter, "y", would not do. It had to be an "E" to enfold the ciphertext properly. Therefore he spelled it "ONLIE."

So I had found a 2 and a 1 and a 4th. $2 + 1 = 3$ or, perhaps a little less obviously, twenty-one. What if this was a lesson--to knock three letters off the twenty-four letter alphabet? As it turned out, it was such an instruction and that saved me much labor.

After this possibility appeared, I concentrated on twenty-one letter alphabets, testing by omitting three likely letters at a time. Eliminating the need for trying alphabets having more, or perhaps fewer, letters probably saved me from giving up, even with my speedy, time-and-paper-saving computer program.

Since I had been inspecting all possible solutions of the Caesar cipher, using a variable twenty-one letter alphabet, the last instruction, "FORTH.", was not really necessary. Yet it proved to be a confirmation. When the plaintext solution appeared on the screen, it was on the fourth line. It was where it should have been. It was where Francis Bacon had put it, after counting backward four places to the fourth letter of his keyed alphabet.

The numbers, then, +are+ instructions. They were inserted in the doggerel of the Dedication as helpful tools, tools without which I might have failed. I have indicated that the periods after each word were signals. Without using those periods and those numbers as hints and as instructions I might also have failed. Those curious "points" had previously suggested to me that I should try using, in a Caesar, either the first or the last letter of each word beside which they stood. I had tried both ways. On the Dedication page itself it worked; those periods were primary lessons and they guided me directly to what has been presented.

I know of no way to calculate the additional probative value of these signals or of these instructions. I know that they were useful to me, and led me to what I offer here as a successful solution and as proof of that solution.

Basically these are acrostic methods; the critical letters have been enciphered and re-enciphered and then hidden in an acrostic steganogram. The name of Bacon is thus to be found twice in a book almost unanimously, though erroneously, attributed to William Shakespeare. Bear with me; we shall see it enciphered and deciphered again and again.

I will call upon the Friedmans for another example:

. . . acrostics have unquestionably been used to establish claims to authorship. . . in a Spanish treatise on the history of New Mexico the author was ostensibly a Count of Torene, Don Pedro Baptist Pino; but his ghost writer was not to be denied all credit for his work. The first letters of successive sentences, beginning on p. 43 with paragraphs for breaks between words, reveal the name Juan Lopez Cancelada, a surreptitious but none the less certain manifestation of the ghostly hand which held the pen. . . there is no room to doubt that they were put there by the deliberate intent of the author; the length of the hidden text, [in this case only 18 letters] and the absolutely rigid order in which the letters appear, combine to make it enormously improbable that they just happened to be there by accident. . .

At another place, the Friedmans declare:

Acrostic devices have the advantage that, unlike ciphers which depend on accidents of page-numbering or particular kinds of type, they leave no doubt that the author of the open text must also have been responsible for any hidden message. . .any message found must have been inserted by the man who wrote the open text. . .If, therefore, any genuine messages of this kind exist, +they must be taken as conclusive+. (Emphasis added).

Here it must be noticed that the Friedmans and others have accepted as convincing the cryptanalysis of the names of several concealed authors. The minimum number of plaintext letters for proof of a monoalphabetic acrostic plaintext name seems not to apply to such examples.

The +form+ of Bacon's cipher is not one unknown to his era. At the end of Chapter 9, I have described a cipher system invented by Johannes Trithemius before 1526. His manuscripts were collected and in 1606 were published in Latin, the universal language of scholarship. In that timely book a remarkably similar device for superencipherment was explained. The keys of Trithemius were included in the opentext; the keys referred to the first letters of words; an abbreviated alphabet was required for decryption; and the ancient Caesar system was employed to read the plaintext. Bacon published his keys to a variation of this cipher three years later. It is apparent, considering his known interest in cryptography, that he adapted Trithemius to his own use. The precedent is manifest.

"Shakespeare had a word for it"--we have all heard that tired cliché. I shall call on him for two quotations that fit our entrancing puzzle: "who is so grosse, that cannot see this palpable device? Yet who so bold, but sayes he sees it not?" ("Richard the Third," iii, 6, 12). And again: "Our very eyes, Are sometimes like our Iudgements, blinde." ("Cymbeline," iv, 2, 302).

* * *

What explanation can be offered, what meaning can be read into this brief awakening message, this whisper that we have heard from an old grave?

For a while we shall move away from the science of cryptography, away from the abode of rules, of precise reckonings, of mathematical certainties. We may take with us the name of the author of the cryptogram, Bacon; the name of the author of the +Sonnets+, Bacon; two letters or numbers which are either "O"s or zeros; Bacon's inclusion of Napier's name; and Bacon's use of the word "ciphers," a surprising and most uncommon term to be found within one passage of a cipher message.

In deriving this cipher solution we have used the scientific methods of induction, the ways that Francis Bacon taught us. By experimenting with the first words of his book of Sonnets we have arrived at our premises and we have found the concealed message. The very exercise reminds us that Bacon implored the scientists of his time to abandon their Aristotelian routines, of passing quickly from unproven, subjectively established theories and then hurrying onward to false and scientifically unprofitable conclusions. Now that our postulates are settled we may turn to the inferences to be drawn from them, to apply both inductive and deductive means, and to marshal the internal evidence to be found in these and other pages of the Sonnets. Let us begin with the name of John Napier. In 1608, a year before the +Sonnets+, there was published a book with this title-page:

DISME:
The Art of Tenths,
OR
+Decimall Arithmetike+,
Teaching how to performe all Computations
+whatsoever, by whole Numbers without+
Fractions, by the foure Principles of
+Common Arithmeticke: namely, Ad+ -
dition, Subtraction, Multiplication,
and Division.

+Invented by the excellent Mathematician+,
Simon Stevin.

Published in English with some additions
by +Robert Norton+, Gent.

Imprinted at London by S.S. for +Hugh
Aspley+, and are to be sold at his shop at
Saint Magnus corner. 1608.

Stevin had, in 1582, imprinted a work called +La Practique d' Arithme-
tique+, and then, in 1585, both in Flemish and in French, +La Thiende+. An
earlier, less facile, notation for expressing fractions in tenths was shown in
both. In 1608, in +DISME+, Stevin's proposal for the adoption of the decimal
system was first translated and printed in London, although Stevin still did
not employ decimal points. Here is how he recommended his novel way of
computing by decimal fractions:

We will speak freely of the great utility of this invention; I say great,
much greater than I judge any of you will suspect, and this without at
all exalting my own opinion. . . For the astronomer knows the difficult
multiplications and divisions which proceed from the progression with
degrees, minutes, seconds and thirds. . . the surveyor, he will recognize
the great benefit which the world would receive from this science, to
avoid. . . the tiresome multiplications in Verges, feet and often inches,
which are notably awkward, and often the cause of error. The same of
the masters of the mint, merchants and others. . . But the more that these
things mentioned are worth while, and the ways to achieve them more
laborious, the greater still is this discovery +disme+, which removes all
these difficulties. But how? It teaches (to tell much in one word) to
compute easily, without fractions, all computations which are encour-
tered in the affairs of human beings, in such a way that the four princi-
ples of arithmetic which are called addition, subtraction, multiplication
and division, are able to achieve this end, causing also similar facility to
those who use the casting-board (+jetons+). Now if by this means will be
gained precious time. . . if by this means labor, annoyance, error, dam-
age, and other accidents commonly joined with these computations be
avoided, then I submit this plan voluntarily to your judgment.

Stevin's ideas caused a revolution in ordinary arithmetic. He recom-
mended converting all of the odd and varying fractions to be found, then
and still in the measurement of weights, volume, length, angles and coin-
age, into tenths or hundredths or thousandths. Such new ways of measur-
ing did not become universal in France until the metric system was adopt-
ed, but the concept has since spread over the world, especially for scientific
uses, and has led to far greater efficiency and accuracy in the handling of
numbers. Stevin's tools multiplied the skills of astronomers who were then
trying to work from circles to ellipses in their studies of the orbits of the
planets. Even some gamblers, at "the casting-board," benefited. Meanwhile,
John Napier had already been practicing those methods.

What did Shakespeare know about Disme and his contribution to
technology? Read a few lines from "Troilus and Cressida" (ii, 2, 15):

Surety secure: but modest Doubt is cal'd
The Beacon of the wise: the tent that searches
To'th'bottom of the worst. Let +Helen+ go,
Since the first sword was drawne about this question
Every tythe soule 'mongst many thousand <dismes>,
Hath bin as deere as +Helen:+ I meane of ours:
To guard a thing not ours, nor worth to vs
(Had it our name) the valew of one ten;

The author continues and mentions "a Scale of common Ounces" and
"spannes and inches." He had read Stevin and understood the application of
Disme to awkward English inch-pound-gallon measurements, and the need
for reform. (See chapter 14 for the decryption of this passage.)

We may note, in passing, that Hugh Aspley published Stevin's book
in 1608, William Aspley did the same for the +Sonnets+ in 1609, and W.
Aspley was a co-publisher of the 1623 Folio.

About this time (1609) Napier was finishing his Herculean task of the calculation of the logarithmic tables. He had been working on them since 1590, or thereabouts. These tables, when they were published, showed that he had himself made use of decimals and of the period as a separatrix--the decimal point.

The real and worthy object of Francis Bacon's Dedication to the Sonnets was John Napier. The mathematician from Edinburgh had hugely simplified ordinary calculation (ciphering) by the invention of natural logarithms; he had then redefined for his special purpose the value of unity (the number one) as equal to zero. He had suggested that principle to Henry Briggs (a co-founder with Francis Bacon of the Virginia Company on Roanoke Island) who then chose an equation for the foundation of logarithms to the base 10. So also had he embraced Stevin's decimal system. The efficiency of mathematics had thereby been improved by many orders of magnitude. The thirty superfluous decimal points of the Sonnet Dedication are Francis Bacon's tribute to Napier's accomplishments.

The man who wrote Sonnet 136 was also well aware of the basis for logarithms; he knew of it +before+ 1609 when the Sonnets were registered and printed, and knew of it +before+ the books of Napier and Briggs were published. Here are a few lines from that verse:

In things of great receipt with ease we prooue,
Among a number one is reckon'd none.
Then in the number let me passe vntold,
Though in thy stores account I one must be,

Only in a table of logarithms does $1 = 0$. The log of 1 is zero, the log of 10 is one, the log of 100 is two, etc. Logarithms are used mostly "in things of great receipt," that is, with large numbers to simplify multiplication and division and in calculating powers and roots. But in "thy stores account" (a simple inventory) one still equals one and must be counted in the conventional manner.

The message "Zero zero Napier ciphers" becomes, with this understanding, an honor paid to John Napier's great industry, genius and contribution to ciphering (calculating). And the zeros are used in Bacon's additional amusing, ambiguous ways--a zero may be defined as a number, a cipher; we see that Bacon's bold use of that word is concealed within a cipher, a secret writing. With what exactitude and brevity and skill has the encipherer composed and signed and hidden his cryptogram.

The first part of the message may be understood to say, "Zero, zero [is how] Napier calculates." "b e k a a n" is another word well chosen for its equivocation. We have seen a list of other odd ways that "beacon" has been spelled. The word was used in the 17th century as a verb, meaning "to signal," or "to give light and guidance to." It was then pronounced almost as "Bacon." The sense of the message is thus extended and, without contradiction, changes; now we may read, "Zero, zero, Napier's ciphers give light and guidance to Bacon." And, of course, "b e k a a n" must be recognized as a variant Elizabethan spelling of, and a homonym for, "Bacon."

o o n y p i r c y p p h r s b e k a a n b a c o n

These are our twenty-five cipher letters, occult upon first reading but significant upon reflection. We must consider, with some sympathy, the severe restraints upon the encipherer; the necessity to arrange the title-page in a proper and innocent-appearing form; the need to light veiled beacons within the Dedication; and all the while to enfold the plaintext within a steganographic ciphertext.

This concludes our exercise in elementary Baconian cryptography. We shall continue, but no longer shall there be any easy solutions.

Onward.

+How can I tell the signals and the signs
By which one heart another heart divines?
How can I tell the many thousand ways
By which it keeps the secret it betrays+.
--Longfellow

+Put thy selfe into the tricke of singularity+.

Chapter 12

Sometimes while reading that unnatural Sonnet Dedication for the thousandth time, I had a suspicion that in it were other cipher texts still concealed. Why, I wondered, were there five words standing entirely alone on five of the lines, and four spaces between the lines? Why hadn't the grammar been corrected? why did the plaintext of the cipher solution stop after the first word on the third line? As we have seen, the Dedication of "Thomas Thorpe" was very carefully prepared and connected cryptographically to the title-page, but the +continuous+ cipher readout appeared to end with the lonely, lowercase, superscripted "r" in "Mr." This nonsense introduction to the classic verses that follow defies any common-sense English interpretation. why?

* * *

My work thus far might be incomplete, I supposed. Still, it was easy for me to rest at that place; better to leave well-enough alone. No birds dwell in last year's nests, as Longfellow once reported. But my demon would not let me stop--"Excelsior" he kept muttering. With some reluctance I decided to quit writing about cryptology and to return to cryptanalysis.

There is no lawbook, no set of rules chiseled in stone to prevent the composer of a cryptogram from doing as he pleases. A cryptographer must insert some regularity in any system that he invents, even in the age of Shakespeare, and there must remain a practical way for his message to be read. But beyond the limits of his general system he may change the specific rules as he goes along. Bacon mentioned this nearly 400 years ago, and so more recently did the Friedmans. Such changes are not forbidden because it is not forbidden for the cryptographer to try to defeat the cryptanalyst.

And I found, to my dismay, that Francis Bacon was often guilty of engaging in this sly game. whenever he is discovered in one guileful deception he covertly changes to another. I must emphasize, however, that he does not abandon his general system. The cryptographic method remains as one of disguising, by steganography, the ciphertext letters which still must be translated by an elementary Caesar cipher table, shifted four letters; and of using a keyed, twenty-one letter Elizabethan alphabet in normal order which ends in "S T V Y." He makes no alteration within his basic algorithm. We shall resume our inspection of Francis Bacon's difficult Dedication.

The first change we may discover, after his signal--the superscripted "r" in "Mr."--is that Bacon ceases to use the "FORTH." letter back Caesar. He begins to use the +fourth letter forward+. Theretofore he was in the habit of enciphering the letter "a" with "E" (-4); now he commences to encipher a plaintext "a" with "S" (+4). His new Caesar table for decryption may be read as follows:

Ciphertext alphabet: S T V Y A B C D E F G H I K L M N O P Q R

Plaintext alphabet: a b c d e f g h i k l m n o p q r s t v y

Thus Bacon did not alter his instruction, "FORTH."; continuing in his devious ways, he merely reversed its numerical meaning. This clue, instead of signifying a negative four letters, newly denotes a positive four letters. Tricky as he is with the arithmetical signs, he remains consistent with the critical instruction "FORTH."

Previously Francis Bacon had used the ciphertext letter "F" for a plaintext "b". Now he begins to use ciphertext "B" for "f". These also happen to be the initials of his first and last names; each is the "FORTH." letter away from the other. Therefore "F" = "b" or "B" = "f" respectively in his -4 or +4 cipher tables. For a solution we may try them both, but +hereafter in this book+ the decryptions are consistently based on "A" = "e", the +4 Caesar that Bacon seems permanently to have adopted after 1609.

So what did Bacon have to say in this reversal, this +4 continuation of his messages? Finding out has not been easy but the occasions for his transgression upon English syntax and his reasons for printing those five words so as to stand alone have become clear. His plan required the use of more than one of the letters which were included in several of those soli-

tary words.

The problem now is to find the proper enciphered, acrostic, steganographic letters and to make plaintext words of them, while preserving the same order within the primary, keyed, general system. One is reminded of the ways used to solve crossword puzzles: if a few correct words can be entered in the vertical columns, then scattered letters suggesting a solution may be found in some horizontal row. The blank spaces may then be filled and checked with the cross-word clue: voila! fini de s'amuser! Some television word-game shows are based on this or some similar strategy.

After all, a cipher is nothing if not a puzzle. Therefore, if we find part of a word and it is found necessary to continue in a different, secondary manner to supply the rest of it, we shall do so; there are many precedents in cryptanalytic procedures for this artifice.

More specifically, we should recall the "probable word" way that the Friedmans solved the British machine cipher. While they were working together, Mrs. Friedman was asked to say the first word that came to mind when her husband uttered the word "cipher"; she replied "machine" and that turned out to be the key. In the Friedmans' book they sometimes deplored speculation, but they often used it themselves in this sense. For example they say: "Donnelly cannot be criticized merely. . .for assuming that certain specific words would be likely to occur in the message. That is a legitimate assumption, and sometimes quite fruitful; the cryptologist calls it 'the probable word method'. . .it can be used as a crib to break down the message."

We have found in our previous labors the name "Bekaan" and "Bacon" touching each other. It is a reasonable and acceptable cryptologic practice to anticipate such an appearance again; we may validly expect and search for a repetition of that name in some other variant, 17th century spelling.

Using this reasoning, I found that Bacon had made a change in the placement of the acrostic steganographic letters. After the anomolous, lower-case superscripted "r" in "Mr." the cipher readout had seemed to stop. Previously, only the last letter of each capitalized word in the title-page, the numbers in the date and the last letter of each word in the Dedication had been employed. There was a space between the letter "H." and the word "ALL.", +the only clear space+ between any adjoining words or letters in the entire Dedication. Perhaps there was a reason for that; perhaps that was another buried, typographical signal.

Beginning with the words following "Mr.W.H." I tried the first letter, the second letter, the third or fourth letters; then I tried the last letter, the next-to-the-last and so on. The technique may be similar to the general cryptographic procedure followed by our National Security Agency; it is the one recommended by experimenters in science, the logical method of elimination. I printed out all possible Caesar solutions. The exercise resulted in many, many lines of garbage; meaningless, unpronounceable strings of letters, except for one. The result indicated that that extra, lonely space after "H." had been a signal to shift back one space, one character, before continuing.

When I tried the next-to-last letters, rather than the previously used last letters, of the words on the third and fourth lines of the Dedication I found, using the "FORTH." letter forward in the key alphabet, the beginning of a common word "parent." In fact I found almost all of it.

Here are those two lines of the Dedication, with the letters that Francis Bacon had next selected shown as <x>:

Mr.W.H. A<L>L.HAPPINES<S>E.

A<N>D.TH<A>T.ETERNIT<I>E.

Thus the new ciphertext letters are "L S N A I". The translation is made to "p a r e n". The Caesar table to the "FORTH." (+4) line is as follows:

L	S	N	A	I
M	T	O	B	K 1
N	V	P	C	L 2
O	Y	Q	D	M 3
P	A	R	E	N 4

Now, there is no word in the English language beginning with those

five letters which does not have a "t" following; examples are "parent, parental, parentheses, parentage, etc." ("parenchyma" exists but it is a modern biological term). Thus the word may be "parent. . ."

The next letter required from our cipher alphabet, shifted forward four letters, in order to produce a plaintext "t" is a ciphertext "P". That character appears as the first letter of the next word "PROMISED." which stands alone on the next line. It completes our plaintext word "parent".

We all know that a parent is ordinarily a mother or father of a child, but in the exhaustive Oxford English Dictionary we find another, more figurative, meaning:

That from which another thing springs or is derived; a source, cause, origin. (Usually of things; less commonly of persons, in relation to their "productions").

For an example, the editors cite +Shakespeare+. In +A Midsummer nights Dreame+ (ii, 1), Queen Titania says, with superstitious reference to floods and bad weather:

And this same progeny of evils,
Comes from our debate, from our dissention,
We are their parents and originall.

After completing our plaintext word "parent," by adding the ciphertext "P" which begins the next word on the next line, "PROMISED," and consistently collecting the first character from each succeeding line, we find "P B O T A S F". (For this exercise the "w" in "WISHETH." shall be omitted as a null; we have no "w" in our key alphabet.) The table is:

P	B	O	T	A	S	F
Q	C	P	V	B	T	G 1
R	D	Q	Y	C	V	H 2
S	E	R	A	D	Y	I 3
T	F	S	B	E	A	K 4

Let us look once more at all of the words of the Dedication; the new ciphertext letters will be shown as <x>:

TO.THE.ONLIE.BEGETTER.OF.
THESE.INSVING.SONNETS.
M<r>.W.H. A<L>L.HAPPINES<S>E.
A<N>D.TH<A>T.ETERNIT<I>E.
<P>ROMISED.

Y.

<O>VR.EVER-LIVING.POET.

WISHETH.

<T>HE.WELL-WISHING.

<A>DVENTVRER.IN.

<S>ETTING.

<F>ORTH.

Putting it all together and deciphering the letters we find:

p a r e n t f s b e a k

The table is:

L	S	N	A	I	P	B	O	T	A	S	F
M	T	O	B	K	Q	C	P	V	B	T	G 1
N	V	P	C	L	R	D	Q	Y	C	V	H 2
O	Y	Q	D	M	S	E	R	A	D	Y	I 3
P	A	R	E	N	T	F	S	B	E	A	K 4

Let us review the deciphered letters from the beginning to this point:

o o n y p i r c y p p h r s b e k a a n

b a c o n p a r e n t f s b e a k

Now we have the new word "parent" inserted between "bacon" and "fsbeak." "fs" is an abbreviation for "Francis" which Bacon often used in signing his name. "beak" is, so far, truncated--but that condition will soon be amended. By the use of the word "parent" the author claims these verses as his productions. They are his progeny; +he+ is the begetter of +SHAKE-SPEARES SONNETS+.

We are not finished yet; not by 17 letters. The Master is about to begin a circle around the opposite edge of the Dedication; he will lead us upward and backward to the beginning, and then backward and upward through the title-page to the first word: "SHAKE-SPEARES". This will be a remarkable journey; on it we shall view an incredible demonstration of this cryptographer's exquisite acrostic, steganographic skill.

Bacon now makes a change--not in the +4 or general system--but in the next series of letters to be selected from the ciphertext. He has already used the first letter of the first word of each line beginning with "PROMISED." in descending order. After using the "F" in "FORTH.", which stands alone in the last line, he then selects the +third letter from the last+ in each line; in this manner he continues upward and backward to the beginning of the Dedication. Notice particularly that these are the +fourth+ (FORTH.) +printed characters+ from the final one in each line, the period. If the last word in a line has fewer than three letters, it must be skipped. Beginning with "FORTH.", he uses the "R"; in "SETTING." he uses the "I", and so on. Here is the Dedication again; we begin on the last line:

TO.THE.ONLIE.BEGETTER.OF.
THESE.INSVING.SONN<E>TS.
Mr.W.H. ALL.HAPPINE<S>SE.
AND.THAT.ETERNI<T>IE.
PROMI<S>ED.

BY.

OVR.EVER-LIVING.P<O>ET.

WISH<E>TH.

THE.WELL-WISH<I>NG.
ADVENTVRER.IN.
SETT<I>NG.
FO<R>TH.

Thus the ciphertext letters are: R I I E O S T S E

Ciphertext alphabet: S T V Y A B C D E F G H I K L M N O P Q R

Plaintext alphabet: a b c d e f g h i k l m n o p q r s t v y

The plaintext decipherment is: y n n i s a b a i.

The table, so far, is:

L S N A I P B O T A S F R I I E O S T S E
M T O B K Q C P V B T G S K K F P T V T F 1
N V P C L R D Q Y C V H T L L G Q V Y V G 2
O Y Q D M S E R A D Y I V M M H R Y A Y H 3
P A R E N T F S B E A K Y N N I S A B A I 4

Plaintext now reads: p a r e n t f s b e a k y n n i s a b a i

And Bacon then goes onward and upward, following the same scheme, back into the title-page for the next three ciphertext letters. At the bottom of the title-page is the date, 1609. The third number from the last ("FORTH." from the last character, the period) is a "6" and "F" is the sixth letter of the alphabet; that is our next letter. The third letter from the last at the end of the line above the date is the italic +l+ in "+Aspley+". We should not be surprised to discover an error or a null in deciphering the last few letters of our 54 character series; this "+l"+ is the only italicized

letter we have encountered while completing our circle through and around the Dedication and returning in the same upward direction to the beginning of the title-page. We shall omit it.

The next two letters to be included are the "a" in "are," at the end of the line above, and the "D" in "LONDON" in the line above that; they are also the third letters from the last in each word in each successive ascending line.

Now we come to the two horizontal ruler lines across the title-page. If we still believe in signals we may find that another change has been made. Stay with me now; we know the first name of the composer of this cryptogram and how he sometimes abbreviated it, "Fra:" Bacon was a maker of puzzles and we have already found a use for his name as a pragmatic crib.

Still traveling backward, the first capitalized letter we meet is an "I", something to remind us of a Roman numeral one. We shall use that "I" and continue by selecting the first letter of each word above these lines and in consistent reverse, upward order. There are five of them, the last five.

Below, the title-page ciphertext letters are shown:

<S>HAKE-SPEARES

<S>ONNETS.

<N>euer efore <I>mprinted.

AT LON<D>ON
 By G. Eld for T. T. and <a>re
 to be solde by +William Aspley+.
 1<6>09.

Thus, from the title-page the new ciphertext letters are:

F A D I B N S S

The plaintext decipherment is: k e h n f r a a
 The complete (+4) plaintext now reads:

p a r e n t f s b e a k y n n i s a b a i k e h n f r a a

The table is:

L	S	N	A	I	P	B	O	T	A	S	F	R	I	E	O	S	T	S	E	F	A	D	I	B	N	S	S		
M	T	O	B	K	Q	C	P	V	B	T	G	S	K	K	F	P	T	V	T	F	G	B	E	K	C	O	T	T	1
N	V	P	C	L	R	D	Q	Y	C	V	H	T	L	L	G	Q	V	Y	V	G	H	C	F	L	D	P	V	V	2
O	Y	Q	D	M	S	E	R	A	D	Y	I	V	M	M	H	R	Y	A	Y	H	I	D	G	M	E	Q	Y	Y	3
P	A	R	E	N	T	F	S	B	E	A	K	Y	N	N	I	S	A	B	A	I	K	E	H	N	F	R	A	A	4

* * *

Thus we bring to an end the excavation of these two pages of Francis Bacon's Sonnets. In this rich mine we have found our letters and words and have translated them. The complete, fifty-four letter message is:

o o n y p i r c y p p h r s b e k a a n b a c o n (-4)

p a r e n t f s b e a k y n n i s a b a i k e h n f r a a (+4)

Obviously he has written his last name, using various orthographies, four times. He sometimes signed his letters "Fra: Bacon"; at other times "Fs." or "Fr." Thus we have his encrypted first name twice, either preceding or following his surname.

We have already discussed the first part of the message: "Zero, zero, Napier's ciphers give light and guidance to Bacon" is a fair interpretation and the Sonnets are in this manner dedicated to John Napier.

Next Bacon tells us that he is the author of the Sonnets; he is their parent and they spring from his pen. Considering the "a" in "isa" as an error or a null, "is" becomes a verb. "Parent Fs. Bacon is" we read, with the grammar following the Latin custom of placing the verb at the end of the

sentence.

Bacon's real home for most of his life was at Gorhambury in Saint Albans parish. Men were often known in those times by a Christian name followed by the name of their customary dwelling place, or where they were raised. "John of Gaunt" is an example. Therefore another connotation may be read: "I, S(aint) A(lban), Bacon, Fra. Years after the Sonnets were published, in 1621, Bacon was made Viscount St. Alban by James I and he was very proud of the title. After that he often signed his name "Fs st Alban."

Some review is in order.

Below, each of the ciphertext letters are shown within the text of the title-page and the Dedication:

We will recall that the first twenty-five ciphertext letters were:

S S R D T N Y G D T T M Y A F I O E E R F E G S R

SHAKE-SPEARE<S>

SONNET<S>.

Neue<r> before Imprinte<d>.

A<T> LONDO<N>

B<y> <G>. El<d> for <T>.<T>. and are
to be solde by willia<m> Asple<y>.
<16>0<9>.

T<O>.TH<E>.ONLI<E>.BEGETTE<R>.O<F>.

THES<E>.INSVIN<G>.SONNET<S>.

M<r>.W.H. ALL.HAPPINESSE.

(-4 cipher ends at Mr.)

The message is:

o o n y p i r c y p p h r s b e k a a n b a c o n

The next 29 ciphertext letters are:

L S N A I P B O T A S F R I I E O S T S E F A D I B N S S

Below is shown their placement; they begin +after+ "Mr.W.H.":

(+4 cipher begins)

<S>HAKE-SPEARES

<S>ONNETS.

<N>euer efore <I>mprinted.

AT LON<D>ON

By G. Eld for T.T. and <a>re
to be solde by william Aspley.
1<6>09.

TO.THE.ONLIE.BEGETTER.OF.

THESE.INSVING.SONN<E>TS.

Mr.W.H. A<L>L.HAPPINE<SS>E.

A<N>D.TH<A>T.ETERNI<T><I>E.

<P>ROMI<S>ED.

Y.

<O>VR.EVER-LIVING.P<O>ET.

WISH<E>TH.

<T>HE.WELL-WISH<I>NG.

<A>DVENTVRER.IN.

<S>ETT<I>NG.

<F>O<R>TH.

(The descending cipher ends at <F> and the ascending begins at <R>)

Message is: p a r e n t f s b e a k y n n i s a b a i k e h n f r a a

* * *

The question may be put: Did Francis Bacon write +SHAKE-SPEARES SONNETS+ and, when he published them in 1609, simply bootleg famous Shakespeare's name onto the title-page so they would sell better?

And what, if anything, did Francis Bacon have to do with the many earlier plays and poems labeled "Shakespeare" which had been printed as quartos, or even with the plays that had been published anonymously, only later to appear as a part of the First Folio edition published in 1623? Good questions indeed. I intend to answer them.

My exposition of the cryptographic methods employed by Francis Bacon in the Sonnet quarto has been lengthy. We have seen that he begins in a reasonable manner and shows us twenty-five ciphertext letters in a row. He is rather generous with his "tips" or clues. These have been our guides, our beacons for decryption. Later, perhaps in fear of being found out, he switches to a different, specific underlying (+4) system while preserving the general one. At the same time he begins to divide his cryptogram into sections; he depends upon the cryptanalyst to find the clues and limits and probable words. By doing so, he has not shown his intention to write his cryptogram on an unsolvable "one-time pad," but to offer instruction.

What we have studied is a primer, a textbook preserved upon the first two pages of the Sonnets. We have taken a few notes so as to be ready for the next exercise, whether it be in cryptanalysis or simple decipherment. We have the general system in hand: the +4 ("A" = "e") line of the Caesar, and the keyed 21 letter alphabet; we should now be prepared for more perplexing puzzles.

Of Bacon's description of ciphers, there is a much earlier version than Gilbert Wats' 1640 translation of +The Advancement and Proficiency of Learning+. This is Bacon's own +Of the Advancement of Learning+ which was published in English in 1605; it contains (on unnumbered page 60) the following paragraph:

For CYPHARS; they are commonly in Letters or Alphabets, but may bee in Wordes. +The Kindes of CYPHARS, (besides the SIMPLE CYPHARS with Changes, and intermixtures of NVLLES, and NONSIGNIFICANTS) are many, according to the Nature or Rule of the infoundlanding: WHEELCYPHARS, KAY-CYPHARS, DOVBLES, &c. But the vertues of them, whereby they are to be preferred, are three; that they be not laborious to write and reade; that they be impossible to discypher; and in some cases, that they be without suspition. The highest Degree whereof, is to write OMNIA PER OMNIA; which is vndoubtedly possible, with a proportion Quintuple at most, of the writing infoundlanding, to the writing infoundlanded, and no other restraunte whatsoever. This Arte of +Cyphering+, hath for Relatiue, an Art of +Discyphering+; by supposition vnprofitable; but, as things are, of great vse. For suppose that +Cyphars+ were well managed, there bee Multitudes of them which exclude the +Discypherer+. But in regarde of the rawnesse and vnskilfulnesse of the handes, through which they passe, the greatest Matters, are many times carryed in the weakest +CYPHARS+.

So, according to Francis Bacon, "changes" are permissible in cryptography, as are doubles, nulls and non-significant letters. The cipher I have demonstrated may not be easy to follow and the roadway branches from detour to detour, but if we remain alert the highway signs and compass directions are there to be read.

Let us stop for a moment to consider the various ways that Francis's ciphered name has been spelled: Bacon, Bekaan, Beakynn and Baikehn. When the name of a person or place must often be included in ciphered messages it is standard cryptographic procedure to vary the spelling and to insert doubles or nulls. Otherwise the repetition of groups of the same required ciphertext letters (so as to spell "Bacon" in plaintext six times) would supply an obvious clue for the decipherment of those particular characters, especially when a "probable word" is already available. This variation is another strategy that, both modernly and anciently, has been used to discourage cryptanalysis.

One more comment by Francis Bacon may be appropriate: "I am in

good hope that if the first reading move an objection, the second reading will make an answer."

Following is the complete Sonnet title-page and dedication:
(Read lower case plaintext letters down; read upper case up.)

A O
SHAKE-SPEARES
A O
SONNETS.
R n F N y
Neuer before Imprinted.
p H i
AT LONDON
r c y p p E
By G. +Eld+ for +T.T+. and are
to be solde by +William Aspley+.
sb e
1609.
k
k a a n b
TO.THE.ONLIE.BEGETTER.OF.
a c I o
THESE.INSVING.SONNETS.
n p Aa
Mr.W.H. ALL.HAPPINESSE.
r e Bn
AND.THAT.ETERNITIE.
t A
PROMISED.
f
BY.
s S
OVR.EVER-LIVING.POET.
I
WISHETH.
b N
THE.WELL-WISHING.
e
ADVENTVRER.IN.
a N
SETTING.
k Y
FORTH.

The short Preface of the publishers, "Heminge" and "Condell," to the 1623 Shakespeare Folio contains two peculiar references to "numbers." It begins: "From the most able, to him that can but spell. There you are number'd." In the second paragraph, while boasting of their editing skills, they say that the plays "are now offer'd to your view cur'd, and perfect of their limbes; and all the rest, absolute in their numbers, as he conceived the."

There is an obsolete meaning of the word "number"; it could refer to a line or verse of poetry. With this ambiguity the word might significantly be worked into a text. Shakespeare's works are replete with plain references to numbers in the arithmetical sense, and so much so as to have caused repeated scholarly comment. No good explanation has been suggested for this abundance.

But now, by means of these numbers, these signals that we have observed, these instructions that we have understood, we have at last learned how to spell. Francis Bacon once wrote, "The Glory of God is to conceal a thing. . . as if the Divine Majesty took delight to hide his works." Bacon had counseled very powerful inductive ways to discover the secrets of the Almighty, and he sometimes took great pains to conceal his own.

At the end of this same Preface we find the following:

. . .for his wit can no more lie hid, then it could be lost. Reade him, therefore; and againe, and againe: And if then you do not like him, surely you are in some manifest danger, not to vnderstand him. And so we leave you to other of his Friends, whom if you need, can bee your

guides: if you neede them not, you can leade your selues, and others.
And such Readers we wish him.

John Heminge.
Henrie Condell.

The numbers have indeed become "other of his Friends" for which we had need and they have been our guides.

The same publishers signed the Dedication to the 1623 Folio Edition of Shakespeare's plays; it appears on the sixth unnumbered page. Included, in part, are these words:

. . .But since your L. L. have beene pleas'd to think these trifles something, heeretofore; and have prosequuted both them, and their Authour living, with so much fauour: we hope, that (they out-liuing him, and he not having the fate, common with some, to be exequutor to his owne writings) you will use the like indulgence toward them, you have done unto their +parent+. . . (emphasis supplied).

The last time we particularly noticed that last word (parent) was because of its appearance as part of Bacon's cipher message in the Sonnets: ". . .Cypphrs Bekaan Bacon +parent+ Fs. Beakynn is (a) Baikehn Fraa." Even in the opentext of the Sonnet Dedication (TO. THE. ONLIE. BEGETTER. . .) the reference is clear. "Beget" is an Old English word going back to Chaucer (1386): "Melibeus. . .bigat vp on his wyf. . .a doghter." In 1588 Shakespeare used it in a more figurative sense in the quarto of +Loves Labours lost+ (ii, 1): "His eye begets occasion for his wit."

And, in the Folio, Ben Jonson's laudatory poem stresses the same theme. Speaking of the plays he writes: ". . .Looke how the father's face Lives in his issue. . ."

Francis Bacon was remarkably frank about his literary habits. At one place in his recognized works he declares, "In that which I now publish, and in that which I plan for the future, I often consciously and purposely, cast aside the dignity of my genius and of my name (if such things be), while I serve the welfare of mankind."

In 1621, when he retired from public life, he wrote in a letter to Count Gondomar:

Now indeed both my age, the state of my fortune, and also that my genius, which I have hitherto so parsimoniously satisfied, call me, as I depart from the +Theatre+ of Public Affairs, to devote myself to letters; to marshal the Intellectual +Actors+ of the present, and to help those of future time. Perchance that will be my honour; and I may pass the remainder of my life as if in the vestibule of a better one. [emphasis supplied.]

Then, with his friend Ben Jonson, he returned to his manor house near St. Albans to edit for publication the 1623 edition of the collected plays of William Shakespeare.

* * *

Hercules, on his mythical way west to the Kingdom of Geryon, is supposed to have planted two enormous rocks (named by the Greeks Calpe and Abyla) on each side of the Atlantic entrance to the Mediterranean Sea at the Straits of Gibraltar. Later the Romans pictured these monuments as two classical pillars bearing the inscription, "ne plus ultra"; that phrase was meant as a sailor's warning that there was "no more beyond." These two Pillars of Hercules can be found as frontispieces which adorn several of Bacon's books. In one of them there is shown a three-masted ship with sails rigged in English fashion; it is framed between the Pillars while sailing bravely "beyond." In the same way did Francis Bacon sail, quietly and fancifully in a falsely registered vessel, beyond to a future of applied science where he could truly "serve the welfare of mankind."

Corroboration.

+My old bones akes : here's a maze trod indeede
Through fowrth rights,&Meanders: by your patience,
I needes must rest me+.

Chapter 13

In the first chapter of this book I promised to show that the name of the real author of the First Folio of Shakespeare's Plays is concealed in the first spoken word. It stands alone as the+first+word of dialogue on the+first+page of the+first+printing of the+first+play in the First Folio, the 1623 first edition of Shakespeare's collected+Comedies Histories and Tragedies+. It is a solitary word distinguished by its primal detachment. A cipher method based upon whole words, rather than designated letters, presents itself.

"The Tempest," as recorded in the First Folio, is the sole authority for the language and printing of that fanciful drama. It was never printed in quarto; however a play of the same name (but not necessarily of the same text) was presented in King James' Court on November 1, 1611. It is, according to the critics, neither a comedy, a history nor a tragedy, although it is printed as the first of Shakespeare's comedies. We will recall that there are twenty plays in the Folio which were not published during William Shakespeare's lifetime, and this is one of them. It is now regarded as a romance.

When "The Tempest" first saw the light of day in 1623, Shakespeare had been dead for seven years while Francis Bacon remained among the living until 1626. The play is considered by some scholars to be Shakespeare's finest work and very possibly his last. Because it appears as the first in the collection, the author seems likewise to have regarded it well.

The first word of dialogue in "The Tempest" is "Bote-swaine." The first letter, "B", is a great capital, the kind of large ornamental initial that heads the first page of almost all of the plays. The script, after some "scene setting" instructions which are printed in italics, gives the "Master" the first word to speak:

+Master+.

Bote-swaine.

+Botes+. Heere Master: what cheere?

+Mast+. Good: Speake to th'Mariners: fall too't, yarely, or we run our selves a ground, bestirre, bestirre.

+Exit+.

And so on. A "Bote-swaine" (a "bosun" in modern navies) was a petty officer charged with the operation of the ship's rigging, sails and other seagoing paraphernalia. The word appears several times on later pages in the play but it is not typeset again as "Bote-swaine," as we find it several times on page one. These are all of the spellings as shown in "The Tempest":

(i, 1, 1, first page): "+Boteswaine+, Bote-swaine, Boteswaine, +Boteswaine, Boson+", and ten times abbreviated as "+Botes+."; (afterward, ii, 2, 48): "+Boate-swaine+"; (v, 1, 99): "Boat-swaine"; (v, 1, 224): "+Boatswaine+", twice abbreviated "+Bot+."; Names of the Actors (last page): "+Boate-Swaine+"/>.

To apply the Caesar decryption here we must remember that the letter "w" is not included in our key alphabet but it was often typeset as "vv" in the Folio and in the +Sonnets+. We shall install "BOTESVVAIN" as the ciphertext and run our computer program:

```

B O T E S V V A I N E
C P V F T Y Y B K O F 1
D Q Y G V A A C L P G 2
E R A H Y B B D M Q H 3
+F S B I A C C E N+R I 4
```

The plaintext, then, is "f s b i a c c e n r i". It appears on the "FORTH." (+4) line in which "A" = "e". Bacon's 21 letter alphabet, ending in "T v Y", remains the same. "fs" is Bacon's own abbreviation of his first name while "biaccen" is yet another phonetic spelling of his surname. For those who still resist such imaginative orthographies I must refer them to R. A. Haldane, +The Hidden world+, St. Martin's Press, New York 1976. In a discussion of thirteenth century Italian cryptography, he writes:

A contemporary of [Leon Battista] Alberti was Cicco Simonetta of Parma, a cryptanalyst of the Sforza at the Court of Milan. In 1474 he produced a practical guide to the use of ciphers, setting out certain rules of procedure for the benefit of contemporary diplomatic agents. It was entitled +Liber Sifrorum+ and included frequency tables. The defences against the cryptanalyst which Simonetta recommended were two: the insertion of an occasional code sign [as Trithemius suggested a few decades later] and the suppression of frequencies in simple substitution ciphers, that is, representing the commoner letters by alternates (several letters or symbols), providing a choice of equivalents. Since the constancy of letter frequencies alone makes cryptanalysis possible, Simonetta's contribution to the advance of cryptography was a notable one. That his teaching was taken to heart is evident from what we are told by Aloys Meister who states that, during the fifteenth century, Italian cryptography had been elaborated to the point where from three to six alternates could be used to represent a letter.

Thus during Elizabethan times, for the spelling of "Bacon" in deciphered plaintext, conceivably almost any vowel or combination of vowels including "y" might be substituted for the "a" and the "o" in Bacon's name, and a "k" might be substituted for the "c". Although the principal purpose of this scheme was to defeat cryptanalysis, the form of the ciphertext often demanded that such substitutions be made to accommodate the plaintext readout. "Bote-swaine" is a good example.

H. N. Gibson\1\ was no friend to those claiming Shakespeare's works for Bacon. Nevertheless, while cheerfully explaining why the authenticated signatures of William Shakespeare were all spelled differently, he contributed this agreeable footnote (p. 32): "The variations in spelling, of course, are in accordance with the free and easy custom of the time and have no significance."

Francis Bacon himself was not particular about the cacography of his own last name. James Spedding\2\ transcribes a "Letter of Attorney" drawn in legal form by Bacon (London, Lambeth Library MSS. 653, folio 113). The original was written with his own quill and was prepared for the signature of his brother Anthony Bacon. In it, Francis spelled his brother's name "Anth. Bakon." Walter Begbie (+Is it Shakespeare?+, p. 284, John Murray, London 1903) quotes a poem found among Anthony Bacon's papers in the same library. It was written in French to Francis, about 1595, by Jean de la Jessee, secretary to the Duke of Anjou who was once a suitor of Queen Elizabeth. It expresses esteem for Francis Bacon in the form of a sonnet and two lines are interesting: +Donc (Baccon) s'il advient que ma Muse l'on vante / Ce n'est pas qu'elle soit ou diserte, ou scavante+. Thus we find variants of this surname, and in addition:

The Oxford English Dictionary makes note of some acceptable spelling of "bacon," from Chaucer into the Seventeenth Century: +bacoun, bakoun, bacun, bakon, baken, bacon."+

It is worthy of notice that the Bacon family in early times spelt their name "Becon" or "Beacon." Some of them seem to have written under this name, and there is a work by Thomas Becon, 1563-4 in which, on the title page of the second volume, his name changes from "Becon" to "Beacon." (Mrs. Henry Pott, +Francis Bacon and his Secret Society,+ p. 341.)

Bacon sometimes signed his given name as "Fra:" but more often as "Fs". This abbreviation has too frequently been misread as "Fr", and once even by a former curator of manuscripts (Giles E. Dawson) at the Folger Shakespeare Library in Washington, D. C. He transcribed a document having the signature "Fs st Alban" as "Fr St Alban", although each manuscript "s" was in identical lowercase script. For representative drawings of the various forms of lowercase Elizabethan "secretary" script letters, see pp. 11 and 187-9, Charleton Hamilton, +In Search of Shakespeare+, Harcourt Brace Jovanovich, New York 1985.

The late Anthony G. Petti\3\ made the same error but got a better handle on Bacon's handwriting. On p. 98 of his book he shows a photocopy of a Bacon letter dated 1604. His analysis is that in Bacon's habitual "secretary" hand he used three forms of the letter "r". Yet ordinarily when Bacon signed his name he used a mixed italic style which does not correspond to the handwriting in the body of his letters. For the "s" in "Fs", and

also for the "s" in "st Alban", he drew what looks exactly like a lowercase "s" in "running hand" script, much like an inverted "l" in modern handwriting. I have found facsimiles of his letters which he signed as "Fs Bacon" on July 30, 1593, on Aug. 19, 1595, on Jan. 22, 1597 and on Sept. 8, 1604. "Fs" is not an unusual abbreviation for "Francis"; neither is "wm" for "William," "Hy" for "Henry" nor "Mr" for "Mister" ("Master" in the 17th Century); in all of them the first and last letters are employed.

In 1618 when Bacon became Baron Verulam, he sometimes signed his name as "Fr Verulam", but in 1621 and afterward, when he was made Viscount St. Alban, he signed as "Fs st Alban". In making the "Fr Verulam" signature he wrote both of the "r"s alike; those letters are clearly distinguishable from the identical "s"s he drew when signing as: "Fs st Alban".

The left-over "ri" after Francis Bacon's deciphered name may offend some purists; to them I will say once more that both Bacon and Trithemius urged the use of nulls in cryptography. It is not easy to encipher a name in this system without arousing suspicion. And it seems obvious that, in order to force into one ciphertext word a particular name, a few letters of the decrypted plaintext may, by necessity, become surplusage. Yet if the final two letters were put there by design, perhaps "ri" stands for "rex ipse," a common, idiomatic and emphatic, Latin expression for "he himself."

The Friedmans in "The Shakespearean Ciphers Examined", (supra) show as a practical example how convoluted a cipher clerk's plaintext may appear to him. In discussing a ciphertext published in some recent book of cryptographic puzzles, they quote the plaintext solution: "Jmoud vag, Mhowgipsy, stalk mohr nth time. Mpongwe gunboy aims nickt khnum. Unfed, knab, jhum, ngapi." This is, they say, the correct answer and these are words easily to be found in an unabridged English dictionary. They offer one reassuring comment: "If all messages had texts of this kind, all cryptologists would be in the madhouse by now. . ."

"Ambiguity" is anathema to the Friedmans, yet they acknowledge that changing a secondary key on a given signal is a lawful procedure; this remains the practice in relatively modern systems. They remark, "If one always used the same key, it would be easily discovered; if one alternated it with another, discovery would be harder; and so on. . . Occasional errors may lead to minor differences in the solutions offered by different cryptanalysts working independently. . . but the validity of the rest of the text is not affected by a few doubtful letters."

In criticizing a cryptanalysis of the lettering on Shakespeare's gravestone attempted by Ib Melchior in 1954, the Friedmans say, ". . . a short message of this kind, using two alphabets, cannot be solved with absolute certainty. One would require external corroboration of the validity of the decipherment, such as the finding of other messages which could be deciphered by the same method. . ." (emphasis supplied).

If my demonstration of Bacon's cipher structure has not been validated often enough, "corroboration" has again been shown in this word, "Bote-swaine," and in its cipher solution. Now we shall also witness a remarkable corroboration of Bacon's devious way of signaling the presence of his enciphered name, and in this very word.

"One does not put something in a secret hiding-place and then put up a sign saying 'Notice: Secret hiding-place'," as the Friedmans once wrote. However, Bacon (and his teacher Trithemius) did not subscribe to this view. For instance, two different versions were typeset and printed as the first page of "The Tempest" in the First Folio. In both of them "Bote-swaine" appears as the first word, but something noteworthy happened to one of the initial great capital "B"s (preceding "ote-swaine") on at least one of this play's journeys to the press.

In 1963, after fifteen years of labor at the Folger Shakespeare Library in Washington, D.C., Charleton Hinman published a two volume bibliography of the First Folio. This was an expert's study of the typesetting, proof-reading, spelling, ruling and composition of the book. Two of Hinman's photographic illustrations were taken from the first page of "The Tempest." One (Folger copy no. 24) shows the large ornamental initial "B" in "Bote-swaine" to have been, by accident or design, imprinted upside down.

Hinman theorized that this conspicuous error must have immediately been seen and corrected by Jaggard the printer, thereby implying that the Folger copy 24 was unique; nonetheless this aberrant first page of "The Tempest" was printed and bound into one of the seventy-nine copies of the Folio owned by the Folger, although it was a proof. An earlier expert, W. W. Greg, thought that one thousand volumes were printed while Hinman estimated the size of the issue to be twelve hundred. Consequently the

latter's speculation about the singularity of copy number 24 is open to considerable doubt. Hinman examined only the seventy-nine Folger copies plus two other examples that had been reprinted in facsimile by Sidney Lee and by Yale University, the total being only 6.75% of his estimate of the whole issue. Sidney Lee believed that only one hundred and eighty reasonably complete examples of the First Folio have survived, so the frequency of incidence of the inverted "B" variants on the first page of "The Tempest" may never be known. It may have appeared in several copies.

Hinman also pointed out that the "signature" capital letter, which appears as an "A" on most of the Folio recto pages, was mistakenly printed as a "B" on the first page of copy No. 24. These letters were used by the men in Jaggard's "machine room" to identify the proper order of the pages while collating a quire of paper. The "B" should have been an "A" to indicate folio page A1. This particular back-room bungle appears in five of the Folger Folios. The very same error appears in at least three existing copies of +SHAKE-SPEARES SONNETS:+ at the bottom of the first (recto) page of verses is the capital letter "B". There is no "signature" "A" in the book. Francis Fearon, writing in the Journal of the Bacon Society, (I, 57, 1887) said, "In 1623, Bacon writes to Sir Tobie Mattheu about putting the 'alphabet in a frame'; if this was their cipher, the frame was the 1623 Folio. Such enigmatical talk between two friends is evidence that they were both interested in some secret which they would not openly refer to." Printers then locked up their type in a "frame" and old-fashioned ones still do.

We should keep in mind the typographical oddities that adorned the Dedication of +SHAKE-SPEARES SONNETS+, the decimal points (or periods or full stops, if you will). Like pointers, these signals attracted our attention to that page so as to merit a suspicion that a cipher was concealed in the text. Here again in "The Tempest" such an absurd, capsized great capital "B" deserves the same respect; the use of such signals is confirmed by the discovery that Francis Bacon's ciphered name is to be found, and is entirely contained, within that word "Bote-swaine." It is the word that begins with this freakishly printed letter "B".

There has been some discussion in this treatise of the application of mathematics to the probability that Francis Bacon's name, and his own guarded signals and brief instructions, have been intentionally inserted into the first few pages of the +Sonnets+ and of the Folio. I must confess that statistical guesses are beyond my field. But I have my own elementary guide to the chance intrusion of "Bote-swaine," deciphered as "fsbiaccenri," at the outset of the very lengthy text of Shakespeare's collection of the plays. There are, according to my rough extrapolated count, almost 900,000 words in Shakespeare's Folio of 1623. What are the odds, against one, that the very first word of dialogue printed in this book of thirty-six plays should contain (in restored plaintext) the name of the author--the name of the man that has so often appeared as the solution to our previous cipher problems? I leave the answer to the reader.

To mathematicians, with expertise in the statistics of cryptanalysis, I leave these ten characters to conjure with; the odds against may be 21 to the 10th power (1 +trillion,+ 668 +million)+ to one that they should occur as the letters of the initial spoken word in the First Folio of 1623.

It is amusing to contemplate in our imaginations the scene as the curtain rises for the first act of a faithful production of "The Tempest." According to Shakespeare's own stage directions, "+A tempestuous noise of Thunder and Lightning heard: Enter a Ship-master and a Boteswaine+."

What is the first word that the "Master" shouts above the din?

Not really "Bote-swaine," +but the name of the author, Francis Bacon+ --that extraordinary man of astonishing equivocity, that man who could never pass by a jest.

* * *

The exact form of the inscription on Shakespeare's gravestone, which lies flat on the floor in Holy Trinity Church in Stratford, has been the subject of some controversy.

In 1656 Sir William Dugdale published +The Antiquities of Warwickshire+; included was an engraving showing the lettering on the stone as he, or someone in his employ, had recorded it:

Good freind for Iesus sake forbeare
To digg the dust inclosed here
Blest be the man that spares these stones

And curst be he that moues my bones

The poem itself is a source of embarrassment to most conventional scholars because, according to an ancient rumor often granted credence by literary historians, it was authored by the Bard himself. This verse can only be characterized as four lines of doggerel ostensibly composed to cast a mighty curse on sextons tempted to disturb his sacred remains. The poet has been excused for this vulgarity in the footnotes of knowing writers; they advise us that within this church, behind a door just to the left of his monument and then below stairs, was a vast charnel-house to which the bones of slumbering forgettables were often hastily removed.

The verse on Shakespeare's grave marker has been curiously provocative. M. H. Spielmann, writing in the *Studies* (supra), tells us that there was agitation in the 1880's to exhume the poet's body. By then much doubt had been cast upon the image depicted by Droeshout in the First Folio engraving and the art critics wanted to find out what the poet really looked like. "And yet," wrote Spielmann sympathetically, "the proposal was not by any means a novel one." King Edward I, Schiller, Charles I and others had all been disinterred and found to be in a fine state of preservation, especially when the soil was damp as it is around Stratford. But because of the curse on "He that moves my bones," willing sextons were impossible to find. Then someone suggested, ingeniously, that women should undertake the task, but still no volunteers came forward. In this Stratford church wives were often buried with their husbands but Shakespeare's daughters feared the imprecation and buried their mother a respectful distance away.

It will be worthwhile for us to step back and regard carefully all of the words on this mortuary stone. A thoughtful glance should make us morbidly skeptical because the famous name of the deceased has been omitted. Nevertheless, we may be reassured by the experts who tell us that the inscription perfectly resembles Shakespeare's jingling style when warning away bone-foragers.

T. D. Bokenham, writing in *Baconiana* in 1968, discusses an early alteration of the Shakespeare monument in the Stratford Holy Trinity Church. About 1749 "repairs" were made to the bust and apparently the other statuary surrounding it. The present wall-mounted monument hardly resembles the one depicted by Dugdale in 1656 or that published by Nicholas Rowe in 1709; however critics have questioned Dugdale's accuracy in drawing other monuments and it has been suggested that Rowe copied from him. (No one has yet dared to claim that these engravings were humorously intended as cartoons of the famous malt-dealer, clutching a bag of that commodity to his groin). Rowland Lewis in 1941 published an exhaustive survey of the history of this tomb and monument. He describes at length four later (post 1709) transcribed versions of the gravestone. These differ from one another in minor respects, and seem to reflect the transcribers' own preferences for capitalization of both verbs and nouns. Lewis' documentation suggests that some of them were drawn from memory and these contain obvious mistakes, such as changing the first two words to "Reader." Lewis even supplies an all-too-forgivable error of his own to his transcription of the 1656 Dugdale lettering: he adds an extra "e" to "he" in the last line. Lewis quotes James Halliwell-Phillips:

The latter gravestone had, by the middle of the last century [1750] sunk below the level of the floor, and, about ninety years ago, had become so much decayed as to suggest a vandalic order for its removal, and, in its stead, to place a new slab, one which marks certainly the locality of Shakespeare's grave. . .

Thus Halliwell-Phillips does not declare that the gravestone was replaced; he thinks that it may have "become so much decayed" that it should have been supplanted, but not necessarily that it was. No proof of such a replacement exists. Lewis also presents a photocopy of a plumbago rubbing of the present inscription which reads:

GOOD FRENDE FOR IESVS SAKE FORBEARE,
TO DIGG THE DVST ENCLOSED HEARE!
BLESE BE Y MAN Y SPARES THES STONES,
AND CVRST BE HE Y MOVES MY BONES.

The rubbing itself shows that some of the letters are joined; these are the "T" and "H" in "THE" and in the same way in "THES". It is possible that the stone shows a "T" joined to the last "E" in "Blese," which would convert the word to "Bleste". Dugdale shows this as "Blest". However these features are not relevant to a cryptanalysis of the text.

Lewis also quotes the inscription as recorded by a Rev. Joseph Greene, Master of the Stratford Grammar School in 1748. This agrees with the current epitaph except that other words are unnecessarily capitalized. Greene is quoted as writing that everything was left nearly as it had been after the restoration had been completed.

Samuel Ireland used even more imagination when he published +Picturesque Views on the Upper, or Warwickshire, Avon+ in 1795 and engraved his version of the stone. He was the father of the infamous teen-age forger of Shakespeare autographs, documents and plays, William Henry Ireland. Among other odd variations in Samuel's representation of the gravestone he substituted lower-case letters for most of the small capitals, thus indicating that he probably copied in part from Dugdale's engraving. In a novel (+The Tombstone Cipher+, Ib Melchior, Bantam Books, New York 1983) the author includes a drawing of his own version of the inscription. He says that the tombstone was recarved in 1831 and "somewhat changed." He offers a drawing similar to the typographical version shown by Samuel Ireland in 1795, but with the two "g"s in "digg" raised to be tall upper-case letters. Perhaps he never saw the Ireland engraving and was not aware that it preexisted the changes that he thought were made in 1831.

Rowland Lewis does not completely accept the transcriptions as published by Dugdale in 1656 and by Rowe in 1709 because they contain neither the abbreviated carvings for "the" and "that" nor the several connected letters. Dugdale spelled out all such words, but to do so does not for cryptanalysis impair the existing text. Lewis notes that the present gravestone's inscription was not as professionally cut as it was on the nearby monument. It may have been made by an amateur's hand while using a blunt tool, as he suggests.

But in 1941 Rowland Lewis reached the following final conclusion (Vol. 2, p. 529):

It is reasonably certain that the present inscription is the original one--and this despite the fact that in 1619, in 1649 and in 1748 the cancel or the monument received some attention because of its "ruinous" condition.

In cryptanalyzing texts with which Shakespeare is connected we have learned to look for peculiarities. Here are the unabbreviated lines of the poem as now existing; they agree generally with Dugdale's 1656 version, and particularly with the indentation of the second line:

Good frend for Iesvs sake forbeare,
to digg the dvst enclosed heare!
Blese be the man that spares thes stones,
and cvrst be he that moves my bones.

First we notice that there are three capitalized words: "Good," "Iesvs" and "Blese". Interposed is the initial word "to" in the second line; it does not begin with a capital, but this is the only word and line that is indented and that line ends with an exclamation point. The obvious accent is on these four words, +"Good Iesvs to Blese."+ Let us string them together and write them into the first, the ciphertext line of our computer program:

```
G O O D I E S V S T O B L E S E  
H P P E K F T Y T V P C M F T F 1  
I Q Q F L G V A V Y Q D N G V G 2  
K R R G M H Y B Y A R E O H Y H 3  
L S S H N I A C A B S F P I A I 4
```

We should have found our plaintext on the last, the "+4," the "FORTH." line of this Caesar printout, but we can only view it with dismay. That line doesn't look much better than lines 1, 2 or 3, while we were hoping for a readable cipher solution on the fourth. Yet Francis Bacon had more than one way of skinning a departed thespian. His facility in steganography and in superencipherment is to be demonstrated again. Bacon's

last step in composing this terminal cryptogram was to employ the oldest trick in the business. He simply reversed the ciphertext letters. Here is the readout which results from doing so:

```
E S E L B O T S V S E I D O O G
F T F M C P V T Y T F K E P P H 1
G V G N D Q Y V A V G L F Q Q I 2
H Y H O E R A Y B Y H M G R R K 3
I A I P F S B A C A I N H S S L 4
```

Yes, there are a number of nulls. But no, we are not disappointed in our search for the author's name. "There he goes again," as political candidates have been known to say. The plaintext for the author's name is:

f s b a c a i n

Once more we find both of his names represented on the "FORTH." line, the one in which "A" = "e". We have used again his truncated 21 letter alphabet. Bacon has again abbreviated "Francis" as "fs," as he often signed it.

I am sorely tempted to further decipher the two letters following this name. "H.S." is a Latin inscription often found on Roman and later tombs; it is an abbreviation of "Hic Sepultus [Est]," meaning "in this place is buried. . ." Not Francis Bacon himself, we may suspect, but is it possible that a few of his telltale relics lie interred seventeen feet below? That is the level where Shakespeare is supposed to be buried if we are to countenance another gravely-regarded local legend. The four letters just preceding Bacon's name I humbly offer to the reader's own daring imagination.

* * *

Bacon's secondary cipher methods were singular; rarely did they duplicate and they were contrived with extreme subtlety. This is especially true of his signals, his devices to attract attention to a particular set of ciphertext letters.

A long, long time ago I noticed the multiple references to numbers in the Sonnets. Because ciphers involve arithmetic I made a search for unusual occurrences of such digits in the verses. Sonnet 11 contains a remarkable fortuity: the sixtieth word is "threescore." The sixtieth before that is "to." The sixtieth after "threescore" is "count." Four more words follow in the same way; I shall leave it to the reader to find them. Francis Bacon's practices, in arousing curiosity and goading his students on, remains as a useful educational expedient. The only words we require now are +to threescore count+.

Count what? The pages in Shakespeare's book of sonnets were not numbered, but the verses were. It dawned on me to look forward to Sonnet 60 and see what might happen after that.

Each of the Sonnets begins with a great capital, the first letter of the first word. The six great capitals which follow Sonnet 60 are: "I S A V V S T". Reversing their order and taking the same corresponding fourth letter forward in Bacon's Caesar system we read:

```
T S V V A S I
V T Y Y B T K 1
Y V A A C V L 2
A Y B B D Y M 3
B A C C E A N 4
```

* * *

At the end of "The Tragedie of Cymbeline," the last play in Shakespeare's 1623 First Folio, the very last page is misnumbered as 993. The page before that is 398. These typographical errors, the numbers nine, nine, three, total 21 and had this page been properly numbered as 399 (993 reversed) the total would have been the same. This happens to be the number of the letters in our key cipher alphabet and it is for errors of this kind that we have learned to be watchful. The page number should have been 389, not 399, because by error the page following 378 was numbered 389 and the series continued. Two consecutive printer's mistakes like this should try our patience, except that we have become wary, or even fond, of

them.

At the end of "Cymbeline," at the end of this book there is printed a ruler line, then "FINIS", a ruler line, a printer's ornament, another ruler line and lastly the colophon. The colophon reads like this:

Printed at the Charges of W.Jaggard,Ed.Blount,I.Smithweeke,
and W.Aspley, 1623.

Previously Francis Bacon had enciphered his name in the first dialogue word of the first play in the 1623 Folio, "The Tempest," as "Boteswaine." Because of this we might suspect that he would be tempted to sign his name at the end of this volume, at the end of this last play, at the bottom of this, the last page of the Folio.

Upon this colophon I began a cryptographic experiment using only the first letter of each capitalized word or capitalized initial. Here is the computer printout with the possible ciphertext letters entered on the first line ("w" = "VV"):

```
P C V V I E B I S V V A
Q D Y Y K F C I T Y Y B 1
R E A A L G D L V A A C 2
S F B B M H E M Y B B D 3
T G C C N I F N A C C E 4
```

Line 4 of this Caesar solution was not encouraging so I again tried reversing the ciphertext letters:

```
A V V S I B E I V V C P
B Y Y T K C F K Y Y D Q 1
C A A V L D G L A A E R 2
D B B Y M E H M B B F S 3
E C C A N F I N C C G T 4
```

Line 4 of the reversed, plaintext readout now looked a little better but Bacon seemed to have forgotten to include the first letter of his name. There were no letters in the ciphertext after "W. Aspley", only the numbers "1623." If he had intended to add his signature to this book it appeared to me that he had forgotten the critical ciphertext letter for "b"; a "T" was needed. The numbers "1623" were just numbers and did not seem to be helpful in this case.

About this time my daughter came home for a visit. She is a trial lawyer in an eastern city and deserves to have her name put here in this book: Shawn Pennell Leary (now Shawn Considine).

Though I had decided that there was no answer to this new cipher problem, and told her so, I explained it and showed her how to run the computer program. She punched the keys and frowned for a while and then proudly announced the solution. She was not dismayed by the numbers; after all, she observed, we do not in conversation speak of numbers in Arabic symbols but in familiar words. Such figures are actually ideograms which must be translated into the language of the particular writer. Her fresh imagination had converted the arithmetical characters in the date to English words in this manner:

Printed at the Charges of W.Jaggard,Ed.Blount,I.Smithweeke,
and W.Aspley, Sixteen Twenty-three.

Then she ran the computer program, using again the first letters of all the capitalized words and initials of the names, +and+ the initial letters of the words in the newly Anglicized date. It read as follows:

```
P C V V I E B I S V V A S T
Q D Y Y K F C K T Y Y B T V 1
R E A A L G D L V A A C V Y 2
S F B B M H E M Y B B D Y A 3
T G C C N I F N A C C E A B 4
```

Reversing the ciphertext letters, as we have done before, we find the plaintext on the fourth line:

```
T S A V V S I B E I V V C P
```

V T B Y Y T K C F K Y Y D Q 1
 Y V C A A V L D G L A A E R 2
 A Y D B B Y M E H M B B F S 3
 +B A E C C A N F I N+C C G T 4

This conversion of numbers to letters may displease some critics but they must be reminded that Bacon openly did the opposite. When he dated a letter on October 18, 1623 he wrote "18 of 8 bre 1623." This was written at about the same time that the First Folio press run was, according to Charleton Hinman, being completed.

Thus at the conclusion of Shakespeare's First Folio Francis Bacon, who had lived for two years in France, wrote his name again as "baeccan" and followed it by the letters "fin". "fin" is a word that often appears at the end of books written in the French language. It compares to the Latin word "FINIS" which is printed at the end of this last play, "Cymbeline." The meaning, of course, is "The End."

* * *

I have often wondered whether someone other than Francis Bacon had a working knowledge of his cipher methods and was so bold as to include that name in one of his own writings. Consider this verse by William Basse:

+On Mr. Wm. Shakespeare
 he dyed in Aprill 1616+.

Renowned Spencer, lye a thought more nye
 To learned Chaucer, and rare Beaumont lye
 A little neerer Spenser to make roome
 For Shakespeare in your threefold fowerfold Tombe.
 To lodge all fowre in one bed make a shift
 Vntill Doomesdaye, for hardly will a fift
 Betwixt this day and that by Fate be slayne
 For whom your Curtaines may be drawn againe.
 If your precedency in death doth barre
 A fourth place in your sacred sepulcher,
 Vnder this carued marble of thine owne
 Sleepe rare Tragoedian Shakespeare, sleep alone.
 Thy vnmolested peace, vnshared Caue,
 Possesse as Lord not Tenant of thy Graue,
 That vnto us and others it may be
 Honor hereafter to be layde by thee.

This poem, as quoted by Sir Edmund Chambers, is to be found as Lansdowne MS. 777, f. 67v, and was written at some time between 1616 and 1623. Basse (c. 1583-1653) was an Oxford student and a retainer of Lord Wenman of Thame. Webster's Biographical Dictionary identifies him as an English poet, writer of +Sword and Buckler+ (1602) and best known for his +Epitaph on Shakespeare+ (as above transcribed); he is also remembered as the author of the +Angler's Song+ as quoted by Izaak Walton.

It now appears that William Basse dared to spell Bacon's name in his elegy for Shakespeare. We shall take the initial letters of each of the five capitalized words which just precede Shakespeare's name, in the twelfth line of Basse's poem, and enter them in reverse order as ciphertext letters:

T S V A I
 V T Y B K 1
 Y V A C L 2
 A Y B D M 3
 B A C E N 4

Basse's poem is redundant with interesting numbers such as, "For, fowerfold, fowre, For, fourth." Emphasis is made on this number by these five repetitions; here again are our signals and instructions and we find again Bacon's signature. This time it is shown as a vanguard of capital letters leading to Shakespeare's opentext name, and they spell once more an identification of the real author: "BACEN."

* * *

Bacon seems to have toyed with another cipher described by Trithemius. We will recall from an earlier chapter that Trithemius suggested a method in which every other letter of the words in a message were to be read. The words themselves were invented to suit the cipher. To avoid suspicion they had to be brought into the text as a conjurors incantation; otherwise they were meaningless. The first and last words were nulls and the plaintext gave the key for the decryption of a following cipher. Here is how Professor Shumaker illustrated it:

PAMERSIEL ANOYR MADRISEL EBRASOTHEAN ABRULGES
 ITRASBIEL NADRES ORMENU ITULES RABLON
 HAMORPHIEL.

Let us consider an italicized poem from "The Tempest" which begins on line 185, Act II, Scene ii. Caliban, "a savage and deformed slave" sings it "drunkenly":

+Cal. No more dams I'lle make for fish,
 Nor fetch in firing, at requiring,
 Nor scrape trenchering, nor wash dish,
 Ban'ban' Cacalyban
 Has a new Master, get a new Man+.

There is a purpose to this silliness, as we shall see. We will take all the capitalized words, beginning on the third line, and string them together:

N O R B A N B A N C A C A L Y B A N H A S M A S T E R M A N
 O P S C B O C B O D B D B M A C B O I B T N B T V F S N B O 1
 P Q T D C P D C P E C E C N B D C P K C V O C V Y G T O C P 2
 Q R V E D Q E D Q F D F D O C E D Q L D Y P D Y A H V P D Q 3
 R+S Y F E R+F E R G E G E P D F E R M E A Q E A B I Y Q E R 4

On the fourth line we find the word "syfer", and when we transcribe every other letter, beginning at the first, we read:

R Y E +F R E E D E M+ A E B Y E

"RYE" is not particularly helpful, but "FREEDEM" confirms the existence of this "syfer."

Surprisingly enough, the lines just after Caliban's song are as follows:

"Freedome,high-day,high-day,freedome,freedome high-day,freedome."
 Sing it again, Cal.

* * *

The discovery just described was not without inspiration. My son, Brian Leary, had read a rough draft of my manuscript and asked for representative title-page facsimiles of other books printed about the time that +SHAKE-SPEARES SONNETS+ were published. I sent him a few and one of them was from a 1609 book by "Francisci Baconi" which was written in Latin. It reads as follows:

FRANCISCI
 BACONI
 EQVITIS AVRATI
 PROCVRATORIS SE-
 CUNDI, JACOBI REGIS
 MAGNAE BRITANNIAE,
 DE SAPIENTIA
 VETERVM LIBER,

+Ad Inclytam Academiam
Cantabrigienfem+

The title is "De Sapiencia Veterum Liber," but that was printed seven lines down on the title-page. Just below the name of the author, printed entirely in capitals, is "EQVITIS AVRATI," alone on the third line. This phrase describes the author as a knight in golden armor. Such a claim deserves further inspection:

E Q V I T I S A V R A T I
F R Y K V K T B Y S B V K 1
G S A L Y L V C A T C Y L 2
H T B M A M Y D B V D A M 3
I V C N B N A E C Y E B N 4

Reversing the letters in line 4, we notice:

N+B E Y C E A N+B N C V I

Or, taking the original, unreversed line 4 and writing down every other letter, beginning with the first, the name becomes condensed:

I C B A C E N

Yes, Sir Francis, our golden knight, we see. And my own gladiator, Sir Brian, saw it first.

* * *

I wondered if Francis Bacon ever again registered his enciphered name upon the pages of his own acknowledged works. My second edition (1628) of his +SYLVA SYLVARVM+ seemed like a good place to look for it. Bound in at the end of this volume was his science-fiction essay entitled:

NEVV ATLANTIS.

A VVorke vnfinished.

VVritten by the Right Honourable, FRANCIS

+Lord Verulam, Viscount St. Alban+.

Below these words on the title-page is a very peculiar "emblem." Emblems and books of emblems were common at that time; these graphic allegories usually consisted of a drawing with a verse, motto or epigram attached. In this case the drawing shows an anthropomorphic, composite and naked figure. From the waist down this creature has the attributes of the Greek god Pan; like Pan, he has the shaggy short tail, legs and cloven hooves of a goat, but on his shoulders sprout wings. The head is human and aged; from the chin dangles a long beard. In his right hand he holds the scythe of Father Time and he straddles an hour-glass. He stands upon boulders in front of a cave which are jumbled in a pile; these must have previously blocked the entrance.

Emerging from the cave is an unclothed maiden wearing a crown of bays or laurels. Pan is assisting her; with his left hand he grips her left wrist. This circular emblem is surrounded by a Latin epigram which reads "OCCVLTA VERITAS. TEMPORE PATET". Between the second and third word are the initials "RS" with a scroll dividing them. The translation of the Latin is "Hidden truth comes to light by time."

The maiden must be "Echo," a nymph beloved by Pan in Greek mythology. For some reason she was dismembered by angry shepherds and her fragments buried, but forever after she could be heard singing underground and imitating the voices of other vocalists.

In mythology Pan had many characteristics. He was the son of Hermes (the messenger of the gods) and was worshipped by shepherds as representing the fertility of their flocks. He had the gift of prophecy and was known as an avenger of wrongs; near Athens there was a cave-shrine for him. In the middle ages he became the patron god of pastoral poets.

So here in Bacon's odd emblem we see the central figure of Pan conjoined with Father Time; he has wings because "time flies." ("Only I carry

winged time / Post on the lame feet of my rhyme": Pericles, IV, Gower, 47). He is righting a wrong by liberating from a cave the maiden Echo who also symbolizes, according to the first two words of the circumscribed epigram, hidden truth. Might this engraving, so densely filled with ideographic classical allusions, be another of Francis Bacon's place markers, another of his signals?

There is an apparently meaningless and unnecessary period after the first two words of the Latin maxim, a second obvious marker. "OCCULTA VERITAS.":? "Hidden truth"? Just one more time, let us re-translate these two Latin ciphertext words. They are found on the page opposite the last leaf of the Baron Verulam's book, his magnificent contribution to the experimental sciences, his thousand observations of Nature, his +SYLVA SYLVARVM+:

```
O C C V L T A V E R I T A S.
P D D Y M V B Y F S K V B T 1
Q E E A N Y C A G T L Y C V 2
R F F B O A D B H V M A D Y 3
S G G C P+B E C I Y N+B E A 4
```

Bacon finished +SYLVA SYLVARVM+ in 1624 and it is believed to be his last (avowed) work. In the hundred years following the first publication in 1627 it went through eleven editions. The +New Atlantis+ was properly bound in at the end because it was Bacon's fable of the future, the promised Utopia of his scientific philosophy where, on an uncharted island, men lived in peace. They were relieved of hunger and tormented physical labor through inventions made possible by scientific induction, experiment and discovery. Between these two works Bacon inserted this allegorical emblem of Pan-Time and around the edge he engraved in metaphor his signature:

B E C I Y N

Perhaps for the last time he whispered his name. Though his parts lie scattered and figuratively underground, we can yet hear the poet's voice singing. It is to remind us that Shakespeare only echoed his words and lyrics. Verbatim.

Notes for Chapter 13:

1. +The Shakespeare Claimants+, H. N. Gibson, Methuen & Co., London, 1962.
2. +Letters and Life of Francis Bacon+, James Spedding, Vol. I p. 32, 1861.
3. +English Literary Hands from Chaucer to Dryden+, Anthony G. Petti, Harvard Univ. Press, Cambridge, Mass. 1977.
4. +A Bibliography of Shakespeare's First Folio+, Charles Hinman, Oxford, Clarendon Press, 1963.
5. +Studies in the First Folio+, W. W. Greg, Oxford Univ. Press 1924.
6. +The Shakespeare Documents+, B. Rowland Lewis, Stanford Univ. Press, 1941.

Documentation.

Why how now gentleman: why this is flat
knavierie to take upon you another man's name.
--Shakespeare (infra.)

Chapter 14

When the first edition of +The Cryptographic Shakespeare+ was finished, I had time again to modify and enhance my cryptographic computer programs. These, and more labor with facsimiles of Shakespeare's works, have produced a harvest. I will abstract some of these gleanings, but first a review is in order. Bear with me for some repetition.

Francis Bacon, sometime before 1593, adopted a truncated key alphabet for his cipher system, in the same manner as Johannes Trithemius had done long before him. Bacon used only 21 letters of the Elizabethan 24 letter alphabet, which itself omitted J and U. It is as follows:

A B C D E F G H I K L M N O P Q R S T V Y

Bacon also used one of Trithemius' favorite ciphers, the Caesar. This is an elementary exercise in which each letter stands for one of the letters which precede or follow it in the alphabet. Thus "A B C" may become "b c d", or "c d e", or any such following series. Bacon chose, almost exclusively, the fourth series in which "A B C" becomes "e f g".

Bacon's cipher, primitive though it may seem, may be interpreted from this table:

```
Ciphertext is: A B C D E F G H I K L M N O P Q R S T V Y
Plaintext is:  E F G H I K L M N O P Q R S T V Y A B C D
```

From previous chapters, I will excerpt two examples which demonstrate the general system.

The+first+(and previously unpublished) play in the+first+(1623) edition of Shake-speare's complete works is "The Tempest." The +first word+ of dialogue in "The Tempest" is "BOTE-swaine." The+first letter,+ "B", is a great capital, a kind of large ornamental initial that heads the first page of almost all of the plays; it was printed upside down in one copy of the book, and an odd replacement appeared in the second edition. The script, after some "scene setting" instructions, gives the+Master+the first word to speak:

+Master+.

BOTE-swaine.

+Botes+. Heere Master: what cheere?

+Mast+. Good: Speake to th'Mariners: fall

too't, yarely, or we run our selves a ground,

Bacon used the fourth letter forward in a Caesar cipher to produce his+plaintext+. The letter "w" was not included in his key alphabet but it was often typeset as "VV" in the Folio and in the Sonnets. We shall install "BOTESVVAIN" as the+ciphertext+and run our computer program:

The ciphertext is:

B O T E S V V A I N E

The first four iterations of the plaintext are:

```
 C P V F T Y Y B K O F 1
  D Q Y G V A A C L P G 2
  E R A H Y B B D M Q H 3
+F S B I A C C E N+R I 4
```

"F S B I A C C E N" (the+plaintext+) appears on the fourth line in which the letter "A"="e". "FS" is Bacon's own signature abbreviation of his first name while "BIACCEN" is yet another phonetic spelling of his surname.

Another variation of Bacon's cipher is the use of alternate letters to convey the message, a device also adopted from Trithemius.

Let us consider again the italicized poem from "The Tempest" (ii, 2, 185). Caliban, "a savage and deformed slave" sings it "drunkenly":

```
+Cal. No more dams I'le make for fish,
  Nor fetch in firing, at requiring,
  Nor scrape trenchering, nor wash dish,
  Ban'ban' Cacalyban
  Has a new Master, get a new Man+.
```

There is a purpose to this ditty, as we shall see. We will take all the capitalized words, beginning on the third line, and string them together:

The ciphertext is:

N O R B A N B A N C A C A L Y B A N H A S M A S T E R M A N

The computer screen shows:

N O R B A N B A N C A C A L Y B A N H A S M A S T E R M A N

O P S C B O C B O D B D B M A C B O I B T N B T V F S N B O 1
P Q T D C P D C P E C E C N B D C P K C V O C V Y G T O C P 2
Q R V E D Q E D Q F D F D O C E D Q L D Y P D Y A H V P D Q 3
R S Y F E R F E R G E G E P D F E R M E A Q E A B I Y Q E R 4

On the fourth line we find the word "SYFER" and, when we transcribe every other letter beginning at the first, we read:

R Y E + F R E E D E M + A E B Y E

"FREEDEM" confirms the existence of this "SYFER;" the line just after Caliban's song is (literally) as follows:

"Freedome,high-day,high-day,freedome,freedome high-day,freedome."

Of all of the examples I have inspected, this one seems the most arresting. The author of this cryptographic puzzle has convincingly provided an opentext,+immediately subsequent+, cipher solution and with astonishing redundancy. He has proven his adoption of a 21 letter, fourth letter forward Caesar cipher, and he has coupled it with Johannes Trithemius' alternate letter maneuver.

A friendly critic has found fault with such a use of alternate letters to convey a word or name, but he did not explain this definitive specimen. Perhaps he hadn't seen Trithemius'+Steganographia+, a famous cryptographic book of 1606. The author was very fond of his Latin phrase, +alternatis dictionibus significatius literis+; here is an example of one of his methods:

PAMERSIEL A NO Y R M A D R I S E L E B R A S O T H E A N A B R U L G E S
I T R A S B I E L N A D R E S O R M E N U I T U L E S R A B L O N
HAMORPHIEL.

The first and last "words" being nulls, the message, in German, is: "Nym die ersten Bugstaben de omni uerbo."

A related technique is described by John Wilkins in his cryptographic compendium,+Mercury: or the Secret and Swift Messenger+ (1641): "There are likewise some other Inventions to expresse any inward Sense by barbarous words, wherein only the first, and middle, and last Letters shall be significant."

It has also been suggested that a proper cipher solution can only be read in a forward direction, never backward. Yet old-fashioned printers still read their type forward in their copy, and backward and upside down in the composing stick. Schoolboys still write their secret messages in that inverse fashion, and are mightily confident that no one can decipher them.

Also from+Mercury:+

The second way of Secresy in Speech, is by an Alteration of any known Language, which is far more easie, and may prove of as much Use for the Privacy of it, as the other. This may be performed Four Ways.

1. By +Inversion+, when either the+Letters+ or +Syllables+ are spelled backwards.

+Mitto tibi METULAS caneros imitare legendo+, where the word SALUTEM is expressed by an inversion of the Letters.

As I have progressed through these later experiments in Baconian cryptography, I have learned some lessons which may be profitable.

First, the discerning reader should never underestimate the subtlety of our encipherer: he knew of ways to mislead him, to challenge his imagination and to reward his analysis. He was versatile in the secretion of the locus but he was invariable in the "general cipher system," as it is now called. Modern ciphers mostly depend upon "keys," such as a word used repeatedly to alter the ciphertext; the keys must be known, or discovered by cryptanalysis, in order to read the messages. Bacon did not use such keys, so far as the decryptions shown herein. He used a keyed, twenty-one letter alphabet and the fourth iteration of the Caesar cipher as his constants; and he used steganography. He had learned that insidious technique by reading contemporary publications describing Trithemius' cryptographic inventions.

Second, Bacon's methods cannot be judged by systems of cryptography devised hundreds of years after the span of his lifetime. His own

previous creation, of the ingenious "biliterarie" cipher, shows that his thoughts in this field were both unconventional and innovative. However, the education and experience of modern cryptanalysts is much more mathematical and depends upon discoveries made hundreds of years after his death. We must remember that Francis Bacon had beseeched his own community of the literate to open their minds to fresh scientific thought; we must train ourselves to reason cryptographically within the world that he inhabited.

Third, we habitually judge the literary quality of any thesis upon current, proper spelling. But if we insist upon that purity, we must be appalled while reading Shakespeare in the original imprint. Spelling was not, in Francis Bacon's age, studied or practiced according to Twentieth Century lesson books, nor were the ways he openly spelt his own handwritten name. And, in ciphertext, he abundantly varied that spelling so that no duplicate and damning succession of letters would prematurely give him away.

Last, I will not comment upon his reasons for concealing the authorship of Shakespeare's works. He had a purpose; it is enough to know that he accomplished it. The reader may enjoy considering, in a modern edition, the surrounding context cited for each example and noting the often enigmatic, suggestive and provocative language; however the text used here is from a facsimile of the original 1623 edition and may not agree with the wording and spelling shown in recent publications of the works.

A final word of advice from Shakespeare himself: "Put thyself into the trick of singularity, as he declares twice in "Twelfth Night" (ii, 5, 152; iii, 4, 79).

* * *

To begin a discussion of new matter, consider a line from "The life and death of King John" (i, 1, 194):

"Thus leaning on mine elbow I begin . . ."

This appears to be a harmless observation of the "+Bast+", later identified as Philip Falconbridge, bastard son of Richard I. A few lines before, King John asks him, "what is thy name?" and he replies, "+Philip+ my Liege, so is my name begun."

In 1893 a physician, Orville W. Owen, M.D., chose this line, which begins "Thus leaning. . .", as the beginning of a bizarre series of books which he claimed he had deciphered from the works of William Shakespeare. Dr. Owen may have selected this passage because of a statue he had seen in the Parish Church of St. Michael, St. Albans. The building is very old and stands at a place near the center of the Roman city of Verulamium; it has changed since then but in its foundations are Roman walls, some of them five feet thick.

The Normans enlarged the original (A. D. 948) church in the Twelfth Century. In the Sixteenth Century Sir Nicholas Bacon's manor house was built a few miles away. His son Francis was made Viscount St. Alban in 1621 and his will directed that he be buried there. According to an "Illustrated History" of the church, by John C. Rogers, A.R.I.B.A., it contains:

. . . a world famous monument, namely that of Sir Francis Bacon, Lord Verulam and Viscount St. Alban, whose country house was Gorhambury, nearby. The monument occupies a part of the north wall of the chancel [or did in 1935] and consists of a statue of Bacon seated in a chair, which stands upon a pedestal within a semi-circular headed niche. The sculptor who made this alabaster statue is unknown, though he is said to have been Italian. It was erected soon after Bacon's death in 1626 by his 'faithful friend and secretary' Sir Thomas Meautys, who is buried in the chancel. The pedestal of the monument, which originally projected some two feet, is inscribed in Latin, supposedly composed by Sir Henry Wotton, Provost of Eton (1624-1639); a translation is given upon a card which hangs in the chancel:

Francis Bacon Baron of Verulam. Viscount: Saint: Alban:
or by more conspicuous titles.
of Science, the Light. of Eloquence the Law.
thus he sat
who after all Natural wisdom

and secrets of Civil Life he had unfolded
 Nature's Law fulfilled.
 Let the compounds be dissolved.
 In the year: of our Lord: 1626.
 at the age of 66.
 Of such a man that the
 memory might remain:
 Thomas Meautys,
 living his attendant,
 dead his admirer,
 placed this monument.
 H. P.

In 1924 it was discovered that the statue was in danger of falling because of dampness in its foundation. Funds were collected from members of the Francis Bacon Society and the monument was moved temporarily out onto the floor of the church. At the time a "receptacle" was located within the pedestal with a capacity of two cubic feet. Lamentably, it was found to be empty except for some debris.

That there is something odd about all this is suggested by Gilbert Wats in his 1640 translation of the "Advancement of Learning." Dedicatory poems and monographs (Manes Verulamiani), precede the text but these were left in Latin. The final one he translated into English:

In proper order would follow a description of the tomb of Verulam, the monument of the most noble Meautys. . This tomb has not yet been inspected, but an Interpreter will come +[Busta haec nondum invisit Interpres, sed invisurus].+ Meanwhile, reader, make thine own arrangements and go about thy business.
 Spreads like a tree in hidden growth
 The fame of Bacon.

+Sic sedebat+: "Thus he sat," an habitual posture for which this pensive and renowned judge was noted. The full Latin version may be worth setting down:

FRANCISCUS BACON BARO DE VERVLA. STI: ALBNI: VICMS:
 SEV NOTIORIBVS TITVLIS.
 SCIENTIARVM LV MEM. FACVNDIAE LEX.
 SIC SEDEBAT
 QVI POSTQVAM OMNIA NATVRALIS SAPIENTIAE
 ET CIVILIS ARCANA EVOLVISSET
 NATVRAE DECRETVM EXPLEVIT.
 COMPOSITA SOLVANTVR.
 ANO: DNI: M.DC.XXVI.
 AETATIS LXVI.
 TANTI VIRI
 MEM:
 THOMAS MEAVTYS
 SVPERSTITIS CVL TOR.
 DE FVNCTI ADMIRATOR
 H. P.

The last few lines translate as, "Of such a man, that the memory might remain, Thomas Meautys, living his attendant, dead his admirer, placed this monument." Observe the signature, "H. P." These letters, when enciphered in the +4 Baconian alphabet and then reversed, +represent Meauty's initials+.

Meautys, we will discover, was aware of one of Bacon's cipher methods: that of inserting the plaintext as alternate letters of the ciphertext; therefore this inscription is deserving of more careful examination. Take "MEAVTYS SUPERSTITIS," for example:

The ciphertext is: M E A V T Y S S V P E R S T I T I S

The +4 text is: Q I E C B D A A C T I Y A B N B N A

Skipping letters: Q E +B A C I A N+ N

* * *

To return to Dr. Owen and his first book, +Sir Francis Bacons's Cipher Story+ (Howard Publishing Co., Detroit, 1893), here are the first lines of his imaginative "Sir Francis Bacon's Letter to the Decipherer":

MY DEAR SIR:

Thus leaning on my elbow I begin the letter scattered wider than the sky and earth;

Dr. Owen said that he produced his five volumes of decipherments by examining the works of Shakespeare, Green, Peele, Marlowe, Spencer and Burton (all of whose books, he argued, were written by Bacon), and by switching from one place to another whenever a "key word" was encountered. These were HONOUR, NATURE, REPUTATION and FORTUNE. However he was guilty of violating these "rules" more often than not, and, in +The Shakespearean Ciphers Examined+, William and Elizebeth Friedman showed the good doctor to be a humbug.

But it is strange that Dr. Owen chose this particular line to begin his cipher story while, underlying it, +Francis Bacon had thrice uttered his name+.

The plot of "King John" opens with a controversy over an inheritance. Robert Faulconbridge's title to his father's estate is disputed by Philip who claims to have been the eldest son. The dialogue is much concerned with mistaken identity and names: the "Bast." (Philip) remarks, "And if his name be George, Ile call him Peter; / For new made honor doth forget mens names. . ."

A few lines later, Philip says:

My picked man of Countries: my deare sir,
Thus leaning on mine elbow I begin,
I shall beseech you; that is question now,
And then comes answer like an Absey booke:
Oh sir, sayes answer, at your best command,
At your employment, at your service sir:
No sir, saies question, I sweet sir at yours,

All of this doesn't make much sense, including the reference to the "Absey booke." This was a horn-book, a shingle on which the letters of the alphabet were written and protected by a thin sheet of animal horn; it was used to teach children their ABC's.

Let us apply our methods to this passage. We will see what letters of the alphabet were insinuated ("w" and "u" are shown as "v," and "j" as "i," in conformity with Bacon's cipher alphabet):

Ciphertext is:

T H V S L E A N I N G O N M I N E E L B O V I B E G I N I S H A L L B E S E E
C H Y O V T H A T I S Q V E S T I O N N O V A N D T H E N C O M E S A N S V E
R L I K E A N A B S E Y B O O K E O S I R S A Y E S A N S V E R A T Y O V R B
E S T C O M M A N D A T Y O V R E M P L O Y M E N T A T Y O V R S E R V I C E
S I R N O S I R S A I E S Q V E S T I O N I S V E E T S I R A T Y O V R S

Plaintext, +4 is:

B M C A P I E R N R L S R Q N R I I P F S C N F I L N R + N A M E + P P F I A I I
G M D S C B M E B N A V C I A B N S R R S C E R H B M I R G S Q I A E R A C I
Y P N O I E R E F A I D F S S O I S A N Y A E D I A E R A C I Y E B D S C Y F
I A B G S Q Q E R H E B D S C Y I Q T P S D Q I R B E B D S C Y A I Y C N G I
A N Y R S A N Y A E N I A V C I A B N S R N A C I I B A N Y E B D S C Y A

Plaintext reversed is:

A Y C S D B E Y N A + B I I C A N + R S N + B A I C V A I N + E A Y N A S R Y N A I G
N C Y I A Y C S D B E B R I Q D S P T Q I Y C S D B E H R E Q Q S G B A I F Y
C S D B E Y I C A R E A I D E A Y N A S I O S S F D I A F E R E I O N P Y I C
A R E A I Q S G R I M B H R E C S R R S N + B A I C V A N + B E M B C S D M G I I
A I F P P E M A N R N L I F N C S F P I I R N Q R S L R N R E I P A C M B

Here we read Bacon's NAME three times, in three spellings, and we have an explanation for the peculiar language of these lines (King John, i,

1, 194). Hereafter, quoted words shown in <bold> print were not bold in the original; those in +italics+ were so printed, unless followed by "[emphasis supplied]."

* * *

From the "First Part of Henry the Fourth" (v, 3, 160) we can find "name" and a version of "cipher" (reversed) in the plaintext:

+Reig+. And I againe in+Henries+Royall <name>,
As Deputy vnto that gracious King,
Giue thee her hand, for signe of plighted faith,
+Suf.+ +Reignier+of France, I giue thee Kingly thankes,
Because this is in T<raffic>ke of a KING.

Ciphertext is:

A N D I A G A I N E I N H E N R I E S R O Y A L L + N A M E + A S D E P V T Y V N
T O T H A T G R A C I O V S K I N G G I V E T H E E H E R H A N D F O R S I G
N E O F P L I G H T E D F A I T H R E I G N I E R O F F R A N C E I G I V E T
H E E K I N G L Y T H A N K E S B E C A V S E T H I S I S I N T + R A F F I C + K
E O F A K I N G

Plaintext, +4 is:

E R H N E L E N R I N R M I R Y N I A Y S D E P P R E Q I E A H I T C B D C R
B S B M E B L Y E G N S C A O N R L L N C I B M I I M I Y M E R H K S Y A N L
R I S K T P N L M + B I H K E N + B M Y I N L R N I Y S K K Y E R G I N L N C I B
M I I O N R L P D B M E R O I A F I G E C A I B M N A N A N R + B Y E K K N + G O
I S K E O N R L

* * *

An exceptional "name" manifestation is found in the last paragraph of "Timon of Athens" (v, 4, 65). A messenger enters to explain what he carries:

+Mes+. My Noble Generall,+Timon+is dead,
Entomb'd vpon the very hemme o'th'Sea,
And on his Gravestone, this Insculpture which
With wax I brought away: whose soft Impression
Interprets for my poore ignorance.

The next five lines are typeset entirely in italics:

+Alcibiades reads the Epitaph.
Heere lies a wretched Coarse, of wretched Soule bereft,
<Seek not my name:> A Plague consume you, wicked Caitifs left:
Heere lye I Timon, who alieue, all liuing men did hate,
Passe by, and curse thy fill, but passe and stay not here thy gate+.

Only the first line of this epitaph need be deciphered--the one just preceding + "Seek not my name" + we shall disobey that command.

Ciphertext is:

H E E R E L I E S A V R E T C H E D C O A R S E O F V R E T C H E D S O V L E
B E R E F T

Ciphertext reversed is:

T F E R E B E L V O S D E H C T E R V F O E S R A O C D E H C T E R V A S E I
L E R E E H

Plaintext, +4 is:

B K I Y I F I P C S A H I M G B I Y C K S I A Y E S G H I M G + B I Y C E A I N +
P I Y I I M

* * *

"Shake-speare" is an equivocal name; it is ambiguous because it disguises the identity of the author. In "The Tragedie of Macbeth" (ii, 3, 21) a form of the word "equivocate" is recorded five times in twenty-six lines.

Then, urgently and significantly, someone knocks at the door twelve times. After the last knock, these words are spoken:

Anon, anon, I pray you remember the Porter.
+Macd+. Was it so late, friend, ere you went to Bed,
That you doe lye so late?
+Port+. Faith Sir, we were carousing till the second Cock.
And Drinke, Sir, is a great prouoker of <three things>.

The "three things" arise in the following manner:

Ciphertext is:

A N O N A N O N I P R A Y Y O V R E M E M B E R T H E P O R T E R V A S I T S
O L A T E F R I E N D E R E Y O V V E N T T O B E D T H A T Y O V D O E L Y E
S O L A T E F A I T H S I R V E V E R E C A R O V S I N G T I L L T H E S E C
O N D C O C K

Plaintext, +4 is:

E R S R E R S R N T Y E D D S C Y I Q I Q F I Y B M I T S Y+B I Y C E A N+B A
S P E+B I K Y N+I R H I Y I D S C C I R B B S F I H B M E B D S C H S I P D I
A S P E+B I K E N+B M A N Y C I C I Y I G E Y S C A N R L B N P P B M I A I G
S R H G S G O

Three names and three spellings once more.

* * *

"Venus and Adonis" was, according to Shakespeare's dedication to the Earle of Southampton, "the first heire of my invention" (1593). It has been alleged that "he saw it through the press," though how we know that is nowhere illuminated. On the last page of this poem (line 1177) we may uncover three signatures of the man who borrowed his "guise," and each is spelled differently.

Poore floure (quoth she) this was thy fathers guise,
Sweet issue of a more sweet smelling fire,
For euerie little grieffe to wet his eies,

Ciphertext is:

P O O R E F L O V R E Q V O T H S H E T H I S V A S T H Y F A T H E R S G V I
S E S V E E T I S S V E O F A M O R E S V E E T S M E L L I N G F I R E F O R
E V E R I E L I T T L E G R I E F E T O V E T H I S E I E S

Ciphertext reversed is:

S E I E S I H T E V O T E F E I R G E L T T I L E I R E V E R O F E R I F G N
I L L E M S T E E V S E R O M A F O E V S S I T E E V S E S I V G S R E H T A
F Y H T S A V S I H T E H S H T O V Q E R V O L F E R O O P

Plaintext, +4 is:

A I N I A N M B I C S+B I K I N+Y L I P B B N P I N Y I C I Y S K I Y N K L R
N P P I Q A B I I C A I Y S Q E K S I C A A N+B I I C A I A N+C L A Y I M B E
K D M+B A E C A N+M B I M A M B S C V I Y C S P K I Y S S T

In three lines, three names--three spellings.

* * *

We may find the name three more times in "The Life of Henry the Fift" (iv, 1, 147):

+King+. So, if a sonne that is by his Father sent about Merchandize, doe sinfully miscarry vpon the Sea; the imputation of his wickednesse, by

your rule, should be imposed vpon his Father that sent him; or if a Seruant, vnder his Masters command,

Ciphertext is:

S O I F A S O N N E T H A T I S B Y H I S F A T H E R S E N T A B O V T M E R
C H A N D I E D O E S I N F V L L Y M I S C A R R Y V P O N T H E S E A T H E
I M P V T A T I O N O F H I S V I C K E D N E S S E B Y Y O V R R V L E S H O
V L D B E I M P O S E D V P O N H I S F A T H E R T H A T S E N T H I M O R I
F A S E R V A N T V N D E R H I S M A S T E R S C O M M A N D

Ciphertext reversed is:

D N A M M O C S R E T S A M S I H R E D N V T N A V R E S A F I R O M I H T N
E S T A H T R E H T A F S I H N O P V D E S O P M I E B D L V O H S E L V R R
V O Y Y B E S S E N D E K C I V S I H F O N O I T A T V P M I E H T A E S E H
T N O P V Y R R A C S I M Y L L V F N I S E O D E I D N A H C R E M T V O B A
T N E S R E H T A F S I H Y B S I T A H T E N N O S A F I O S

Plaintext, +4 is:

H R E Q Q S G A Y I+B A E Q A N+M Y I H R C B R E C Y I A E K N Y S Q N M B R
I A B E M B Y I M+B E K A N+M R S T C H I A S T Q N I F H P C S M A I P C Y Y
C S D D F I A A I R H I O G N C A N M K S R S N B E B C T Q N I M B E I A I M
B R S T C D Y Y E G A N Q D P P C K R N A I S H I N H R E M G Y I Q B C S F E
B R I A Y I M+B E K A N+M D F A N B E M B I R R S A E K N S A

* * *

"He was of a middling stature; his forehead spacious and open, early impressed with the marks of age; his eye lively and penetrating; his whole appearance venerably pleasing: so that the beholder was insensibly drawn to love, before he knew how much reason there was to admire him." So Bacon (who was middle-aged and also overweight) was portrayed by a biographer.

Study this description of a character in "The First Part of King Henry the Fourth (ii, 4, 468):

+Falst+. A goodly portly man yfaith, and a corpulent, of a chearfull Looke, a pleasing Eye, and a most noble Carriage, and as I thinke, his age some fiftie, or (byrlady) inclining to threescore; and now I remember mee, his Name is Falstaffe;

Of course, Falstaffe is supposed to be describing himself. But "Falstaffe" followed by an "i" becomes "BEKKIN," as we will perceive; he continues:

. . . his <Name> is Falstaffe: if that man should be lewdly giuen hee deceiues mee; for+Harry+, I see Vertue in his Lookes. If then the Tree may be knowne by the Fruit, as the Fruit by the Tree, then peremptorily I speake it, there is Vertue in that+Falstaffe:+

Ciphertext is:

H I S+N A M E+I S F A L S T A F F E I F T H A T M A N S H O V L D B E L E V D
L Y G I V E N H E E D E C E I V E S M E E F O R H A R R Y I S E E V E R T V E
I N H I S L O O K E S I F T H E N T H E T R E E M A Y B E K N O V N E B Y T H
E F R V I T A S T H E F R V I T B Y T H E T R E E T H E N P E R E M P T O R I
L Y I S P E A K E I T T H E R E I S V E R T V E

Plaintext, +4 is:

M N A R E Q I N A K E P A+B E K K I N+K B M E B Q E R A M S C P H F I P I C H
P D L N C I R M I I H I G I N C I A Q I I K S Y M E Y Y D N A I I C I Y B C I
N R M N A P S S O I A N K B M I R B M I B Y I I Q E D F I O R S C R I F D B M
I K Y C N B E A B M I K Y C N B F D B M I B Y I I B M I R T I Y I Q T B S Y N
P D N A T I E O I N B B M I Y I N A C I Y B C I

Plaintext reversed is:

I C+B Y I C A N+I Y I M B B N I O E I T A N D P N Y S B T Q I Y I T R I M B I
 I Y B I M B D F B N C Y K I M B A E B N C Y K I M B D F I R C S R O I F D E Q
 I I Y B I M B R I M B K N A I O S S P A N M R N I C+B Y I C I I A N+D Y Y E M
 Y S K I I Q A I C N I G I H I I M R I C N L D P H C I P I F H P C S M A R E Q
 B E M B K N I K K E B A P E K A N I Q E R A N M

Three names, three spellings again.

* * *

Dowglas suspects that King Henry IV is an impostor, in "The First Part of King Henry the Fourth" (v, 4, 27):

+Dow+. . .What art thou
 That counterfeit'st the person of a King?
 +King+. The King himselfe: who+Dowglas+griueus at hart
 So many of his shadowes thou hast met,
 And not the very King. I have two Boyes
 Seeke+Percy+and thy selfe about the Field:
 But seeing thou fall'st on me so luckily,
 I will assay thee: so defend thy selfe.
 +Dow+. I feare thou art another counterfeit:

Ciphertext is:

V H A T A R T T H O V T H A T C O V N T E R F E I T S T T H E P E R S O N O F
 A K I N G T H E K I N G H I M S E L F E V H O D O V G L A S G R I E V E S A T
 H A R T S O M A N Y O F H I S S H A D O V E S T H O V H A S T M E T A N D N O
 T T H E V E R Y K I N G I H A V E T V O B O Y E S S E E K E P E R C Y A N D T
 H Y S E L F E A B O V T T H E F I E L D B V T S E E I N G T H O V F A L L S T
 O N M E S O L V C K I L Y I V I L L A S S A Y T H E E S O D E F E N D T H Y S
 E L F E I F E A R E T H O V A R T A N O T H E R C O V N T E R F E I T

Plaintext, +4 is:

C M E B E Y B B M S C B M E B G S C R+B I Y K I N+B A B B M I T I Y A S R S K
 E O N R L B M I O N R L M N Q A I P K I C M S H S C L P E A L Y N I C I A E B
 M E Y B A S Q E R D S K M+N A A M E+H S C I A B M S C M E A B Q I B E R H R S
 B B M I C I Y D O N R L N M E C I B C S F S D I A A I I O I T I Y G D E R H B
 M D A I P K I E F S C B B M I K N I P H F C B A I I N R L B M S C K E P P A B
 S R Q I A S P C G O N P D N C N P P E A A E D B M I I A S H I K I R H B M D A
 I P K I N K I E Y I B M S C E Y B E R S B M I Y G S C R+B I Y K I N+B

Plaintext reversed is:

B N I K Y I B R C S G Y I M B S R E B Y E C S M B I Y E I K N I K P I A D M B
 H R I K I H S A I I M B D E A A E P P N C N D P N O G C P S A I Q R S B A P P
 E K C S M B L R N I I A B C F H P I N K I M B B C S F E I K P I A D M B H R E
 D G Y I T I O I I A A I D S F S C B I C E M N L R N O D Y I C I M B B S R H R
 E B I Q B A E M C S M B A I C S H E M A A N M K S D R E Q S A B Y E M+B E A I
 C I N+Y L A E P L C S H S M C I K P I A Q N M L R N O I M B L R N O E K S R S
 A Y I T I M B B A B N I K Y I B R C S G B E M B C S M B B Y E B E M C

Three more occurrences of this "naame." This word "counterfeit" will be encountered often.

* * *

Ursula questions Anthonio:

+Vrsula+. I know you well enough, your are Signior+Anthonio+.
 +Anth+. At a word, I am not.
 +Vrsula+. I know you by the wagling of your head.
 +Anth+. To tell you true, I counterfeit him.
 +Vrsu+. You could neuer doe him so ill well vnlesse you were the very
 man: here's his dry hand vp and down, you are he, you are he.
 +Anth+. At a word I am not.
 +Ursula+. Come, come, doe you thinke I doe not know you by your excel-
 lent wit? can vertue hide it selfe? goe to, mumme, you are he, graces
 will appeare, and there's an end.

This debate is from "Much adoe about Nothing" (ii, 1, 112). Only one line will be examined, and in this "counterfeit" is misspelled; however it is not misspelled in the 1600 Quarto edition:

Ciphertext is:

T O T E L L Y O V T R V E I C O V N T E R F E I T H I M

Plaintext, +4 is:

B S B I P P D S C+B Y C I N+G S C R+B I Y K I N+B M N Q

Our disguised name appears twice in one line.

* * *

Still another "name" example may be found in "The winters Tale" (iv, 3, 47):

+Clowne+. . .Foure pound of prewyns, and as many of Reysons o'th Sun.
+Aut+. Oh, that euer I was borne.
+Clowne:+I'th <name> of me.

Ciphertext is:

O H T H A T E V E R I V A S B O R N E I T H+N A M E+O F M E

Plaintext, +4 is:

S M B M E+B I C I Y N+C E A F S Y R I N B M R E Q I S K Q I

"name of me" and "M E B I C I Y N" have an intriguing affinity.

* * *

From "A Midsommer Nights Dreame" (iii, 2, 27):

Their sense thus weake, lost with their fears thus strong,
Made senselesse things begin to do them wrong.
For briars and thornes at their apparell snatch,
Some sleeues, some hats, from yeelders all things catch,
I led them on in this distracted feare,
And left sweete+Piramus+<translated> there:

+Piramus+does translate, when followed by a "t," just as Falstaffe does with an "i":

Ciphertext is:

T H E I R S E N S E T H V S V E A K E L O S T V I T H T H E I R F E A R S T H
V S S T R O N G M A D E S E N S E L E S S E T H I N G S B E G I N T O D O T H
E M V R O N G F O R B R I A R S A N D T H O R N E S A T T H E I R A P P A R E
L L S N A T C H S O M E S L E E V E S S O M E H A T S F R O M Y E E L D E R S
A L L T H I N G S C A T C H I L E D T H E M O N I N T H I S D I S T R A C T E
D F E A R E A N D L E F T S V E E T E P I R A M V S T R A N S L A T E D T H E
R E

Ciphertext reversed is:

E R E H T D E T A L S N A R T S V M A R I P E T E E V S T F E L D N A E R A E
F D E T C A R T S I D S I H T N I N O M E H T D E L I H C T A C S G N I H T L
L A S R E D L E E Y M O R F S T A H E M O S S E V E E L S E M O S H C T A N S
L L E R A P P A R I E H T T A S E N R O H T D N A S R A I R B R O F G N O R V
M E H T O D O T N I G E B S G N I H T E S S E L E S N E S E D A M G N O R T S
S V H T S R A E F R I E H T H T I V T S O L E K A E V S V H T E S N E S R I E
H T

Plaintext, +4 is:

I Y I M B H I B E P A R E Y + B A C Q E Y N + T I B I I C A B K I P H R E I Y E I
 K H I B G E Y B A N H A N M B R N R S Q I M B H I P N M G B E G A L R N M B P
 P E A Y I H P I I D Q S Y K A B E M I Q S A A I C I I P A I Q S A M G B E R A
 P P I Y E T T E Y N I M B B E A I R Y S M B H R E A Y E N Y F Y S K L R S Y C
 Q I M B S H S B R N L I F A L R N M B I A A I P I A R I A I H E Q L R S Y B A
 A C M + B A Y E I K Y N + I M B M B N C B A S P I O E I C A C M B I A R I A Y N I
 M B

* * *

In Elizabethan times, many authors concealed their names through the use of acrostics. Often, such names or messages were hidden in the initial capitals of succeeding lines of verse. Bacon, so far as I know, used this device on only seven occasions. He hints at it with suggestive words, in "The Life of Henry the Fifth" (ii, 2, 53); and, compared to the 1600 Quarto, these lines were painstakingly rearranged when edited for the 1623 Folio:

In the earlier Quarto he had written:

If little faults proceeding on distemper should not bee winked at,
 How should we stretch our eye, when capitall crimes,
 Chewed, swallowed and digested, appeare before vs:
 Well yet enlarge the man, tho Cambridge and the rest
 In their deare loues. . .

Now we may glimpse the cryptographer at work as he redrafts this excerpt, so as to encipher the initial capital letters of each line for the 1623 Folio:

<I>f little faults proceeding on distemper,
 <S>hall not be wink'd at, how shall we stretch our eye
 <W>hen <capital> crimes, chew'd, swallow'd, and digested,
 <A>pppeare before vs? wee'l yet <inlarge that man>,
 <T>hough+Cambridge, Scroope,+and+Gray,+in their deere care

Ciphertext is:

I S V A T

Ciphertext reversed is:

T A V S I

Plaintext is:

+B E C A N+

The sense of these lines was scarcely modified, and the remainder of this speech of King Henry V was not altered.

In the edited version the clues have been preserved for the benefit of the most intractable academicians. The lower case letters in the original version have been "inlarged." By the use of "capitalles" the writer has directed our attention to these newly minted upper case letters. For what reason were these transformations made, unless to encipher the author's name?

A cardinal measure of cipher authenticity--intention--has been demonstrated. The author has left behind an unmistakable "smoking pistol."

Cambridge and Gray's Inn (which was added) happen to be the University and the Law College that Francis Bacon attended.

* * *

Here is another specimen, in which the capital letters are employed, from "Measure for Measure" (i, 3, 40); they are shown in bold type:

<I> have on+<A>ngelo+impos'd the office,
 <W>ho may in th'ambush of my name, strike home,
 <A>nd yet, my nature never in the fight
 <T>o do in slander: <A>nd to behold his sway

A signature is hidden "in th'ambush of my name." Reading all capi-

tals downward, the

Ciphertext is:

I A W A T A

Ciphertext reversed is:

A T A W A I

Plaintext is:

E+B E C E N+

* * *

"Caps" is a word long used by printers as an abbreviation for upper case type. This word, or "cap," is used six times in thirty lines in "The Taming of the Shrew" (iv, 3, 68).

+Fe^l+. Heere is the <cap> your worship did bespeake.
+Pet+. Why this was moulded on a porrenger,
A veluet dish: Fie, fie, 'tis lewd and filthy,
Why 'tis a cockle or a walnut-shell,
A Knacke, a toy, a tricke, a babies <cap>.
Away with it, come let me have a bigger.

Then follow these five lines:

+Kate+. <I>le haue no bigger, this doth fit the time,
<A>nd Gentlewomen weare such <caps> as these.
+Pet+. <W>hen you are gentle, you shall haue one too,
<A>nd not till then.
+Hor+. <T>hat will not be in hast.

Let us examine these "caps," the initial capitalized letters of each line:

Ciphertext is:

I A W A T

Ciphertext reversed is:

T A W A I

Plaintext is:

B E C E N

* * *

Published in 1640 by John Benson was a book of "POEMS: WRIT-
TEN BY WIL. SHAKESPEARE. Gent." Many of the+Sonnets+were included,
but in a different order, together with other poems. Most of the latter are
rejected by the scholars as unjustly imputed. Several verses memorialize the
Bard, as witness the following:

+On the death of+William Shakespeare,+who
died in Aprill,+Anno Dom. 1616.

REnowned+Spenser+lie a thought more nigh
To learned+Chauser,+and rare+Beaumont+lie
A little neerer+Spenser+to make roome,
For+Shakespeare+in your three-fold, foure-fold Tombe;
To lodge all foure in one bed make a shift,
Vntill Dommest-day, for hardly shall a fift
Betwixt this day and that by Fate be slaine,
For whom your <Curtaines may be drawne againe>.
<I>f your precedencie in death doth barre,
<A> fourth place in your sacred Sepulchre

<V>nder this sacred Marble of thy owne,
<S>leepe rare Tragedian+Shakespeare,+sleepe alone;
<T>hy unmolested peace in an unshar'd Cave,
Possesse as Lord, not Tennant of thy Grave.
That unto us, and others it may be,
Honour hereafter to be laid by thee.

W. B.

"For whom your Curtaines may be drawne againe." Consider the initial capitalized letters (bold) of the five lines following that one:

Ciphertext is:

I A V S T

Ciphertext reversed:

T S V A I

Plaintext is:

B A C E N

Or, we may choose all of the capitals in the four lines following "Curtaines":

Ciphertext is:

I A S V M S T

Ciphertext reversed:

T S M V S A I

Plaintext is:

B A Q C A E N

For the curious, there is also a cipher in the second line--more particularly a "CEIFIYEHRE." Now the veil may be drawn againe.

* * *

The following is a comparison of two very similar versions of a Shakespeare sonnet. The lines printed in Roman type are from verse II of +The Passionate Pilgrime,+ (1599) while the lines shown in italics+ are from Sonnet 144 of the 1609 Quarto:

1. Two Loues I haue, of Comfort, and Despaire,
+TWO Loues I haue of comfort and dispaire,+
2. That like two Spirits, do suggest me still:
+Which like two spirits do sugiest me still,+
3. My better Angell is a Man (right faire)
+The better angell is a man right faire:+
4. My worser spirite a woman (colour'd ill.)
+The worser spirit a woman collour'd il+.
5. To winne me soone to hell, my Female euill
+To win me soone to hell my femall euill,+
6. Tempteth my better Angell from my side,
+Tempteth my better angel from my sight,+
7. And would corrupt my Saint to be a Diuell,
+And would corrupt my saint to be a diuel:+
8. Wooing his purity with her faire pride.
+Wooing his purity with her fowle pride,+
9. And whether that my Angell be turnde feend,
+And whether that my angel be turn'd finde,+
10. Suspect I may (yet not directly tell:
+Suspect I may, yet not directly tell,+
11. For being both to me: both, to each friend,
+But being both from me both to each friend,+

12. I ghesse one Angell in anothers hell:
 +I gesse one angel in an others hel,+
 13. The truth I shall not know, but liue in doubt,
 +Yet this shal I nere know but liue in doubt,+
 14. Till my bad Angell fire my good one out.
 +Till my bad angel fire my good one out+.

There are minor changes in spelling, punctuation and one change in sense (+faire+in line 8 becomes+fowle+in the later version). The major change is in capitalization. Let us string all the capitals together and examine them:

Ciphertext of 1599 verse:

T V L I C D T S M A M M V T F T A A S D V A A S I F I A T I T A

Plaintext, +4 is:

B C P N G H B A Q E Q Q C B K+B E E A H C E E A N+K N E B N B E

Perhaps the earlier version of Bacon's plaintext name seemed too long; therefore, in editing the 1609 version, the author reduced fifteen of the capitals to lower case with this effect:

Ciphertext of 1609 verse:

T V I V T T T T A V A S I B I Y T

Plaintext, +4 is:

B C N C B B B+B E C E A N+F N D B

* * *

Karl Andreassen, writing in +Computer Cryptology+ (Prentice-Hall, Inc. 1988), discusses null ciphers of this variety:

An interesting type of cipher not often seen in the popular literature is the concealment, or null, cipher. Among its many variations is the use of prearranged letter positions in ordinary plaintext. Because the English language is so richly endowed with synonyms and capable of colloquial interpretation, it is particularly adaptable to null-cipher applications.

For instance, a plain language sentence may appear to convey an interesting but common statement of fact. While the sentence reads innocuously like simple plain language, the words used are carefully selected to divert attention, that of concealing [by steganography] a message other than the obvious one. . . .

Engineers seek solid proof for their every assumption in furthering a technically complex project. In contrast, cryptanalysts are most successful when carrying multiple assumptions with no proof at all, and hunches are pearls to be treasured.

In Chapter Nine, I referred to wiliam F. Friedman's discussion of the cryptographic methods of Sir John Salusbury. I will quote another of his examples from p. 99 of+The Shakespearean Ciphers Examined:+

We have already remarked that acrostics were popular in Elizabethan literature; it should also be stressed that spelling in those days was erratic. Sir John Salusbury, who was as devoted to acrostics as he was to a lady called Dorothy Halsall, enfolded her name in poem after poem [citing Bryn Mawr College Monographs, vol. XIV, 1913]. One of them runs [with critical letters shown in bold type]:

<T>ormented heart in thral<l>, <Y>ea thrall to love,
 <R>especting wil<l>, <H>eart-breaking gaine doth grow,
 <E>ver DOLOBELI<A>, <T>ime will so proue,
 inding distres<s>e, <O> gem wilt thou allowe,
 <T>his fortune my wil<l> <R>epose-lesse of ease,
 <V>nlesse thou LED<A>, <O>ver-spread my heart,
 <C>utting all my rut<h>, dayne <D>isdaine to cease,
 <I> yield to fate, and welcome endles <S>mart.

This, with occasional irregularities, conceals the name CUTBERT (Dorothy's husband) reading the initial letters upwards from the seventh line, and the two parts of the name DOROTHY HALSALL as the letters on either side of the break in the middle of each line; the initials I.S. (for John Salusbury) appear as the first letter of the first word and the first letter of the last word in the final line--In all, Salusbury uses six different versions of his own name in various acrostic signatures; spells the name Francis as Fransis wherever it suits him; regards I and IE as interchangeable with Y; and replaces J's with I's or I's with J's according to whim.

Thus Friedman does not insist upon proper name spelling and permits "occasional irregularities." The cipher does not read from top to bottom; it is reversed and the plaintext travels from bottom to top. Here, he says, is one "of a number of instances which could be cited; but what makes it true that they, and the others, are genuine cases of cryptography is that the validity of the deciphered text and the inflexibility of the systems employed are obvious. . . In each case, there is no room to doubt that they were put there by the deliberate intent of the author; the length of the hidden text, and the absolutely rigid order in which the letters appear, combine to make it enormously improbable that they just happened to be there by accident."

Friedman is speaking of null ciphers; these include all such acrostics. In +The Advancement of Learning,+Francis Bacon mentions them, among others:

+wherefore let us come to+CYPHARS. Their kinds are many, as +Cyphars simple; Cyphars intermixt with Nulloses,+ or non-significant Characters; +Cyphers of double Letters under one Character; wheele-Cyphars; Kay-Cyphars; Cyphars of words; Others+.

In many of the cipher examples presented here we are dealing with "Cyphars of words. . . Intermixt with Nulloses." That it may be difficult to find the plaintext is not a defensible objection, particularly where a cue may be found in the ciphertext.

Readers of my book have asked why Bacon varied the spelling of his name in plaintext. One insisted that he would never, never misspell his own name, though there is no evidentiary justification for this conjecture. On the contrary, John Salusbury's example, of six different name spellings, shows this to be an acceptable Seventeenth Century acrostic practice.

There is a very good reason why Bacon did alter the spelling of his surname, and an example is given by David Kahn in+The Codebreakers,+ p. 336. During WWI a German signal officer by the name of Jaeger set out to stiffen code discipline. However his own name was not in the codebook and had to be spelled out in every transmitted order. "This was frequently. Its peculiar formation--the repetition of the high frequency +e,+ for example--permitted G.2 A.6 to identify it readily, and this in turn led to important clues concerning the superenciphering Geheimklappe. . . Jaeger was beloved by his adversaries because he kept them up to date with code changes, and it was with genuine regret that they saw his name disappear from the German traffic." Thus any word (a suspected "crib") routinely recurring in cipher messages is an apt key to a solution.

Kahn mentions another decryption accomplished by Charles Babbage: "For example, in 1846, he broke an enciphered letter from his nephew Henry by guessing that it began+Dear Uncle+and ended with+nephew+ and +Henry."+

To assume that Francis Bacon was ignorant of such hazards is to overlook his awareness of the principles of cryptanalysis. And to demand that he follow Twentieth Century notions of proper cryptographic form (while neglecting steganographic acrostics) is absurd.

* * *

"Hamlet" in the 1623 Folio (v, 2, 403) was doctored+twice,+so as to +remove+the author's name. In the supposedly "bad" Quarto of 1603, six lines up from the very last line, is this part of the final speech of Fortinbras:

Let foure of our chieftest Captaines
Beare+Hamlet+like a souldier to his grave:

The name appears twice in this manner:

Ciphertext is:

L E T F O V R E O F O V R C H I E F E S T C A P T A I N E S B E A R E H A M L
E T L I K E A S O V L D I E R T O H I S G R A V E

Ciphertext reversed is:

E V A R G S I H O T R E I D L V O S A E K I L T E L M A H E R A E B S E N I A
T P A C T S E F E I H C R V O F O E R V O F T E L

Plaintext, +4 is:

I C E Y L A N M S B Y I N H P C S A E I O N P B I P Q E M I Y E I F A I R N E
B T E G + B A I K I N + M G Y C S K S I Y C S K B I P

Plaintext, alternate letters:

C Y A M + B I H C A I N + B P E I E F I N B E B I I M Y S S Y S B P

However, after the first time these lines were amended, in the 1604 "good" Quarto they are shown as:

Let foure Captaines
Beare+Hamlet+like a souldier to the stage,

This removed the offending word "chiefest" and the consequential "BAIKIN." But the shadowy editor was not satisfied. In the 1623 Folio the lines are:

Let foure Captaines
Beare+Hamlet+like a soldier to the stage,

This substitution of "soldier" for "souldier" eliminated "BIHCAIN" as well. No more did the author's name appear in the last few lines of his most famous play, "Hamlet."

* * *

Another NAME example may be found in "The Taming of the Shrew" (iv, 1, 127). Petruchio complains about the obedience of his servants, saying "where is the foolish knave I sent before?" Grumio answers:

+Gru+. Heere sir, as foolish as I was before.
+Pet+. You pezant, swain, you horson malt-horse drudg
Did I not bid thee meete me in the Parke,

Ciphertext is:

H E E R E S I R A S F O O L I S H A S I V A S B E F O R E Y O V P E S A N T S
V A I N Y O V H O R S O N M A L T H O R S E D R V D G D I D I N O T B I D T H
E E M E E T E M E I N T H E P A R K E

Plaintext, +4 is:

M I I Y I A N Y E A K S S P + N A M E + A N C E A F I K S Y I D S C T I A E R + B A
C E N + R D S C M S Y A S R Q E P B M S Y A I H Y C H L H N H N R S B F N H B M
I I Q I I + B I Q I N + R B M I T E Y O I

* * *

In the same play (v, 1, 28) we find the following:

+Petr+. Nay, I told you your sonne was well beloued in +Padua+: doe
you heare sir, to leaue friuolous circumstances, I pray you tell signior
+Lucentio+ that his Father is come from+Pisa+, and here at the doore to
speake with him.
+Ped+. Thou liest his Father is come from+Padua+, and here looking out
at the window.
+Vin+. Art thou his father?
+Ped+. I sir, so his mother saies, if I may beleue her.

+Petr+. why how now gentleman: why <this is flat knauerie to take vpon you another mans name>.

Ciphertext is:

N A Y I T O L D Y O V Y O V R S O N N E V A S V E L L B E L O V E D I N P A D
V A D O E Y O V H E A R E S I R T O L E A V E F R I V O L O V S C I R C V M S
T A N C E S I P R A Y Y O V T E L L S I G N I O R L V C E N T I O T H A T H I
S F A T H E R I S C O M E F R O M P I S A A N D I S H E R E A T T H E D O O R
E T O S P E A K E V I T H H I M T H O V L I E S T H I S F A T H E R I S C O M
E F R O M P A D V A A N D H E R E L O O K I N G O V T A T T H E V I N D O V A
R T T H O V H I S F A T H E R I S I R S O H I S M O T H E R S A I E S I F I M
A Y B E L E E V E H E R V H Y H O V N O V G E N T L E M A N V H Y T H I S I S
F L A T K N A V E R I E T O T A K E V P O N Y O V A N O T H E R M A N S + N A M
E+

Ciphertext reversed is:

E M A N S N A M R E H T O N A V O Y N O P V E K A T O T E I R E V A N K T A L
F S I S I H T Y H V + N A M E + L T N E G V O N V O H Y H V R E H E V E E L E B Y
A M I F I S E I A S R E H T O M S I H O S R I S I R E H T A F S I H V O H T T
R A V O D N I V E H T T A T V O G N I K O O L E R E H D N A A V D A P M O R F
E M O C S I R E H T A F S I H T S E I L V O H T M I H H T I V E K A E P S O T
E R O O D E H T T A E R E H S I D N A A S I P M O R F E M O C S I R E H T A F
S I H T A H T O I T N E C V L R O I N G I S L L E T V O Y Y A R P I S E C N A
T S M V C R I C S V O L O V I R F E V A E L O T R I S E R A E H V O Y E O D A
V D A P N I D E V O L E B L L E V S A V E N N O S R V O Y V O Y D L O T I Y A
N

Plaintext, +4 is:

I Q E R A R E Q Y I M B S R E C S D R S T C I O E B S B I N Y I C E R O B E P
K A N A N M B D M C R E Q I P B R I L C S R C S M D M C Y I M I C I I P I F D
E Q N K N A I N E A Y I M B S Q A N M S A Y N A N Y I M + B E K A N + M C S M B B
Y E C S H R N C I M B B E B C S L R N O S S P I Y I M H R E E C H E T Q S Y K
I Q S G A N Y I M + B E K A N + M B A I N P C S M B Q N M M B N C I O E I T A S B
I Y S S H I M B B E I Y I M A N H R E E A N T Q S Y K I Q S G A N Y I M + B E K
A N + M B E M B S N B R I G C P Y S N R L N A P P I B C S D D E Y T N A I G R E
B A Q C G Y N G A C S P S C N Y K I C E I P S B Y N A I Y E I M C S D I S H E
C H E T R N H I C S P I F P P I C A E C I R R S A Y C S D C S D H P S B N D E
R

The last sentence of the ciphertext, as recorded above, is+"why how now gentleman: why this is flat knaverie to take vpon you another mans name+." Indeed it is, and we may read his "NAME" three times. In fact he proclaims with each repetition, "+I'm Bacon+."

An unmistakable cue like this is a marker, the kind of pointer we should search for. And there are others, as will be seen.

* * *

The words "his father" are reiterated in "The Life and Death of Richard the Third" (ii, 3, 26), with the same result:

Why so hath this, both by his Father and Mother.
Better it were they all came by his Father:
Or by his Father there were none at all:

Ciphertext is:

V H Y S O H A T H T H I S B O T H B Y H I S F A T H E R A N D M O T H E R B E
T T E R I T V E R E T H E Y A L L C O M E B Y H I S F A T H E R O R B Y H I S
F A T H E R T H E R E V E R E N O N E A T A L L

Ciphertext reversed is:

L L A T A E N O N E R E V E R E H T R E H T A F S I H Y B R O R E H T A F S I
H Y B E M O C L L A Y E H T E R E V T I R E T T E B R E H T O M D N A R E H T
A F S I H Y B H T O B S I H T H T A H O S Y H V

Plaintext, +4 is:

P P E B E I R S R I Y I C I Y I M B Y I M+B E K A N+M D F Y S Y I M+B E K A N+
M D F I Q S G P P E D I M B I Y I C B N Y I B B I F Y I M B S Q H R E Y I M+B
E K A N+M D F M B S F A N M B M B E M S A D M C

Three more times, in three lines, "I'm Began." And, "they all came by his Father."

* * *

"The Life and Death of Richard the Third" (iii, 7, 77) contains this dialog:

But praying, to enrich his watchfull Soule.
Happie were England, would this vertuous Prince
Take on his Grace the Soueraigntie thereof.
But sure I feare we shall not winne him to it.

Ciphertext is:

B V T P R A Y I N G T O E N R I C H H I S V A T C H F V L L S O V L E H A P P
I E V E R E E N G L A N D V O V L D T H I S V E R T V O V S P R I N C E T A K
E O N H I S G R A C E T H E S O V E R A I G N T I E T H E R E O F B V T S V R
E I F E A R E V E S H A L L N O T V I N N E H I M T O I T

Plaintext, +4 is:

F C B T Y E D N R L B S I R Y N G M M N A C E B G M K C P P A S C P I M E T T
N I C I Y I I R L P E R H C S C P H B M N A C I Y B C S C A T Y N R G I B E O
I S R M N A L Y E G I B M I A S C I Y E N L R B N I B M I Y I S K+F C B A C Y
I N+K I E Y I C I A M E P P R S B C N R R I M N Q B S N B

Alternate letters:

F B Y D R B I Y G M A E G K P A C I E T I I I R P R C C H M A I B S A Y R I E
I R N L E I M A C Y N R N+B I I K C A Y N+I Y C A E P S C R I N B N

Ciphertext reversed is:

T I O T M I H E N N I V T O N L L A H S E V E R A E F I E R V S T V B F O E R
E H T E I T N G I A R E V O S E H T E C A R G S I H N O E K A T E C N I R P S
V O V T R E V S I H T D L V O V D N A L G N E E R E V E I P P A H E L V O S L
L V F H C T A V S I H H C I R N E O T G N I Y A R P T V B

Plaintext, +4 is:

B N S B Q N M I R R N C B S R P P E M A I C I Y E I K N I Y C A B C F K S I Y
I M B I N B R L N E Y I C S A I M B I G E Y L A N M R S I O E B I G R N Y T A
C S C+B Y I C A N+M B H P C S C H R E P L R I I Y I C I N T T E M I P C S A P
P C K M G+B E C A N+M M G N Y R I S B L R N D E Y T B C F

Four names, four spellings in four lines.

* * *

On the last page of "A Midsummer nights Dreame"(v, 1, 405) there is a+"Song,"+set entirely in italics; six lines will be quoted:

+And the issue there create,
Ever shall be fortunate:
So shall all the couples <three>,
Ever true in loving be:
And the blots of Natures hand,
Shall not in their issue stand+.

Appropriately, we find in these lines+three+enciphered names, and all spelt differently:

Ciphertext is:

A N D T H E I S S V E T H E R E C R E A T E E V E R S H A L L B E F O R T V N
A T E S O S H A L L A L L T H E C O V P L E S + T H R E E + E V E R T R V E I N L
O V I N G B E A N D T H E B L O T S O F N A T V R E S H A N D S H A L L N O T
I N T H E I R I S S V E S T A N D

Plaintext, +4 is:

E R H B M I N A A C I B M I Y I G Y I E B I I C I Y A M E P P F I K S Y B C R
E B I A S A M E P P E P P B M I G S C T P I A B M Y I I I C I Y + B Y C I N + R P
S C N R L F I E R H B M I F P S B A S K R E B C Y I A M E R H A M E P P R S B
N R B M I N Y N A A C I A B E R H

Plaintext reversed is:

H R E + B A I C A A N + Y N I M B R N B S R P P E M A H R E M A I Y C B E R K S A
B S P F I M B H R E I F L R N C S P R N I C Y B Y I C I I I Y M B A I P T C S
G I M B P P E P P E M A S A I B E R C B Y S K I F P P E M A Y I C I I B E I Y
G I Y I M + B I C A A N + I M B H R E

* * *

As William F. Friedman wrote, the Elizabethan "disregard for absolute consistency" in their orthography "provides an argument for anti-Stratfordians, in that they are often able to cite genuine examples of the various spellings, abbreviations and forms of title to which they resort." (+The Shakespearean Ciphers Examined+, 1957).

This is to remind us, in a rather censorious way, not to demand that the Elizabethans conform to current standards of spelling and grammar that have been distilled and standardized during the last four hundred years. Read, for example, a letter written in 1601:

Suche a prelate if he come shuld be taugh a better leason than play so presumtius and bold a part afor he knewe your good liking thereof wich as i hope is far from your intent. So wyl his coming verifie to muche Good Mastar Simples asseverations at Rome of wich you have or now bene warned ynough. Thus you se how to fulfil your trust reposed in me wiche to infring I never mynde. I have sincerely made patente my sinceritie and thogh not fraught with muche wisdomes yet stuffed with great good wyl I hope you wyl beare with my molesting you to long with my skrating hand as prociding from a hart that shal ever be filled with the sure affection of your loving and frindely sistar. (Add. MS. 18738 f. 39, British Library.)

Composed by a backward, poorly tutored student, do you think? No. The letter was addressed to James VI of Scotland, later to become James I of England. The writer was highly educated in the classics and had been schooled with the instructors of the "New Learning." She was referred to as "that bright Occidental Star" who was the authoress of poems written in Latin and Greek. The letter writer was Queen Elizabeth I.

There is a popular story about WWI cryptography; it seems there was a German general who insisted that everyone address him as "Your Excellency." The British had already solved the generic system of their cipher and, whenever the Germans changed the key, it was only necessary to apply the German term for "Your Excellency" to the first two words of the new messages to get a long way into solving them. This principle was known as early as the Fifteenth Century in Italy, as mentioned in an earlier chapter. Names of towns and people that occurred often in cipher messages +were always misspelled+. Bacon, I am sure, knew that; thus the variations in his last name.

August Wilhelm von Schlegel (1767-1845) was a famous German critic and a professor of literature at Jena and Bonn. His translation of the plays made Shakespeare a best seller and a great influence on German drama. He said, of Shakespeare's accepted resume, that it was "a mere fabulous story, a blind extravagant error." William Hazlitt (1778-1830), an English essayist, critic and lecturer on British drama, never directly attacked the authorship but he observed, "The wisdom displayed in Shakespeare is equal in profoundness to the great Lord Bacon's +Novum Organum+."

Isaac D'Israeli said of Bacon, "He was indeed one of those men who

build great mornings for the world."

* * *

In "Loves Labour's lost" (v, 2, 42), Rosaline has just received a letter; the dialogue goes like this:

+Qu+. Who sent it? and what is it?
+Ros+. I would you knew
And if my face were but as faire as yours,
My Fauour were as great, be witnesse this,
Nay, I have Verses too, I thanke+Berowne+,
The numbers true, and were the numbring too,
I were the fairest goddesse on the ground.
I am compared to twenty thousand fairs.
O he hath drawne my picture in his letter.
+Qu+. Any thing like?
+Ros+. Much in the letters, nothing in the praise.
+Qu+. Beauteous as Incke: a good conclusion.
+Kat+. Faire as a text B. in a Coppie Booke.
+Ros+. Ware pensals. How? Let me not die your debtor,
My red Dominicall, my golden letter.

In the first two lines of Rosaline's speech we may find her red dominicall, her fair text B, her golden letter:

Ciphertext is:

I V O V L D Y O V K N E V A N D I F M Y F A C E V E R E B V T A S F A I R E A

Plaintext, +4 is:

N C S C P H D S C O R I C E R H N K Q D K E G I C I Y I + F C B E A K E N + Y I E

* * *

On the first and second leaves of +SHAKE-SPEARES SONNETS+ appear the title-page and the dedication, as described previously. In these we found our instruction "FORTH.", to search the fourth line of the Caesar printout for the plaintext. However, the number of letters in Bacon's cipher alphabet remained in doubt; we had to try many experiments to establish which letters had been omitted and to verify the proper number--21.

Much trouble might have been saved if we had examined more carefully the+last page+of the Sonnets for some peculiarity.

On this page appears the final Sonnet, number 154, which looks harmless enough. Following that is the word "FINIS." printed in capitals three times larger than normal; still there is nothing particularly odd about that. But below is an unexplained difference, apparently a glaring typographical error.

At the bottom of most of these pages is the "signature" notation that guided the bookbinder in assembling the printed pages. These were collated with the folded sheets which were cut apart before binding. For example, one series printed at the bottom of every other page in the Sonnets is "F", "F2", "F3". "F4" was usually omitted as unnecessary in the binding process. The letters and numbers were imprinted in this manner in an ordinary size of type.

On the last (recto) page of the Sonnets there is also a "signature." This is the first leaf of the next quarto, the eight pages which include the beginning of+A Lovers complaint+(another poem bound in at the end.) The series should have been "k", "k2", "k3" set in normal size type.

But this "k" is not normal. It is printed as a "great capital," three times the size of the other signatures. And it is followed by another great capital, an apparently meaningless, misplaced "A". There are six normal spaces between the letters, as if to add more stress to this bizarre imprint.

These two preeminent letters "KA" are hardly typographical errors; they were inserted as indicators, further keys to Francis Bacon's cipher alphabet. And now, we having come so far, they become confirmations.

The ancient Greeks had an unique way of writing their numbers. They simply used the+letters+of the Greek alphabet (some of which resembled the Roman). Alpha, Beta and Gamma represented the figures 1, 2 and

3; this continued to Theta which was 9. Then they began numbering by tens and adding these preceding, alphabetical digits to them. Iota, Kappa and Lambda were the numbers 10, 20 and 30; these continued until Koppa represented 90. The hundreds went from Rho to San, 100 to 900.

Thus the number 11 would be Iota Alpha, "IA". The number 55 was Nu Epsilon, "NE".

And the signature Kappa Alpha, "KA", becomes the number+21+. This 21 was put there as a pointer, a signal by a scholar with a Grecian vocabulary. It is the number of letters in Francis Bacon's own keyed alphabet.

* * *

Sonnet 52 begins:

So am I as the rich whose blessed key,
Can bring him to his sweet up-locked treasure.

We have the suggestion of a "key" and a locked "treasure;" let us see if our cryptographic key fits the lock:

The ciphertext is:

S O A M I A S T H E R I C H V H O S E B L E S S E D K E Y C A N B R I N G H I
M T O H I S S V E E T V P L O C K E D T R E A S V R E

Ciphertext reversed is:

E R V S A E R T D E K C O L P V T E E V S S I H O T M I H G N I R B N A C Y E
K D E S S E L B E S O H V H C I R E H T S A I M A O S

Plaintext,+4:

I Y C A E I Y B H I O G S P T C+B I I C A A N+M S B Q N M L R N Y F R E G D I
O H I A A I P F I A S M C M G N Y I M B A E N Q E S A

* * *

In "The First Part of Henry the Fourth" (ii, 4, 30), in the left-hand column, the name "Francis" is repeated+nineteen times+. Those favoring the authorship of Francis Bacon have often remarked upon this peculiarity.

The Prince and Paines are playing a joke upon Francis, their servant, the "puny Drawer." The Prince tells Paines to go into another room and begin calling for Francis; he does so and Francis enters. The Prince engages him in a nonsensical conversation, a sample of which is this:

+Prin+. Anon, Francis? No Francis, but tomorrow Francis: or Francis, on thursday: or indeed Francis when thou wilt. But Francis.

Paines continues to call him, and "The Drawer stands amazed, not knowing which way to go."

Two parts of this dialogue will be shown:

+Prin+. ...I prythee doe thou stand in some by-roome, while I question my puny Drawer, to what end hee gave me the suger and do never leave calling+Francis+

Ciphertext is:

S T A N D I N S O M E B Y R O O M E V H I L E I Q V E S T I O N M Y P V N Y D
R A V E R T O V H A T E N D H E E G A V E M E T H E S V G A R A N D D O N E V
E R L E A V E C A L L I N G+F R A N C I S+

Ciphertext reversed is:

S I C N A R F G N I L L A C E V A E L R E V E N O D D N A R A G V S E H T E M
E V A G E E H D N E T A H V O T R E V A R D Y N V P Y M N O I T S E V Q I E L
I H V E M O O R Y B E M O S N I D N A T S

Plaintext, +4 is:

A N G R E Y K L R N P P E G I C E I P Y I C I R S H H R E Y E L C A I M B I Q
I C E L I I M H R I B E M C S B Y I C E Y H D R C T D Q R S N+B A I C V N+I P
N M C I Q S S Y D F I Q S A R N H R E B A

The second part of the conversation includes this:

+Prin+. But Francis, darest thou be so valiant, as to play the coward
with thy Indenture and shew it a faire paire of heeles, and run from it?

Ciphertext is:

B V T+F R A N C I S+D A R E S T T H O V B E S O V A L I A N T A S T O P L A Y
T H E C O V A R D V I T H T H Y I N D E N T V R E A N D S H E V I T A F A I R
E P A I R E O F H E E L E S A N D R V N F R O M I T

Plaintext, +4 is:

F C B K Y E R G N A H E Y I A B B M S C F I A S C E P N E R B E A B S T P E D
B M I G S C E Y H C N B M B M D N R H I R B C Y I E R H A M I C N+B E K E N+Y
I T E N Y I S K M I I P I A E R H Y C R K Y S Q N B

* * *

There is something puzzling about the lettering on the Shakespeare
monument in Westminster Abbey, as it is shown on the scroll to which the
Bard is pointing. The words (some of them) are taken from the speech of
Prospero as it appears in the 1623 Folio, "The Tempest", (iv, 1, 154):

+Pro+. You doe looke (my son) in a mov'd sort,
As if you were dismaid : be cheerefull Sir,
Our reuels now are ended : These our actors,
(As I foretold you) were all spirits, and
Are melted into Ayre, into thin Ayre,
And like the baselesse fabricke of this vision
The Clowd-capt Towres, the gorgeous Pallaces,
The solemne Temples, the great Globe it selfe,
Yea, all which it inherit, shall dissolue,
And like this insubstantiall Pageant faded
Leave not a racke behinde : we are such stuffe
As dreames are made on ; and our little life
Is rounded with a sleepe : Sir I am vext,
Beare with my weakenesse, my old braine is troubled:
Be not disturb'd with my infirmitie,
If you be pleas'd, retire into my Cell,
And there repose, a turne or two, Ile walke
To still my beating minde.

But on the monument's scroll, to which Shakespeare's index finger
points, is this abridged and garbled version of the above lines:

The Cloud cupt Tow'rs,
The Gorgeous Palaces,
The Solemn Temples,
The Great Globe itself,
Yea all which it Inherit,
 Shall Dissolve;
And like the baseless Fabrick of a Vision
Leave not a wreck behind.

This is the present lettering. However, according to the Librarian at
Westminster Abbey (and my own recent inspection) the characters are only
painted on the monument. During a restoration they were repainted, some-
time after a photograph was published in 1923 (Frank Woodward, +Francis
Bacon's Cipher Signatures+, Grafton & Co., London). As shown there, the
third word was formerly "capt", not "cupt", as is confirmed by the version
shown by Neale & Brayley, in+The History. . . of the Abbey Church of St.
Peter Westminster+, 1823. Otherwise it is the same.

The wording on this scroll was dictated by Alexander Pope who
appears to have had the audacity to edit the great Bard's language. The
monument was financed by public subscription, and "Lord Burlington, Pope

and Dr. Mead" were put in charge of its design, according to Margaret Whinney (+Sculpture in Britain, 1530-1830+, 1964). It was executed by one Scheemakers, a sculptor.

Alexander Pope (1688-1744) was not only a poet of great renown, but he published a collection of Shakespeare's plays in 1725. He was also a parodist and satirist. He prescribed this wording. For example, the lettering above the statue's head is:

GVLIELMO SHAKESPEARE
ANNO POST MORTEM CXXIVO
AMOR PVBLICVS POSVIT

The translation is, "To William Shakespeare in the one hundred and twenty-fourth year after his death, public love erected this monument." The monument was completed and dedicated in 1741, +125+ years after the death, but Pope insisted on this erroneous computation and upon the inscription on the scroll. According to Dr. H.A.W. Speckman, writing in *American Baconiana*, Vol. II No. 4, 1926:

At the erection of the statue in 1741 a storm of indignation arose over the inadequacy of this Latin inscription, which mentioned neither the immortal works of the bard nor had a word to say about the years of his birth and of his death. Dr Mead himself publicly made known that he had most strongly opposed the use of the words "AMOR PVBLICVS," because they were not classic Latin. Dr. Mead was one of the greatest Latinists of the time, and he also republished the works of Bacon. But Pope, who was the author of the inscription, resisted to the utmost any alteration of it, so that Dr. Mead was finally compelled to give in, and did so saying: "Omnia vincit amor et nos cedemus amori," or "Love conquers all, and we yield to love."

Speckman complained, and properly so, that the legend on the scroll differed from the original blank verse: "one line is omitted, another misplaced, and still another divided in two parts; words are omitted, or altered and the spelling too." And "racke" has been changed to "wreck," a complete change in meaning.

It may be surmised, by those who genuflect before any graven image of their personal god of letters, that these are only mistakes. They are simply errors, done by the careless erectors of this 1741 Monument, they will explain.

Surely Alexander Pope knew better than to edit and tangle the words of the Bard in this manner. Yet he did so with a purpose: first to attract our attention, and second to infuse into the syntax the name of the genuine author. The line in which "fabricke" and "vision" occur is the only one in which the original text has not been divided; it has been displaced downward seven lines, so as to appear next to the last on the scroll, and +these two words have been newly capitalized+.

It is manifest that Alexander Pope knew that Bacon had used one of Trithemius' cipher methods, that of implanting a plaintext within a cipher-text series of words, so that every other letter spelled the message. And he had to omit the final "e" in "fabricke" to do it!

After coupling the two together, let us read the alternate letters beginning with the first:

F A B R I C K V I S I O N
+F B I K I I N+

There it stands, discreetly among the monuments in Westminster for all to observe. Pope knew what he was doing, and he was confident that "eyes not yet created shall o'er-read" this name. (The speech of Prospero, quoted above from the "Tempest," is worth further examination; it contains that familiar ciphered name, and three more are to be found in the next twenty-three lines.)

Perhaps not to be outdone, there is another statue of Shakespeare at the British Library, in the present "King's Library." This was executed by Roubillac in 1758 and was commissioned by David Garrick, the famous British actor, for his villa at Hampton.

Does it represent the scheme of Francis Bacon's private alphabet? Garrick's statue depicts the Bard's right hand as having +two+ fingers extended, his left hand +one+. The latter digit is extended upward and laid to his

cheek, as if to savor some private jest. But this is merely circumstantial evidence--hardly enough to shake the faith of a true Bardolater.

Notwithstanding, there were a few individuals living in Garricks's time who did not presume the authorship. They+knew+.

* * *

In Shakespeare's comedy "As you like it" (iii, 2, 298), those words are printed as the "running head" at the top of each page, except for one. That one says, "As+yoa+like it." Merely a printer's error?

Ten lines down from the beginning of the same page is the word "Cipher." Between this interesting cue and the "typographical error" are these lines:

+Iaq+. The worst fault you haue, is to be in loue.
+Orl+. 'Tis a fault I will not change, for your best vertue: I am wearie of you.
+Iaq+. By my troth, I was seeking for a Foole, when I found you.
+Orl+. He is drown'd in the brooke, looke but in, and you shall see him.
+Iaq+. There I shall see mine owne figure.
+Orl+. Which I take to be either a foole, or a <Cipher>.

The ciphertext is:

T H E V O R S T F A V L T Y O V H A V E I S T O B E I N L O V E T I S A F A V
L T I V I L L N O T C H A N G E F O R Y O V R B E S T V E R T V E I A M V E A
R I E O F Y O V

The plaintext is:

B M I C S Y A B K E C P B D S C M E C I N A B S F I N R P S C I B N A E K E C
P B N C N P P R S B G M E R L I K S Y D S C Y F I A B C I Y B C I N E Q C I E
Y N I S K D S C

Alternate letters are:

M C Y B E P D C E I A S I R S I N E E P N N
P S G E L K Y S Y I B I+B I E C E N+S D C

* * *

In "The Rape of Lucrece," verse 24, line 207 begins:

To <cipher> me how fondlie did I dote:
That my posteritie sham'd with the note
Shall curse my bones, and hold it for no sinne,
To wish that I their father had not been.

The last line betrays the author.

Ciphertext is:

T O V I S H T H A T I T H E I R F A T H E R H A D N O T B E E N E

Ciphertext reversed is:

E N E E B T O N D A H R E H T A F R I E H T I T A H T H S I V O T

Plaintext, +4 is:

I R I I F B S R H E M Y I M+B E K Y N+I M B N B E M B M A N C S B

We may remark the letters "IM" both before and after the name. Here the word "cipher" appears again+directly in the ciphertext;+ we will witness many other samples in which a version of "cipher" occurs in the +plaintext+.

* * *

"The Rape of Lucrece" (1594) is also dedicated to the Earle of South-

ampton by Shakespeare. It is a long poem having 255 stanzas; the very last line (no. 1855) is concerned with the Roman's punishment of Tarquin for the murder of Lucrece.

Ciphertext is:

T O T A R Q V I N S E V E R L A S T I N G B A N I S H M E N T

Ciphertext reversed is:

T N E M H S I N A B G N I T S A L R E V E S N I V Q R A T O T

Plaintext, +4 is:

B R I Q M A N R E F L R N B A E P Y I C I A R N C V Y E B S B

Alternate letters are:

R Q A R+F R B E Y C A N+V E S

Bacon did, before 1621, sometimes abbreviate his first name as "Fr."

* * *

What secrets lie amid these lines? ("The First Part of Henry the Sixth," iii, 2, 81):

And as his Father here was Conqueror;
As sure as in this late betrayed Towne,
Great Cordelions Heart was buried;
So sure I sweare, to get the Towne, or dye.

Ciphertext is:

A N D A S H I S F A T H E R H E R E V A S C O N Q V E R O R A S S V R E A S I
N T H I S L A T E B E T R A Y E D T O V N E G R E A T C O R D E L I O N S H E
A R T V A S B V R Y E D S O S V R E I S V E A R E T O G E T T H E T O V N E O
R D Y E

Ciphertext reversed is:

E Y D R O E N V O T E H T T E G O T E R A E V S I E R V S O S D E Y R V B S A
V T R A E H S N O I L E D R O C T A E R G E N V O T D E Y A R T E B E T A L S
I H T N I S A E R V S S A R O R E V Q N O C S A V E R E H R E H T A F S I H S
A D N A

Plaintext, +4 is:

I D H Y S I R C S B I M B B I L S+B I Y E I C A N+I Y C A S A+H I D+Y C F A E
C B Y E I M A R S N P I H Y S G B E I Y L I R C S B+H I D+E Y B I F I B E P A
N M B R N A E I Y C A A E Y S Y I C V R S G A E C I Y I M Y I M+B E K A N+M A
E H R E

* * *

Now and then we may find directions to help us in our task. We are searching for a cue to find Bacon's name. Reflect upon these lines from the "Merry Wives of Windsor" (iii, 2, 45), the 1623 edition. They do not appear in the 1602 edition of the play:

The clocke giues me my Qu, and my assurance bids me search, there
I shall finde Falstaffe+ I shall be rather praisd for this, then mock'd, for
it is as possitue, as the earth is firme,that Falstaffe+is there: I will go.

Ciphertext is:

T H E C L O C K E G I V E S M E M Y+Q V+A N D M Y A S S V R A N C E B I D S M
E+S E A R C H+T H E R E I S H A L L+F I N D+E F A L S T A F F E I S H A L L B
E R A T H E R P R A I S D F O R T H I S T H E N M O C K D F O R I T I S A S P
O S S I T I V E A S T H E E A R T H I S F I R M E T H A T F A L S T A F F E I

S T H E R E I V I L L G O

Plaintext, +4 is:

B M I G P S G O I L N C I A Q I Q D V C E R H Q D E A A C Y E R G I F N H A Q
I A I E Y G M B+M I Y+I+N A M E+P P K N R H I K E P A+B E K K I N A M E+P P F
I Y E B M I Y T Y E N A H K S Y B M N A B M I R Q S G O H K S Y N B N A E A T
S A A N B N C I E A B M I I E Y B M N A K N Y Q I B M E B K E P A+B E K K I N+
A B M I Y I N C N P P L S

For those who may nurture doubts about reversing the ciphertext or tolerating alternate letters, this example is faultless, as are many more which have been and shall be shown.

* * *

"Frs. is a fitting abridgement of "Francis," as it is found in "Anthony and Cleopatra" (iv, 12, 14). Two lines are:

Their wishes, do dis-Candie, melt their sweets
On blossoming+Caesar:+

Ciphertext is:

T H E I R V I S H E S D O D I S C A N D I E M E L T T H E I R S V E E T S O N
B L O S S O M I N G C A E S A R

Ciphertext reversed is:

R A S E A C G N I M O S S O L B N O S T E E V S R I E H T T L E M E I D N A C
S I D O D S E H S I V R I E H T

Plaintext, +4 is:

Y E A I E G L R N Q S A A S P+F R S+A+B I I C A Y N+I M B B P I Q I N H R E G
A N H S H A I M A N C Y N I M B

* * *

In "The Taming of the Shrew," (iii, 2, 51) Biondello describes a horse upon which Petruchio is mounted:

. . . besides possess with the glanders, and like to mose in the chine, troubled with the Lampasse, infected with the fashions, full of windgalls, sped with Spauins, raied with the Yellowes, past cure of the Fives, starke spoyl'd with the Staggers, begnawne with the Bots, waid in the backe, and shoulder-shotten . . .

Only an Elizabethan veterinarian might know the meaning of all these antique equine afflictions. We know that "the Bots" was an infection of maggots, while "waid" (swaid) must refer to "swaybacked," an unnatural sagging of a horse's spine. But why is "waid" both capitalized and so poorly spelled? This juxtaposition of "Bots" and "waid" reminds us of the first spoken word in "The Tempest": "Boteswaine." We must examine this further:

The ciphertext is:

B E G N A V N E V I T H T H E B O T S V A I D I N T H E
+B A C K E A N+D S H O V L D E R S S H O T T E N

The plaintext is:

F I L R E C R I C N B M B M I+F S B A C E N+H N R B M I
F E G O I E R H A M S C P H I Y A M S B B I R

We must recall that, after 1621, "Fs" was Francis Bacon's signature abbreviation for his first name.

* * *

The word "counterfeit" figures prominently in such ciphers, as we shall see before long. In the following it is used only once, but the enciphered name appears twice in "A Midsommer nights Dreame" (iii, 2, 367):

Till ore their browes, death-<counterfeiting>, sleepe
 With leaden legs, and Battie-wings doth creepe;
 Then crush this hearbe into+Lysanders+eie,
 whose liquor hath this vertuous propertie,

Ciphertext is:

T I L L O R E T H E I R B R O V E S D E A T H C O V N T E R F E I T I N G S L
 E E P E V I T H L E A D E N L E G S A N D B A T T I E V I N G S D O T H C R E
 E P E T H E N C R V S H T H I S H E A R B E I N T O L Y S A N D E R S V I E V
 H O S E L I Q V O R H A T H T H I S V E R T V O V S P R O P E R T I E

Plaintext, +4 is:

B N P P S Y I B M I N Y F Y S C I A H I E B M G S C R + B I Y K I N + B N R L A P
 I I T I C N B M P I E H I R P I L A E R H F E B B N I C N R L A H S B M G Y I
 I T I B M I R G Y C A M B M N A M I E Y F I N R B S P D A E R H I Y A C N I C
 M S A I P N V C S Y M E B M B M N A C I Y B C S C A T Y S T I Y B N I

Plaintext reversed is:

I N B Y I T S Y T A C S C + B Y I C A N + M B M B E M Y S C V N P I A S M C I N C
 A Y I H R E A D P S B R N I F Y E I M A N M B M A C Y G R I M B I T I I Y G M
 B S H A L R N C I N B B E F H R E A L I P R I H E I P M B N C I T I I P A L R
 N B N I K Y I B R C S G M B E I H A I C S Y F Y N I M B I Y S P P N B

* * *

In Shake-speares Sonnets, verse +12+ begins, "when I do count the
 clock that tels the time,"
 Clocks have twelve hours. Perhaps some emphasis is implied by this
 beginning. Lines nine to twelve are revealing:

Then of thy beauty do I question make
 That thou among the wastes of time must goe,
 Since sweets and beauties do them-selues forsake,
 And die as fast as they see others grow,

The ciphertext is:

T H E N O F T H Y B E A V T Y D O I Q V E S T I O N M A K E T H A T T H O V A
 M O N G T H E V A S T E S O F T I M E M V S T G O E S I N C E S V E E T S A N
 D B E A V T I E S D O T H E M S E L V E S F O R S A K E A N D D I E A S F A S
 T A S T H E Y S E E O T H E R S G R O V

The ciphertext reversed is:

V O R G S R E H T O E E S Y E H T S A T S A F S A E I D D N A E K A S R O F S
 E V L E S M E H T O D S E I T V A E B D N A S T E E V S E C N I S E O G T S V
 M E M I T F O S E T S A V E H T G N O M A V O H T T A H T E K A M N O I T S E
 V Q I O D Y T V A E B Y H T F O N E H T

The plaintext, +4 is:

C S Y L A Y I M B S I I A D I M B A E + B A E K A E I N + H H R E I O E A Y S K A
 I C P I A Q I M B S H A I N B + C E I F H R E + A B I I C A I G R N A I S L B A C
 Q I Q N B K S A I B A E C I M B L R S Q E C S M B B E M B I O E Q R S N + B A I
 C V N + S H D B C E I F D M B K S R I M B

Alternate letters are:

C Y A I B I A I + B E A K E N + H E O S A C I I Q M S A N C I H E B I A
 G N I L A Q Q B S I A C M L S E S B E B O Q S B I V S D C I D B S I B

These three plaintext versions of his name appear in lines nine to

twelve of sonnet 12, and include a variant, phonetic spelling of "cipher." Another accidental miracle?

* * *

I will cite +forty-one additional examples+ in which a Seventeenth Century version of "cipher" appears in the plaintext near Bacon's enciphered name.

"So to the Lawes at large <I write my name>." Seven lines following begins this passage from "Loves Labour's lost" (i, 1, 161):

+Fer+. I that there is, our Court you know is hanted
With a refined travailer of+Spaine,+
A man in all the worlds new fashion planted,
That hath a mint of phrases in his braine:

Ciphertext, +4 is:

I T H A T T H E R E I S O V R C O V R T Y O V K N O V I S H A N T E D V I T
H A R E F I N E D T R A V A I L E R O F S P A I N E A M A N I N A L L T H E
V O R L D S N E V F A S H I O N P L A N T E D

Plaintext, +4 is:

N B M E B B M I Y I N A S C Y G S C Y B D S C O R S C + N A M E + R B I H C N B
M E Y I K N R I H + B Y E C E N + P I Y S K A T E N R I E Q E R N R E P P B M I
C + S Y P H A R + I C K E A M N S R T P E R B I H

Having given us a plain signal, in three lines the author has confided his name, labeled it, and identified it as being written in cipher.

* * *

In "The third Part of King Henry the Sixt" (ii, 2, 148), the "Yong Prince Edward" is questioned about his parentage by warwicke and the Queen. They suggest that he may be an+impostor:+ "But thou art neyther like thy Sire nor Damme."

And ne're was+Agamemnons+Brother wrong'd
By that false woman, as this King by thee.
His Father reuel'd in the heart of France,

Ciphertext is:

A N D N E R E V A S A G A M E M N O N S B R O T H E R V R O N G D B Y T H A T
F A L S E V O M A N A S T H I S K I N G B Y T H E E H I S F A T H E R R E V E
L D I N T H E H E A R T O F F R A N C E

Plaintext is:

E R H R I Y I C E A E L E Q I Q R S R A F Y S B M I Y C Y S R L H F D B M E B
K E P A I C S Q E R E A B M N A O N R L F D B M I I M N A K E B M I Y Y I C I
P H N R B M I M I E Y B S K K Y E R G I

Plaintext, +4 reversed is:

I G R E Y K K S B Y E I M I M B R N H P I C I Y Y I M + B E K A N + M I I M B D F
L R N O A N M B A E R E Q S C I A P E K B E M B D F H L R S Y C Y I M B + S Y F
A R S + R Q I Q E L E A E C I Y I R H R E

A few lines after this (ii, 2, 156) we read:

Even then that Sun-shine brew'd a showre for him,
That washt his Fathers fortunes forth of France,

Ciphertext is:

E V E N T H E N T H A T S V N S H I N E B R E V D A S H O V R E F O R H I M T
H A T V A S H T H I S F A T H E R S F O R T V N E S + F O R T H + O F F R A N C E

Ciphertext reversed is:

E C N A R F F O H T R O F S E N V T R O F S R E H T A F S I H T H S A V T A H
T M I H R O F E R V O H S A D V E R B E N I H S N V S T A H T N E H T N E V E

Plaintext, +4 is:

I G R E Y K K S M B Y S K A I R C B Y S K A Y I M + B E K A N + M B M A E C B E M
B Q N M Y S K I Y C S M A E H + C I Y F I R + N M A R C A B E M B R I M B R I C I

* * *

Falstaffe is defending himself from a defamation uttered by the Prince, in "The First Part of King Henry the Fourth" (ii, 4, 516):

+Falst+. . .No, my good Lord, banish Peto, banish Bardolph, banish Poines: but for sweete Iacke Falstaffe, kinde Iacke Falstaffe, true Iacke Falstaffe,

Ciphertext is:

N O M Y G O O D L O R D B A N I S H P E T O B A N I S H B A R D O L P H B A N
I S H P O I N E S B V T F O R S V E E T E I A C K E F A L S T A F F E K I N D
E I A C K F A L S T A F F E T R V E I A C K F A L S T A F F E

Plaintext, +4 is:

R S Q D L S S H P + S Y H F E R + N A M T I B S F E R N A M F E Y H S P T M F E R
N A M T S N R I A F C B K S Y A C I I B I N E G O I K E P A + B E K K I O N + R H
I N E G O K E P A B E K K I + B Y C I N + E G O K E P A B E K K I

* * *

In "Much Ado about Nothing" (iii, 1, 87) we read:

+Vrsu+. . .She cannot be so much without true iudgement,
Having so swift and excellent a wit
As she is priske to haue, as to refuse
So rare a Gentleman as Signior+Benedicke+.

Ciphertext is:

S H E C A N N O T B E S O M V C H V I T H O V T T R V E I V D G M E N T H A
V I N G S O S V I F T A N D E C E L L E N T A V I T A S S H E I S P R I S D
E T O H A V E A S T O R E F V S E S O R A R E A G E N T L E M A N A S S I G
N I O R B E N E D I C K E

Plaintext, +4 is:

A M I G E R R S B F I A S Q C G M C N B M S C B + B Y C I N + C H L Q I R B M E
C N R L A S A C N K B E R H I G I P P I R B E C N B E A A M I N A T Y N A H
I B S M E C I E A B S Y I K C A I A S Y E Y I E L I R B P I Q E R E A A N L
R N + S Y F I R + I H N G O I

A few lines later +Hero+says, "Indeed he hath an excellent good name."

* * *

"There's a Divinity that shapes our ends, / Rough-hew them how we will." So says Hamlet in Shakespeare's play of that name, an observation to make us thoughtful.

George Puttenham in +The Arte of English Poesie+ (1589) wrote, "I know many notable Gentlemen in the Court that have written commendably, and suppressed it agayne, or else suffered it to be publisht without their owne names to it, as if it were a discredit for a Gentleman to seem learned, and to shew himself amorous of any learned Art." Hamlet continues in the same vein, in "The Tragedie of Hamlet" (v, 2, 34):

+Ham+. Being thus benetted round with Villaines,

Ere I could make a Prologue to my braines,
They had begun the Play. I sate me downe,
Deuis'd a new Commission, wrote it faire,
I once did hold it as our Statists doe,
A basenesse to write faire; and laboured much
How to forget that learning . . .

The ciphertext is:

I O N C E D I D H O L D I T A S O V R S T A T I S T S D O E A B A S E N E S S
E T O V R I T E F A I R E A N D L A B O V R E D M V C H

The plaintext is:

N S R G I H N H M S P H N B E A S C Y A B E B N A B A H + S I E F E A I R + I A A
I B S C Y N + B I K E N + Y I E R H P E F S C Y I H Q C G M

The alternate letters are:

S G H H S H + B A C A E N + B H I F A R A I S Y B K N I R P F C I G G

Again we find the name and this time twice following the word "SIEFEAIR," although such orthography may daze the modern eye. In Shakespeare's works it is ordinarily spelled as "cipher" or "cypher", but those choices were not dictated by any Elizabethan dictionary. At that time there were other ways to spell the word. Francis Bacon, for example, spelled it both as "cyphers" and "cyphars" in English, and as "cyphras" in the Latin language with which he was eminently familiar.

And, according to the comprehensive Oxford English Dictionary, these forms were also acceptable in the Seventeenth Century: "sipher, cyfer, cifer, ciphre, sypher, ziphre, scypher, cyphar, cyphre, ciphar, zifer, cypher, cipher." (Oddly enough, my very modern, phonetic computer spelling checker gives "cipher" as the probable intended meaning of most of these words.) At the same time, other acceptable spellings for the antonym were "dicipher, discypher, discipher, disipher."

Other moderns, counting on recent orthographic fashion, may object to the diverse spellings of Bacon's own name, as we have found it in these plaintext solutions to his ciphers. Nevertheless, Francis Bacon once wrote his brother's name (in a legal document preserved in the London Lambeth Library) in this way: "Anth. +Bakon+" Books dedicated to Bacon spelled his first name as "ffrauncis." His kinsmen were not particular about it either:

It is worthy of notice that the Bacon family in early times spelt their name "Becon" or "Beacon." Some of them seem to have written under this name, and there is a work by Thomas Becon, 1563-4 in which, on the title page of the second volume, his name changes from "Becon" to "Beacon." (Mrs. Henry Pott, +Francis Bacon and his Secret Society, p. 341.)

John Florio (1591, +Second Frutes+) alluded to a "gammon of bakon." And, as we have seen, the Oxford English Dictionary gives these spellings for the period: +bacoun, bakoun, bacun, bakon, baken, bacon."+

The authenticated Shakespeare signatures spell the Bard's name in six different ways, a matter the Shakespearean philologists have chosen to disregard. According to Charles Hamilton, a manuscript expert who says he can read the untidy scrawls+(In Search of Shakespeare, +Harcourt Brace, 1985), these are the spellings:

+Shackper, Shakspear, Shakspea, Shackspere, Shakspere, Shakspeare+.

The man was baptized as+Shaksper+, gave bond for marriage as +Shagspere+, was married as+Shaxper+and buried as+Shakspeare+.

* * *

In "The third Part of King Henry the Sixt" (iii, 2, 1), the King enters and says, intriguingly, "Brother of Gloster, at S. Albons field..." Perhaps an inhabitant of St. Albans parish is holding the pen:

+King+. How many Children hast thou, widow? tell me.
 +Clarence+. I thinke he meanes to begge a Child of her.
 +Rich+. Nay then whip me: hee'le rather giue her two.
 +Wid+. Three, my most gracious Lord.
 +Rich+. You shall have foure, if you'le be rul'd by him.
 +King+. 'Twere pittie they should lose their Fathers Lands.
 +Wid+. Be pittifull, dread Lord, and graunt it then.
 +King+. Lords giue vs leaue, Ile trye this widowes wit.
 +Rich+. I, good leaue haue you, for you will haue leaue,
 Till Youth take leaue, and leaue you to the Crutch.

Ciphertext is:

Y O V S H A L L H A V E + F O V R E + I F Y O V L E B E R V L D B Y H I M T V E R
 E P I T T I E T H E Y S H O V L D L O S E T H E I R F A T H E R S L A N D S B
 E P I T T I F V L L D R E A D L O R D A N D G R A V N T I T T H E N L O R D S
 G I V E V S L E A V E I L E T R Y E T H I S V I D O V E S V I T I G O O D L E
 A V E H A V E Y O V F O R Y O V V I L L H A V E L E A V E T I L L Y O V T H T
 A K E L E A V E A N D L E A V E Y O V T O T H E C R V T C H

Ciphertext reversed:

H C T V R C E H T O T V O Y E V A E L D N A E V A E L E K A T H T V O Y L L I
 T E V A E L E V A H L L I V V O Y R O F V O Y E V A H E V A E L D O O G I T I
 V S E V O D I V S I H T E Y R T E L I E V A E L S V E V I G S D R O L N E H T
 T I T N V A R G D N A D R O L D A E R D L L V F I T T I P E B S D N A L S R E
 H T A F R I E H T E S O L D L V O H S Y E H T E I T T I P E R E V T M I H Y B
 D L V R E B E L V O Y F I E R V O F E V A H L L A H S V O Y

Plaintext, +4 is:

M G B C Y G I M B S B C S + D I C E I P H R E + I C E I P I O E B M B C S D P P N
 B I C E I P I C E M P P N C C S D Y S K C S D I C E M I C E I P H S S L N B N
 C A I C S H N C A N M B I D Y B I P N I C E I P A C I C N L A H Y S P R I M B
 B N B R C E Y L H R E H Y S P H E I Y H P P C K N B B N T I F A H R E P A Y I
 M + B E K Y N + I M B I A S P H P C S M A D I M B I N B B N T I Y I C B Q N M D F
 H P C Y I F I P C S D K N I Y C S K I C E M P P E M A C S D

Here we find a phonetic version of "decipher," followed by the familiar assertion, "I'm Bacon."

* * *

Shakespeare added over four thousand new words to our language. It should not be surprising that an "English Dictionarie" was published simultaneously with the Folio (The English Dictionarie of 1623,--alleged to be by Henry Cockeram--a facsimile, Huntington Press, New York 1930.) What, we wonder, might be the definition of the word "decipher"?

+Decipher+. To write after a strange maner that none shall read it: also to find out the meaning of a thing so written.

The author seems to have defined both "cipher" and "decipher" under the same heading. Curious.

Ciphertext is:

T O V R I T E A F T E R A S T R A N G E M A N E R

Ciphertext reversed is:

+R E N A M E + G N A R T S A R E T F A E T I R V O T

Plaintext, +4 is:

Y I R E Q I L R E Y B A E Y I B K E I B N Y C S B

Alternate letters are:

Y R Q L E + B E I K I N + C B

* * *

Here are some lines which are taken from "The most Lamentable Romaine Tragedie of Titus Andronicus," in the anonymously published 1594 Quarto (iv, 2, 4):

+Puer+. My Lords, with all the humblenes I may,
I greete your Honours from Andronicus,
And pray the Romane Gods confound you both.
+Demetrius+. Gramarcie Louelie Lucius, whats the news.
+Puer+. That you are both <discipherd,> thats the newes,

But when the play was published in 1623, the last line was missing. In the editor's haste to purge that glaring word "discipherd," Puer's lines were mistakenly given to Demetrius, although he is made to Exit before speaking the next line (1623 Folio, iv, 2, 24):

+Deme+. What's heere? a scrole, & written round about: Let's see.
+Integer vitae scelerisque purus, non egit maury iaculis nec arcus+.
+Chi+. O 'tis a verse in Horace, I know it well.
I read it in the Grammer long agoe.
+Moore+. I iust, a verse in Horace: right, you have it,

Ciphertext is:

I I V S T A V E R S E I N H O R A C E R I G H T Y O V H A V E I T

Plaintext, +4, is:

N N C A + B E C I Y A I N + R M S Y E G I Y N L M B D S C M E C I N B

* * *

At the beginning of Chapter 10, I quoted part of a passage from "The Comedie of Errors" (v, 1, 336). Here are those lines and a few more:

+Duke+. <O>ne of these men is genius to the other:
<A>nd so of these, which is the naturall man,
<A>nd which the spirit? who <deciphers> them?
+S. Dromio+. <I> sir am Dromio, command him away.
+E. Dro+. <I> sir am Dromio, pray let me stay.
+S. Ant. <E>geon art thou not? or else his ghost.
+S. Drom+. <O>h my olde Master, who hath bound him heere?
+Abb+. <W>ho euer bound him, I will lose his bonds,
<A>nd gaine a husband by his libertie:
<S>peake old Egeon, if thou bee'st the man
<T>hat hadst a wife once call'd Emilia,
<T>hat bore thee at a burthen two faire sonnes?
<O>h if thou bee'st the same Egeon, speake:
<A>nd speake vnto the same Emilia.

Of the two Dromios, one is suspected of being an impostor; this affords a convenient moment for the author to discard his mask. We must choose the initial capitals of each line of dialogue:

Ciphertext is:

O A A I I E O V A S T T O A

Ciphertext reversed is:

A O T T S A V O E I I A A O

Plaintext, +4 is:

E S B B A E C S I N N E E S

Plaintext, alternate letters:

E+B A C I N+E

Who decipher them? +We do+.

* * *

From "The two Gentlemen of Verona," (iv, 1, 50):

+1. Out+. And I, for such like petty crimes as these.
ut to the purpose: for we cite our faults,
<T>hat they may hold excus'd our lawlesse liues;
<A>nd partly seeing you are beautifide
<W>ith goodly shape; and by your owne report,
<A> Linguist, and a man of such perfection,
<A>s we doe in our quality much want.

+2. Out+. <I>ndeede because you are a banish'd man,

The capitalized first letters of each line produce the ciphertext:

B T A W A A I

Plaintext is:

+F B E C E E N+

Ciphertext of the last line is:

I N D E E D E B E C A V S E Y O V A R E A B A N I S H D M A N

Plaintext, +4 is:

N R H I I H I F I G E C A I D S+C E Y I E F E R+N A M H Q E R

* * *

It has been argued that authors in the Seventeenth Century had no control over the printing of their books; some innocents believed that the printers were the publishers and that they dotted every "i." However, if we study the 60th page of "The Tragedie of Romeo and Juliet." we will notice that the running head for that page is unique; it reads:

The Tragedie of Romeoand Juliet.

Two of the words are+run together+and the period is typeset +upside down+(ii, 2, 152). Another "tricke of singularitie"?

Just under these duplicate "errors", beginning on the top line of the right-hand column, we read:

(By and by I come)
To cease thy strife, and leaue me to my grieffe.
Tomorrow will I send.

Ciphertext is:

B Y A N D B Y I C O M E T O C E A S E T H Y S T R I F E A N D L E A V E M E T
O M Y G R I E F E T O M O R R O V V I L L I S E N D

Ciphertext reversed is:

D N E S I L L I V V O R R O M O T E F E I R G Y M O T E M E V A E L D N A E F
I R T S Y H T E S A E C O T E M O C I Y B D N A Y B

Plaintext, +4 is:

H R I A N P P N C C S Y Y S Q S+B I K I N+Y L D Q S B I Q I+C E I P H R E+I K
N Y B A D M B I A E I G S B I Q S G N D F H R E D F

* * *

"Oh, I beseech you pardon mee, my Lord, in that."

One of the Lords so addresses Timon in "Timon of Athens" (i, 2, 216). In passing I will note that this word "beseech" often precedes a cipher passage.

+Tim+. . . Ile tell you true, Ile call to you.
+All Lor+. O none so welcome.
+Tim+. I take all, and your seuerall visitations
So kinde to heart, 'tis not enough to giue:
Me thinkes, I could deale Kingdomes to my Friends,
And nere be wearie.

Ciphertext is:

I L E T E L L Y O V T R V E I L E C A L L T O Y O V O N O N E S O V E L C O M
E I T A K E A L L A N D Y O V R S E V E R A L L V I S I T A T I O N S S O K I
N D E T O H E A R T T I S N O T E N O V G H T O G I V E M E T H I N K E S I C
O V L D D E A L E K I N G D O M E S T O M Y F R I E N D S A N D N E R E B E V
E A R I E

Plaintext, +4 is:

N P I B I P P D S C + B Y C I N + P I G E P P B S D S C S R S R I A S C I P G S Q
I N B E O I E P P E R H D S C Y A I C I Y E P P C N A N B E B N S R A A S O N
R H I B S M I E Y B B N A R S B I R S C L M B S L N C I Q I B M N R O I A N G
S C P H H I E P I O N R L H S Q I A B S Q D K Y N I R H A E R H R I Y I F I C
I E Y N I

Plaintext reversed is:

I N Y E I + C I F I Y I R + H R E A H R I N Y K D Q S B A I Q S H L R N O I P E I
H H P C S G N A I O R N M B I Q I C N L S B M L C S R I B S R A N B B Y E I M
S B I H R N O S A A R S N B E B N A N C P P E Y I C I A Y C S D H R E P P E I
O E B N I Q S G P I C S A I R S R S C S D S B P P E G I P N I C Y B C S D P P
I B I P N

* * *

This is from "The Tragedie of Anthony and Cleopatra" (i, 2, 153):

+Eno+. Oh sir, you had then left vnseene a wonderfull peece of worke,
which not to have beene blest withall, would have discredited your
Trauaile.

Let's see what "wonderfull piece of work" has been left unseen.

Ciphertext is:

O H S I R Y O V H A D T H E N L E F T V N S E E N E A V O N D E R F V L L P E
E C E O F V O R K E V H I C H N O T T O H A V E B E E N E B L E S T V I T H A
L L V O V L D H A V E D I S C R E D I T E D Y O V R T R A V A I L E

Plaintext, +4 is:

S M A N Y D S C M E H B M I R P I K B C R A I I R I E C S R H I Y K C P P T I
I G I S K C S Y O I C M N G M R S B B S M E + C I F I I R + I F P I A B C N B M E
P P C S C P H M E C I H N A G Y I H N B I H D S C Y + B Y E C E N + P I

* * *

+An Alarum: Excursions. Enter Sir Iohn
Falstaffe, and a Captaine+.

Following this stage direction, "Alarum" (loud noises) and "Excursions" (much rushing about), this dialogue follows ("First Part of King Henry the Sixth," iii, 2, 104):

+Capt+. Whither away Sir+Iohn Falstaffe,+in such haste?
+Falst+. Whither away? to saue my selfe by flight,
we are like to haue the ouerthrow againe.

+Capt+. what? will you flye, and leaue Lord+Talbot?+
+Falst+. I, all the+Talbots+in the world, to save my life.

Ciphertext is:

V H I T H E R A V A Y S I R I O H N F A L S T A F F E I N S V C H H A S T E V
H I T H E R A V A Y T O S A V E M Y S E L F E B Y F L I G H T V E A R E L I K
E T O H A V E T H E O V E R T H R O V A G A I N E V H A T V I L L Y O V F L Y
E A N D L E A V E L O R D T A L B O T

Plaintext, +4 is:

C M N B M I Y E C E D A N Y N S M R K E P A+B E K K I N+R A C G M M E A B I C
M N B M I Y E C E D B S A E C I Q D A I P K I F D K P N L M B C I E Y I P N O
I B S M E C I B M I S C I Y B M Y S C E L E N R I C M E B C N P P D S C K P D
I E R H P I E C I P S Y H B E P F S B

Plaintext reversed is:

B S F P E B H Y S P I+C E I P H R E+I D P K C S D P P N C B E M C I R N E L E
C S Y M B Y I C S I M B I C E M S B I O N P I Y E I C B M L N P K D F I K P I
A D Q I C E A S B D E C E Y I M B N M C I B A E M M G C A R N I K K E B A P E
K R M S N Y N A D E C E Y I M B N M C

* * *

And long vpon these termes I held my Citty,
Till thus hee gan besiege me: Gentle maid
Haue of my suffering youth some feeling pittty
And be not of my holy vowes affraid,
Thats to ye sworne to none was euer said,
For feasts of loue I haue bene call'd unto
Till now did nere inuite nor neuer vovv.

This poem, +A Lovers complaint,+ (verse 26, l. 175) is not credited to Shakespeare by most critics (notwithstanding that it is labeled "By William Shake-speare"), but the word "suffering" attracts our attention. A version of "suffer" is sometimes found within a Bacon cipher manifestation; "suffering" does sound a lot like "ciphering", after all.

Ciphertext is:

A N D L O N G V P O N T H E S E T E R M E S I H E L D M Y C I T T Y T I L L T
H V S H E E G A N B E S I E G E M E G E N T L E M A I D H A V E O F M Y S V F
F E R I N G Y O V T H S O M E F E E L I N G P I T T Y A N D B E N O T O F M Y
H O L Y V O E V S A F F R A I D T H A T S T O Y E S V O R N E T O N O N E V A
S E V E R S A I D F O R F E A S T S O F L O V E I H A V E B E N E C A L L D V
N T O T I L L N O V D I D N E R E I N V I T E N O R N E V E R V O V

Plaintext, +4 is:

E R H P S R L C T S R B M I A I+B I Y Q I A N+M I P H Q D G N B B D B N P P B
M C A M I I L E R F I A N I L I Q I L I R B P I Q E N H M E C I S K Q D A C K
K I Y N R L D S C B M A S Q I K I I P N R L T N B B D E R H F I R S B S K Q D
M S P D C S I C A E K K Y E N H B M E B A B S D I A C S Y R I B S R S R I C E
A I C I Y A E N H K S Y K I E A B A S K P S C I N M E+C I F I R+I G E P P H C
R B S B N P P R S C H N H R I Y I N R C N B I R S Y R I C I Y C S C

* * *

"Suffer" appears again in "The Tragedie of Macbeth" (ii, 3, 125) accompanied by two versions of the author's name:

Looke to the Lady
And when we haue our naked Frailties hid,
That suffer in exposure;

Ciphertext is:

A N D V H E N V E H A V E O V R N A K E D F R A I L T I E S H I D T H A T S V

F F E R I N E P O S V R E

Plaintext, +4 is:

E R H C M I R C I M E C I S C Y R E O I H K Y E N P B N I A M N H B M E+B A C
K K I Y N+R I T S A C Y I

Plaintext, alternate letters:

R C I C M C S Y E I K E P N A N+B E A K I N+I S C I

Notice that "suffer" is part of the ciphertext which produces the plaintext name of "BACKKIYN."

* * *

Another appearance of "suffer" is found in "The Tragedy of Coriolanus" (i, 1, 81):

+Men+. . . you slander The Helmes o'th State; who care for you like Fathers, when you curse them as Enemies.

2+. Cit+. Care for vs? True indeed, they nere car'd for vs yet. suffer vs to famish, and their Store-houses cramm'd with Graine:

Ciphertext is:

T H E H E L M E S O T H S T A T E V H O C A R E F O R Y O V L I K E F A T H E
R S V H E N Y O V C V R S E T H E M A S E N E M I E S C A R E F O R V S T R V
E I N D E E D T H E Y N E R E C A R D F O R V S Y E T+S V F F E R+V S T O F A
M I S H A N D T H E I R S T O R E H O V S E S C R A M M D V I T H G R A I N E

Plaintext, +4 is:

B M I M I P Q I A S B M A B E B I C M S G E Y I K S Y D S C P N O I K E B M I
Y A C M I R D S C G C Y A I B M I Q E A I R I Q N I A G E Y I K S Y C A+B Y C
I N+R H I I H B M I D R I Y I G E Y H K S Y C A D I B A C K K I Y C A B S K E
Q+N A M E+R H B M I N Y A B S Y I M S C A I A G Y E Q Q H C N B M L Y E N R I

Plaintext reversed is:

I R N E Y L M B N C H Q Q E Y G A I A C S M I Y S B A Y N I M B H R E M A N Q
E K S B A C Y I K K C A B I D A C Y S K H Y E G I Y I R D I M B H I I H R N I
C Y B A C Y S K I Y E G A I N Q I R I A E Q I M B I A Y C G C S D R I M C A Y
I M+B E K I O N+P C S D Y S K I Y E G S M C I B E B A M B S A I Q P I M I M B

* * *

To be contracted in one brow of woe:
Yet so farre hath Discretion fought with Nature,

In these two lines from "The Tragedie of Hamlet" (ii, 2, 4). "so farre" would also qualify as a homonym for "cipher." We will search for it.

Ciphertext is:

T O+B E C O N+T R A C T E D I N O N E B R O V O F V O E Y E T S O F A R R E H
A T H D I S C R E T I O N F O V G H T V I T H N A T V R E

Ciphertext reversed is:

E R V T A N H T I V T H G V O F N O I T E R C S I D H T A H E R R A F O S T E
Y E O V F O V O R B E N O N I D E T C A R T N O C E B O T

Plaintext, +4 is:

I Y C B E R M B N C B M L C S K R S N+B I Y G A N+H M B E M I Y Y E K S A B I
D I S C K S C+S Y F I R+S R N H I B G E Y B R S G I F S B

No apologies for "BIYGAN"; "SYFIR" ratifies that spelling too.

In "Loves Labors lost" (ii, 1, 149) there is another brief example: "His requests so farre"

Ciphertext is:

H I S R E Q V E S T S S O F A R R E

Plaintext is:

M N A Y I V C I A B A A S K E Y Y I

Plaintext reversed:

I Y Y E K S A A+B A I C V I Y A N+M

* * *

Bacon's endorsement can be found almost adjacent to another "cipher" equivalent in "The Merry wives of Windsor" (iv, 4, 11), and these lines did not appear in the 1602 Quarto edition:

+Page+. 'Tis well, 'tis well, no more:
be not as extreme in submission, as in offence,

Ciphertext is:

N O M O R E B E N O T A S E T R E M E I N S V B M I S S I O N

Plaintext, +4 is:

R S Q+S Y I F I R S+B E A I+B Y I Q I N+R A C F Q N A A N S R

* * *

From "The Comedie of Errors" (v, 1, 108):

+Ab+. . .Therefore depart, and leaue him heere with me.
+Adr+. I will not hence, and leave my husband heere:
And ill it doth beseeme your holiness
To separate the husband and the wife.

+Ab+. Be quiet and depart, thou shalt not haue him.
+Luc+. Complaine vnto the Duke of this indignity.
+Adr+. Come go, I will fall prostrate at his feete,

Ciphertext is:

T H E R E F O R E D E P A R T A N D L E A V E H I M H E E R E V I T H M E I V
I L L N O T H E N C E A N D L E A V E M Y H V S B A N D H E E R E A N D I L L
I T D O T H B E S E E M E Y O V R H O L I N E S S E T O S E P A R A T E T H E
H V S B A N D A N D T H E V I F E B E Q V I E T A N D D E P A R T T H O V S H
A L T N O T H A V E H I M C O M P L A I N E V N T O T H E D V K E O F T H I S
I N D I G N I T Y C O M E G O I V I L L F A L L P R O S T R A T E A T H I S F
E E T E

Ciphertext reversed is:

E T E E F S I H T A E T A R T S O R P L L A F L L I V I O G E M O C Y T I N G
I D N I S I H T F O E K V D E H T O T N V E N I A L P M O C M I H E V A H T O
N T L A H S V O H T T R A P E D D N A T E I V Q E B E F I V E H T D N A D N A
B S V H E H T E T A R A P E S O T E S S E N I L O H R V O Y E M E E S E B H T
O D T I L L I D N A E R E E H D N A B S V H Y M E V A E L D N A E C N E H T O
N L L I V I E M H T I V E R E E H M I H E V A E L D N A T R A P E D E R O F E
R E H T

Plaintext, +4 is:

I+B I I K A N+M B E I B E Y B A S Y T P P E K P P N C N S L I Q S G D B N R L
N H R N A N M B K S I O C H I M B S B R C I R N E P T Q S G Q N M I C E M B S
R B P E M A C S M B B Y E T I H H R E B I N C V I F I K N C I M B H R E H R E
F A C M I M B I B E Y E T I A S B I A A I R N P S M Y C S D I Q I I A I F M B

S H B N P P N H R E I Y I I M H R E F A C M D Q I+C E I P H R E+I G R I M B S
R P P N C N I Q M B N C I Y I I M Q N M I+C E I P H R E+B Y E T I H I Y S K I
Y I M B

* * *

Now for a stanza from "The Rape of Lucrece" (1, 3, ln. 1695):

At this request, with noble disposition,
Each present Lord began to promise aide,
As bound in Knighthood to her imposition,
Longing to heare the hatefull Foe bewraide.
But shee that yet her sad taske hath not said,
The protestation stops, o speake quoth shee
How may this forced staine be wip'd from me?

(Tarqvin has done his dreadful deed.)

Ciphertext is:

A T T H I S R E Q V E S T V I T H N O B L E D I S P O S I T I O N E A C H P R
E S E N T L O R D B E G A N T O P R O M I S E A I D E A S B O V N D I N K N I
G H T H O O D T O H E R I M P O S I T I O N L O N G I N G T O H E A R E T H E
H A T E F V L L F O E B E V R A I D E B V T S H E E T H A T Y E T H E R S A D
T A S K E H A T H N O T S A I D T H E P R O T E S T A T I O N S T O P S O S P
E A K E Q V O T H S H E E H O V M A Y T H I S F O R C E D S T A I N E B E V I
P D F R O M M E

Ciphertext reversed is:

E M M O R F D P I V E B E N I A T S D E C R O F S I H T Y A M V O H E E H S H
T O V Q E K A E P S O S P O T S N O I T A T S E T O R P E H T D I A S T O N H
T A H E K S A T D A S R E H T E Y T A H T E E H S T V B E D I A R V E B E O F
L L V F E T A H E H T E R A E H O T G N I G N O L N O I T I S O P M I R E H O
T D O O H T H G I N K N I D N V O B S A E D I A E S I M O R P O T N A G E B D
R O L T N E S E R P H C A E N O I T I S O P S I D E L B O N H T I V T S E V Q
E R S I H T T A

Plaintext, +4 is:

I Q Q S Y K H T N+C I F I R+N E B A H I G Y S K A N M B D E Q C S M I I M A M
B S C V I O E I T A S A T S B A R S N B E B A I B S Y T I M B H N E A B S R M
B E M I O A E B H E A Y I M B I D B E M B I I M A B C F I H N E Y C I F I S K
P P C K I B E M I M B I Y E I M S B L R N L R S P R S N B N A S T Q N Y I M S
B H S S M B M L N R O R N H R C S F A E I H N E I A N Q S Y T S B R E L I F H
Y S P B R I A I Y T M G E I R S N B N A S T A N H I P F S R M B N C+B A I C V
I Y A N+M B B E

Plaintext, alternate letters:

I Q Y H N I I N B H G S A M D Q S I M M S V O I A A S A S B B I S T M H E B R
B M O E H A I B D E+B I A C I N+Y I I K P K B M M I E M B R L S R N N S Q Y M
B S M M N O N R S A I N I N S T B E I H S B I I T G I S B A T N I F R B C A C
I A M B

* * *

Also from "The Rape of Lucrece" (line 862):

So then he hath it when he cannot vse it,
And leaues it to be maistred by his yong:
VWho in their pride do presently abuse it,
Their father was too weake, and they too strong

Ciphertext, +4 is:

H E C A N N O T V S E I T A N D L E A V E S I T T O B E M A I S T R E D B Y H
I S Y O N G V H O I N T H E I R P R I D E D O P R E S E N T L Y A B V S E I T
T H E I R F A T H E R V A S T O O V E A K E A N D T H E Y T O O S T R O N G

Ciphertext reversed is:

G N O R T S O O T Y E H T D N A E K A E V O O T S A V R E H T A F R I E H T T
I E S V B A Y L T N E S E R P O D E D I R P R I E H T N I O H V G N O Y S I H
Y B D E R T S I A M E B O T T I S E V A E L D N A T I E S V T O N N A C E H

Plaintext, +4 is:

L R S Y B A S S B D I M B H R E I O E I C S S B A E C Y I M + B E K Y N + I M B B
N I A C F E D P B R I A I Y T S H I H N Y T Y N I M B R N S M C L R S D A N M
D F H I Y B A N E Q I F S B B N A I + C E I P H R E + B N I A C B S R R E G I M

Plaintext, alternate letters:

L S B S B I B R I E C S A C I B K N M B I C E P R A Y S I N
T N M R S C R D N D H Y A E I S + B A C I H E N + A B R E I

* * *

An odd place to find Francis Bacon's cipher signature is in "WILLOBI / HIS / AVISA / OR / The true Picture of a mo /+dest Maid, and of a chast and+/ constant wife. This was published anonymously in 1594 by "Hadrian Dorrell" who acted as editor.

The second stanza of the introductory verse has attracted the attention of scholars because it contains the earliest direct mention of Shakespeare in the literature.

Though+Collatine+haue deerely bought,
To high renowne, a lasting life,
And found that most in vaine have fought,
To have a+Faire+,and+Constant+wife
Yet+Tarquyne+pluckt his glistering grape,
And+Shake-speare+, paints poore+Lucrece+rape+.

The reference is to "The Rape of Lucrece," published in the same year. We will direct our attention to the+last page+which contains fifteen rhyming lines; only the following will be quoted:

Ciphertext of the fourth line is: "Now foolish fancie was the cavse. This Cryse did lament."

Ciphertext is:

N O V F O O L I S H F A N C I E V A S T H E C A V S E T H I S C R Y S E D I D
L A M E N T

Ciphertext reversed is:

T N E M A L D I D E S Y R C S I H T E S V A C E H T S A V E I C N A F H S I L
O O F V O N

Plaintext, +4 is:

B R I Q E P H N H I A D Y G A N M B I A C E G I M + B A E C I N + G R E K M A N P
S S K C S R

Ciphertext of the eighth line is:"If fickle-headed Hellen covld at first have ben content"

I F F I C K L E H E A D E D H E L L E N C O V L D A T F I R S T H A V E B E N
E C O N T E N T

Plaintext, +4 is:

N K K N G O P I M I E H I H M I P P I R G S C P H E B K N Y A B M E + C I F I R +
I G S R B I R B

Ciphertext of the twelfth line is: "This wisdom bears the chiefest sway to stay when we be well."

T H I S V I S E D O M E B E A R E S T H E C H I E F E S T S V A Y T O S T A Y
V H E N V E B E V E L L

Ciphertext reversed is:

L L E V E B E V N E H V Y A T S O T Y A V S T S E F E I H C E H T S E R A E B
E M O D E S I V S I H T

Plaintext, +4 is:

P P I C I F I C R I M C D E B A S B D E C A + B A I K I N + M G I M B A I Y E I F
I Q S H I A N C A N M B

The anonymous author's name need no longer be unknown.

* * *

We may witness this author once more at work by comparing the text from the last two lines of the (anonymously published) Quarto edition of "The Chronicle Historie of Henry the Fift" (1600) and the same lines, plus a newly created Epilogue which follows, in "The Life of Henry the Fift," the 1623 Folio (v, 2, 372).

The Quarto shows these words:

Then will I sweare to+Kate,+and+Kate+to mee:
And may our vowes once made, vnbroken bee.

Afterward, for the Folio, these lines were rewritten:

Then shall I sweare to+Kate,+and you to me,
And may our Oathes well kept and prosp'rous be.

Now the fourteen lines of the new, 1623 Epilogue begin:

Thus farre with rough, and all-unable Pen,
Our bending <Author> hath pursu'd the Story. . .

We shall study these four lines from the Folio.

Ciphertext is:

T H E N S H A L L I S V E A R E T O K A T E A N D Y O V T O M E A N D M A Y O
V R O A T H E S V E L L K E P T A N D P R O S P R O V S B E T H V S F A R R E
V I T H R O V G H A N D A L L V N A B L E P E N O V R B E N D I N G + A V T H O
R + H A T H P V R S V D T H E S T O R Y

Plaintext, +4 is:

B M I R A M E P P N A C I E Y I B S O E B I E R H D S C B S Q I E R H Q E D S
C Y S E B M I A C I P P O I T B E R H T Y S A T Y S C A F I B M C A K E Y Y I
C N B M Y S C L M E R H E P P C R E F P I T I R S + C Y F I R + H N R L E C B M S
Y M E B M T C Y A C H B M I A B S Y D

Plaintext reversed is:

D Y S B A I M B H C A Y C T M B E M Y S M B C E L R N H R I F Y C S R I T I P
F E R C P P E H R E M L C S Y M B N C I Y Y E K A C M B I F A C S Y T A S Y T
H R E B T I O P P I C A I M B E S Y C S D E Q H R E I Q S B C S D H R E I B E
O S + B I Y E I C A N + P P E M A R I M B

* * *

Here is a passage from "The winters Tale" (iv, 4, 714):

+Shep+. I will tell the king all, every word, yea and his Sonnes prancks too; who, I may say, is no honest man, neither to his Father, nor to me, to goe about to make me the Kings Brother in Law.
+Clow+. Indeed Brother in Law was the farthest off you could have

beene to him, and then your Blood had beene the dearer, by I know how much an ounce.

+Aut+. Very wisely (Puppies.)

Ciphertext is:

I S N O H O N E S T M A N N E I T H E R T O H I S F A T H E R N O R T O M E T
O G O E A B O V T T O M A K E M E T H E K I N G S B R O T H E R I N L A V I N
D E E D B R O T H E R I N L A V V A S T H E F A R T H E S T O F F Y O V C O V
L D H A V E B E E N E T O H I M

Plaintext, +4 is:

N A R S M S R I A B Q E R R I N B M I Y B S M N A K E B M I Y R S Y B S Q I B
S L S I E F S C B B S Q E O I Q I B M I O N R L A F Y S B M I Y N R P E C N R
H I I H F Y S B M I Y N R P E C C E A B M I K E Y B M I A B S K K D S C G S C
P H M E + C I F I I R + I B S M N Q

Plaintext reversed is:

Q N M S B I R I I F I C E M H P C S G C S D K K S B A I M B Y E K I M B A E C
C E P R N Y I M B + S Y F H I I H R + N C E P R N Y I M B S Y F A L R N O I M B I
Q I O E Q S B B C S F E I S L S B I Q S B Y S R Y I M + B E K A N + M S B Y I M B
N I R R E Q B A I R S M S R A N

A "farthell" being a bundle or a parcel, the next line is:

+Shep+. well: let us to the king: there is that in this Farthell, will make him scratch his Beard.

Thoughtfully scratching, we might assume.

* * *

In "Loves Labour's lost" (v, 2, 216) we read:

+Rosa+. . . Curtsie sweet hearts, and so the Measure ends.
+Kin+. More measure of this measure, be not nice.

Ciphertext is:

C V R T S I E S V E E T H E A R T S A N D S O T H E M E A S V R E E N D S M O
R E M E A S V R E O F T H I S M E A S V R E B E N O T N I C E

Plaintext, +4 is:

G C Y B A N I A C I I B M I E Y B A E R H A S B M I Q I E A C Y I I R H A Q S
Y I Q I E A C Y I S K B M N A Q I E A + C Y I F I R S + B R N G I

Plaintext, +4 reversed is:

I G N R B S R I F I Y C A E I Q A N M B K S I Y C A E I Q I Y S Q A H R I I Y
C A E I Q I M B S A H R E A B Y E I M + B I I C A I N + A B Y C G

* * *

Did Francis Bacon write Shakespeare's Sonnet 148? will you "say it is not so," as the author queried in the following quotation:

O Me! what eyes hath loue put in my head,
which have no correspondence with true sight,
Or if they haue, where is my iudgment fled,
That censures falsely what they see aright?
If that be faire whereon my false eyes dote,
What means the world to say it is not so?
If it be not, then loue doth well denote,

Ciphertext is:

O H M E V H A T E Y E S H A T H L O V E P V T I N M Y H E A D V H I C H H A V

E N O C O R R E S P O N D E N C E V I T H T R V E S I G H T O R I F T H E Y H
A V E V H E R E I S M Y I V D G M E N T F L E D T H A T C E N S V R E S F A L
S E L Y V H A T T H E Y S E E A R I G H T I F T H A T B E F A I R E V H E R E
O N M Y F A L S E E Y E S D O T E V H A T M E A N E S T H E V O R L D T O S A
Y I T I S N O T S O I F I T B E N O T T H E N L O V E D O T H V E L L D E N O
T E

Plaintext, +4 is:

S M Q I C M E B I D I A M E B M P S C I T C B N R Q D M I E H C M N G M M E C
I R S G S Y Y I A T S R H I R G I C N B M + B Y C I A N + L M B S Y N K B M I D M
E C I C M I Y I N A Q D N C H L Q I R B K P I H B M E B G I R A C Y I A K E P
A I P D C M E B B M I D A I I E Y N L M B N K B M E B F I K E N Y I C M I Y I
S R Q D K E P A I I D I A H S B I C M E B Q I E R I A B M I C S Y P H B S A E
D N B N A R S B A S N K N B F I R S B B M I R P S C I H S B M + C I P P H I R S +
B I

* * *

In "The winters Tale" (iv, 4, 595), a question of ethics arises in these lines:

+Cam+. My Lord,
Feare none of this: I thinke you know my fortunes
Doe all lye there: it shall be so my care,
To haue you royally appointed, as if
The Scene you play, were mine. For instance Sir,
That you may know you shall not want: <one word>.

+Enter Autolicus+

+Aut+. Ha, ha, what a Foole Honestie is? and Trust (his sworne brother) a very simple Gentleman. I have sold all my Tromperie: not a <counterfeit> Stone,

One actor plays another's part? Honestie and Trust become a farce? "Tromperie" (trumpery) implies fraud and trickery! The "counterfeit" word must be interpreted, and it is the "one word."

Ciphertext is:

H A H A V H A T A F O O L E H O N E S T I E I S A N D T R V S T H I S S V O R
N E B R O T H E R A V E R Y S I M P L E G E N T L E M A N I H A V E S O L D A
L L M Y T R O M P E R I E N O T A C O V N T E R F E I T S T O N E

Plaintext, +4 is:

M E M E C M E B E K S S P I M S R I A B N I N A E R H B Y C A B M N A A C S Y
R I F Y S B M I Y E C I Y D A N Q T P I L I R B P I Q E R N M E C I A S P H E
P P Q D B Y S Q T I Y N I R S B E G S C R + B I Y K I N + B A B S R I

Ciphertext reversed is:

E N O T S T I E F R E T N V O C A T O N E I R E P M O R T Y M L L A D L O S E
V A H I + N A M E + L T N E G E L P M I S Y R E V A R E H T O R B E N R O V S S I
H T S V R T D N A S I E I T S E N O H E L O O F A T A H V A H A H

Plaintext, +4 is:

I R S B A B N I K Y I B R C S G E B S R I N Y I T Q S Y B D Q P P E H P S A I
C E M N R E Q I P B R I L I P T Q N A D Y I C E Y I M B + S Y F I R + Y S C A A N
M B A C Y B H R E A N I N B A I R S M I P S S K E B E M C E M E M

Once more we have, in three lines, "name," "Bacon" and "cipher."

* * *

Leonatus Posthumus complains bitterly of the infidelity of women, in "The Tragedie of Cymbeline" (ii, 5, 3):

And that most venerable man, which I
 Did call my Father, was, I know not where
 When I was stamp't. Some Coyner with his Tooles
 Made me a <counterfeit>: yet my mother seem'd
 The+Dian+of that time: so doth my wife
 The Non-pareill of this. Oh Vengeance, Vengeance!
 Me of my lawfull pleasure she restrain'd,
 And pray'd me oft forbearance:

Ciphertext is:

S O M E C O Y N E R V I T H H I S T O O L E S M A D E M E A C O V N T E R F E
 I T Y E T M Y M O T H E R S E E M D T H E D I A N O F T H A T T I M E S O D O
 T H M Y V I F E T H E N O N P A R E I L L O F T H I S O V E N G E A N C E V E
 N G E A N C E M E O F M Y L A V F V L P L E A S V R E S H R E S T R A I N D
 A N D P R A Y D M E O F T F O R B E A R A N C E

Plaintext, +4 is:

A S Q I G S D R I Y C N B M M N A B S S P I A Q E H I Q I E G S C R+B I Y K I
 N+B D I B Q D Q S B M I Y A I I Q H B M I H N E R S K B M E B B N Q I A S H S
 B M Q D C N K I B M I R S R T E Y I N P P S K B M N A S C I R L I E R G I C I
 R L I E R G I Q I S K Q D P E C K C P P T P I E A C Y I A M Y I A B Y E N R H
 E R H T Y E D H Q I S K B K+S Y F I E Y E R+G I

Again we find a phonetic "cipher" connected with "counterfeit."

* * *

In "As you like it" (iv, 3, 166), the word "counterfeit" is repeated six times in seventeen lines for no good reason except stress:

+Oli+. Be of good cheere youth: you a man? You lacke a mans heart.
 +Ros+. I doe so, I confesse it: Ah, sirra, a body would thinke this was
 well <counterfeited>, I pray you tell your brother how well I <counterfeited>:
 heigh-ho.
 +Oli+. This was not <counterfeit>, there is too great testimony in your
 complexion that it was a passion of earnest.
 +Ros+. <Counterfeit>, I assure you.
 +Oli+. well then, take a good heart, and <counterfeit> to be a man.
 +Ros+. So I doe: but yfaith, I should have beene a woman by right.
 +Cel+. Come, you looke paler and paler: pray you draw homewards:
 good sir, goe with us.
 +Oli+. That will I: for I must beare answere backe. How you excuse my
 brother,+Rosalind+.
 +Ros+. I shall devise something: but I pray you commend my <counter-
 feiting> to him: will you goe?
 +Exeunt+.

Ciphertext is:

A B O D Y V O V L D T H I N K E T H I S V A S V E L L C O V N T E R F E I T E
 D I P R A Y Y O V T E L L Y O V R B R O T H E R H O V V E L L I C O V N T E R
 F E I T E D H E I G H H O T H I S V A S N O T C O V N T E R F E I T T H E R E
 I S T O O G R E A T T E S T I M O N Y I N Y O V R C O M P L E I O N T H A T I
 T V A S A P A S S I O N O F E A R N E S T C O V N T E R F E I T I A S S V R E
 Y O V V E L L T H E N T A K E A G O O D H E A R T A N D C O V N T E R F E I T
 T O B E A M A N S O I D O E B V T Y F A I T H I S H O V L D H A V E B E E N A
 V O M A N B Y R I G H T

Plaintext, +4 is:

E F S H D C S C P H B M N R O I B M N A C E A C I P P G S C R+B I Y K I N+B I
 H N T Y E D D S C B I P P D S C Y F Y S B M I Y M S C C I P P N G S C R+B I Y
 K I N+B I H M I N L M M S B M N A C E A R S B G S C R+B I Y K I N+B B M I Y I
 N A B S S L Y I E B B I A B N Q S R D N R D S C Y G S Q T P I N S R B M E B N
 B C E A E T E A A N S R S K I E Y R I A B G S C R+B I Y K I N+B N E A A C Y I
 D S C C I P P B M I R B E O I E L S S H M I E Y B E R H G S C R+B I Y K I N+B
 B S F I E Q E R A S N H S I F C B D K E N B M N A M S C P H M E+C I F I I R+E

C S Q E R F D Y N L M B

Here we see the name six times, followed by the word "CIFIIIR." The emphasis is awesome. Even more accent is placed on the definitive cipher-text word "counterfeit" in "The First Part of King Henry the Fourth" (v, 4, 115), where it may be found+nine times in twelve lines+.

+Falst+. Imbowell'd? If thou imbowell mee to day, Ile giue you leaue to powder me, and eat me too to morrow. 'Twas time to <counterfet,> or that hotte Termagant Scot, has paid me scot and lot too. <Counterfeit?> I am no <counterfeit;>to dye, is to be a <counterfeit,>for hee is but the<counterfeit> of a man, who hath not the life of a man: But to <counterfeit> dying, when a man thereby liueth, is to be no <counterfeit,> but the true and perfect image of life indeede. The better part of Valour, is Discretion; in the which better part, I have saued my life. I am affraide of this Gun-Powder +Percy+ though he be dead. How if hee should <counterfeit> too, and rise? I am afraid hee would prove the better <counterfeit:> therefore Ile make him sure: yea, and Ile sweare I kill'd him. why may not hee rise as well as I: +Nothing confutes me but eyes, and no-bodie sees me+. . . [Emphasis supplied.]

For every "counterfeit" in this passage, we may read "BIYKIN", and nine times. Our eyes have confuted the supposed author; now we may perceive who is truly holding the pen.

So that its significance may not be overlooked, here is the Merriam-Webster unabridged dictionary definition of this word:

<Counterfeit:> 1.(a) SPURIOUS, not genuine or authentic;+esp:+ not composed by the author indicated.

Hereafter we may leave the counterfeit labels on some old books to trustful schoolmasters.

* * *

"Counterfait" is a another spelling of the word but still serviceable. We find it, again accompanied by a varied spelling of "cipher," in "Romeo and Juliet" (iii, 5, 131):

Thou <counterfairs> a Barke, a Sea, a wind:
For still thy eyes, which I may call the Sea,
Do ebbe and flow with teares,

Ciphertext is:

T H O V C O V N T E R F A I T S A B A R K E A S E A A V I N D F O R S T I L L
T H Y E Y E S V H I C H I M A Y C A L L T H E S E A D O E B B E A N D F L O V
V I T H T E A R E S

Plaintext, +4 is:

B M S C G S C R+B I Y K E N+B A E F E Y O I E A I E E C N R H K S Y A B N P P
B M D I D I A C M N G M N Q E D G E P P B M I A I E H+S I F F I E R+H K P S C
C N B M B I E Y I A

* * *

In "Much adoe about Nothing" (ii, 3, 96), the "counterfeit" word appears again, thrice uttered and again near "syfir."

+Leon+. No, nor I neither, but most wonderful, that she should so dote on signior +Benedicke,+ whom shee hath in all outward behaiours seemed ever to abhorre.

+Bene+. Is't possible? sits the winde in that corner?

+Leo+. By my troth my Lord, I cannot tell what to thinke of it, but that she loues him with an inraged affection, it is past the infinite of thought.

+Prince+. May be she doth but <counterfeit>.

+Claud+. Faith like enough.

+Leon+. O God! <counterfeit>? there was neuer <counterfeit> of passion

came so neere the life of passion as she discouers it.

Ciphertext is:

N O N O R I N E I T H E R B V T M O S T V O N D E R F V L T H A T S H E S H O
V L D S O D O T E O N S I G N I O R B E N E D I C K E V H O M S H E E H A T H
I N A L L O V T V A R D B E H A V I O V R S S E E M E D E V E R T O A B H O R
R E I S T P O S S I B L E S I T S T H E V I N D E I N T H A T C O R N E R B Y
M Y T R O T H M Y L O R D I C A N N O T T E L L V H A T T O T H I N K E O F I
T B V T T H A T S H E L O V E S H I M V I T H A N I N R A G E D A F F E C T I
O N I T I S P A S T T H E I N F I N I T E O F T H O V G H T M A Y B E S H E D
O T H B V T C O V N T E R F E I T F A I T H L I K E E N O V G H O G O D C O V
N T E R F E I T T H E R E V A S N E V E R C O V N T E R F E I T O F P A S S I
O N C A M E S O N E E R E T H E L I F E O F P A S S I O N A S S H E D I S C O
V E R S I T

Plaintext, +4 is:

R S R S Y N R I N B M I Y F C B Q S A B C S R H I Y K C P B M E B A M I A M S
C P H A S H S B I S R A N L R N + S Y F I R + I H N G O I C M S Q A M I I M E B M
N R E P P S C B C E Y H F I M E C N S C Y A A I I Q I H I C I Y B S E F M S Y
Y I N A B T S A A N F P I A N B A B M I C N R H I N R B M E B G S Y R I Y F D
Q D B Y S B M Q D P S Y H N G E R R S B B I P P C M E B B S B M N R O I S K N
B F C B B M E B A M I P S C I A M N Q C N B M E R N R Y E L I H E K K I G B N
S R N B N A T E A B B M I N R K N R N B I S K B M S C L M B Q E D F I A M I H
S B M F C B G S C R + B I Y K I N + B K E N B M P N O I I R S C L M S L S H G S C
R + B I Y K I N + B B M I Y I C E A R I C I Y G S C R + B I Y K I N + B S K T E A A N S
S R G E Q I A S R I I Y I B M I P N K I S K T E A A N S R E A A M I H N A G S
C I Y A N B

* * *

Only one of+Shake-speares Sonnets+is falsely numbered. Sonnet 116 is shown as verse +119+. The first five lines are:

Let me not to the marriage of true mindes
Admit impediments, love is not love
which alters when it alteration findes,
Or bends with the remover to remove.
O no, it is an euer fixed marke

The ciphertext is:

L E T M E N O T T O T H E M A R R I A G E O F T R V E M I N D E S A D M I T I
M P E D I M E N T S L O V E I S N O T L O V E V H I C H A L T E R S V H E N I
T A L T E R A T I O N F I N D E S O R B E N D S V I T H T H E R E M O V E R T
O R E M O V E O N O I T I S A N E V E R F I E D M A R K E

Plaintext, +4 is:

P I B Q I R S B B S B M I Q E Y Y N E L I S K B Y C I Q N R H I A E H Q N B N
Q T I H N Q I R B A P S C I N A R S B P S C I C M N G M E P B I Y A C M I R N
B E P B I Y E B N S R K N R H I A + S Y F I R + H A C N B M B M I Y I Q S C I Y B
S Y I Q S C I S R S N B N A E R I C I Y K N I H Q E Y O I

Plaintext, alternate odd letters:

P B I S B + B I E Y E I K Y I N + H A H N N T H Q R A S I A S P C C N M P I A M R
B P I E N R N H A Y I H C B B I I S I B Y Q C S S B A R C Y N H E O

Plaintext, alternate even letters:

I Q R B S M Q Y N L S B C Q R I E Q B Q I N I B P C N R B S I M G E + B Y C I N +
E B Y B S K R I S + F R A N + M M Y Q C Y S I + S I R + N N E I I K I Q Y I

Sir Francis Bacon's misnumbered sonnet has an engaging conclusion. The last two lines are:

If this be error and vpon me proved,

I neuer writ, nor no man euer loved.

* * *

In "As you like it." (ii, 4, 57) we find, "name, Bacon, cipher" together in these lines:

+Clo+. . . wee that are true Louers, runne into strange capers; but as all is mortall in nature, so is all nature in loue, mortall in folly.

+Ros+. Thou speakst wiser then thou art ware of.

+Clo+. Nay, I shall nere be ware of mine owne wit, till I breake my shins against it.

+Ros+. +Ioue, Ioue,+this Shepherds passion, Is much vpon my fashion.

Ciphertext is:

T H O V S P E A K S T V I S E R T H E N T H O V A R T V A R E O F N A Y I S H
A L L N E R E B E V A R E O F M I N E O V N E V I T T I L L I B R E A K E M Y
S H I N S A G A I N S T I T I O V E I O V E T H I S S H E P H E R D S P A S S
I O N

Plaintext, +4 is:

B M S C A T I E O A B C N A I Y B M I R B M S C E Y B C E Y I S K R E D+N A M
E+P P R I Y I F I C E Y I S K Q N R I S C R I C N B B N P P N F Y I E O I Q D
A M N R A E L E N R A B N B N S C I N S C I B M N A A M I T M I Y H A T E A A
N S R

Plaintext, alternate letters:

B S A I O B N I B I B S E+B E I K E N+M P R Y F C Y S Q R S R C B N P F I O Q
A N A L N A N N C N C B N A I M Y A E A S

Ciphertext reversed:

N O I S S A P S D R E H P E H S S I H T E V O I E V O I T I T S N I A G A S N
I H S Y M E K A E R B I L L I T T I V E N V O E N I M F O E R A V E B E R E N
L L A H S I Y A N F O E R A V T R A V O H T N E H T R E S I V T S K A E P S V
O H T

Plaintext, +4 is:

R S N A A E T A H Y I M T I M A A N M B I C S N I C S N B N B A R N E L E A R
N M A D Q I O E I Y F N P P N B B N C I R C S I R N Q K S I Y E+C I F I Y I R+
P P E M A N D E R K S I Y E C B Y E C S M B R I M B Y I A N C B A O E I T A C
S M B

* * *

Does our author sometimes offer us a hint, a brazen "insinuating nod"? Read this, from "The Tragedie of Coriolanus," (ii, 3, 105):

I will practice the <insinuating nod>, and be off to them most <counter-fetly>, that is sir, I will <counterfet> the bewitchment of some popular man,

We may pardon the typesetters errors--we know what he meant to spell:

Ciphertext is:

I V I L L P R A C T I C E T H E I N S I N V A T I N G N O D A N D B E O F F T
O T H E M M O S T C O V N T E R F E I T L Y T H A T I S S I R I V I L L C O V
N T E R F E I T T H E B E V I T C H M E N T O F S O M E P O P V L A R M A N

Plaintext, +4 is:

N C N P P T Y E G B N G I B M I N R A N R C E B N R L R S H E R H F I S K K B
S B M I Q Q S A B G S C R+B I Y K I N+B P D B M E B N A A N Y N C N P P G S C
R+B I Y K I N+B B M I F I C N B G M Q I R B S K A S Q I T S T C P E Y Q E R

Plaintext, +4 reversed is:

R E Q Y E P C T S T I Q S A K S B R I Q M G B N C I F I M B B N I K Y I B R C
S G P P N C N Y N A A N B E M B D P B N I K Y I B R C S G B A S Q Q I M B S B
K K+S I F H R E+H S R L R N B E C R N A R N I M B I G N B G E Y T P P N C N

So, we see our familiar "counterfeit" word again, in reference to the spurious name "of some popular man." In fact, the term is repeated for greater significance, and it is coupled once more with "SIFHRE."

* * *

In "The second Part of King Henry the Fourth" (ii, 2, 119), the Prince reads a letter from John Falstaff. First he reads his name and then comments, "Euery man must know that, as oft as hee hath occasion to name himselfe." Again he comments, "the answer is as ready as a borrowed cap." He continues to read it and, for no sensible purpose, most of the words are set in italic type (but not in the 1600 Quarto):

+Sir Iohn Falstaffe, Knight, to the Sonne of the King, neerest his
Father, Harrie Prince of wales, greeting.
Poin+. Why this is a certificate.
+Prin+. Peace.
I will imitate the honourable Romaines in breuitie.
Poin+. Sure he meanes breuity in breath: short-winded.
I commend me to thee, I commend thee, and I leaue thee. Bee not too
familiar with+Pointz,+for hee misuses thy Fauours so much,+

Ciphertext is:

S I R I O H N F A L S T A F F E K N I G H T T O T H E S O N N E O F T H E K I
N G N E E R E S T H I S F A T H E R H A R R I E P R I N C E O F V A L E S G R
E E T I N G V H Y T H I S I S A C E R T I F I C A T E P E A C E I V I L L I M
I T A T E T H E H O N O V R A B L E R O M A I N E S I N B R E V I T I E S V R
E H E M E A N E S B R E V I T Y I N B R E A T H S H O R T V I N D E D I C O M
M E N D M E T O T H E E I C O M M E N D T H E E A N D I L E A V E T H E E B E
E N O T T O O F A M I L I A R V I T H P O I N T F O R H E E M I S V S E S T H
Y F A V O V R S S O M V C H

Ciphertext reversed is:

H C V M O S S R V O V A F Y H T S E S V S I M E E H R O F T N I O P H T I V R
A I L I M A F O O T T O N E E B E E H T E V A E L I D N A E E H T D N E M M O
C I E E H T O T E M D N E M M O C I D E D N I V T R O H S H T A E R B N I Y T
I V E R B S E N A E M E H E R V S E I T I V E R B N I S E N I A M O R E L B A
R V O N O H E H T E T A T I M I L L I V I E C A E P E T A C I F I T R E C A S
I S I H T Y H V G N I T E E R G S E L A V F O E C N I R P E I R R A H R E H T
A F S I H T S E R E E N G N I K E H T F O E N N O S E H T O T T H G I N K E F
F A T S L A F N H O I R I S

Plaintext, +4 is:

M G C Q S A A Y C S C E K D M+B A I A C A N+Q I I M Y S K B R N S T M B N C Y
E N P N Q E K S S B B S R I I F I I M B I C E I P N H R E I I M B H R I Q Q S
G N I I M B S B I Q H R I Q Q S G N H I H R N C B Y S M A M B E I Y F R N D B
N+C I Y F A I R E+I Q I M I Y C A I N B N C I Y F R N A I R N E Q S Y I P F E
Y C S R S M I M B I B E B N Q N P P N C N I G E I T I B E G N K N B Y I G E A
N A N M B D M C L R N B I I Y L A I P E C K S I G R N Y T I N Y Y E M Y I M+B
E K A N+M B A I Y I I R L R N O I M B K S I R R S A I M B S B B M L N R O I K
K E B A P E K R M S N Y N A

* * *

In the second verse of "The Rape of Lucrece," on the first page, the word "name" appears as the third word of the first line. Reading on, we find (v. 2, ln. 6):

Vwhere mortal stars as bright as heauens Beauties,
Vwith pure aspects did him peculiar dueties.

Ciphertext is:

V H E R E M O R T A L S T A R S A S B R I G H T A S H E A V E N S B E A V T I
E S V I T H P V R E A S P E C T S D I D H I M P E C V L I A R D V E T I E S

Ciphertext reversed is:

S E I T E V D R A I L V C E P M I H D I D S T C E P S A E R V P H T I V S E I
T V A E B S N E V A E H S A T H G I R B S A S R A T S L A T R O M E R E H V

Plaintext, +4 is:

A I N+B I C H Y E N+P C G I T Q N M H N H A B G I T A E I Y C T M B N C A I N
B+C E I F A R+I C E I M A E B M L N Y F A E A Y E B A P E B Y S Q I Y I M C

* * *

What should we expect when the word "Cipher" appears in the open text, as in this quotation from "Measure for Measure" (ii, 2, 41):

Mine were the verie <Cipher> of a Function
To fine the faults, whose fine stands in record,
And let goe by the Actor.

Let us read on for ten lines to this passage:

+Isab+. . .And neither heauen, nor man grieue at the mercy.
+Ang+. I will not doe't.
+Isab+. But can you if you would?
+Ang+. Looke what I will not, that I cannot doe.
+Isab+. But might you doe't and do the world no wrong

Ciphertext is:

A N D N E I T H E R H E A V E N N O R M A N G R I E V E A T T H E M E R C Y I
V I L L N O T D O E T B V T C A N Y O V I F Y O V V O V L D L O O K E V H A T
I V I L L N O T T H A T I C A N N O T D O E B V T M I G H T Y O V D O E T A N
D D O E T H E V O R L D N O V R O N G

Plaintext, +4 is:

E R H R I N B M I Y M I E C I R R S Y Q E R L Y N I C I E B B M I Q I Y G D N
C N P P R S B H S I B F C B G E R D S C N K D S C C S C P H P S S O I C M E B
N C N P P R S B B M E B N G E R R S B H S I F C B Q N L M B D S C H S I B E R
H H S I B M I C+S Y P H R S+C Y S R L

Plaintext, +4 reversed is:

L R S Y C S R H P Y S C I M B I S H H R E B I S H C S D B M L N Q B C F I S H
B S R R E G N B E M B B S R P P N C N B E M C I O S S P H P C S C C S D K N C
S D R E G B C F B I S H B S R P P N C N D G Y I Q I M B+B E I C I N+Y L R E Q
Y S R R I C E I M Y I M B N I R H R E

* * *

At another point, in the 1623 Shakespeare Folio, the word "Cypher" again appears; this is in the open text of "The Winters Tale" (i, 2, 7):

And therefore, like a <Cypher> (Yet standing in rich place) I multiply with one . . .

Six lines afterward, we read:

+Pol+. Sir, that's to morrow:
I am question'd by my feares, of what may chance,
Or breed vpon our absence, that may blow
No sneaping winds at home, to make vs say,
This is put forth too truly: besides, I haue stay'd
To tyre your Royaltie.
+Leo+. We are tougher (Brother)

Ciphertext is:

S I R T H A T S T O M O R R O V I A M Q V E S T I O N D B Y M Y F E A R E S O
F V H A T M A Y C H A N C E O R B R E E D V P O N O V R A B S E N C E T H A T
M A Y B L O V N O S N E A P I N G V I N D S A T H O M E T O M A K E V S S A Y
T H I S I S P V T + F O R T H + T O O T R V L Y B E S I D E S I H A V E S T A Y D
T O T Y R E Y O V R R O Y A L T I E V E A R E T O V G H E R B R O T H E R

Plaintext, +4 is:

A N Y B M E B A B S Q S Y Y S C N E Q V C I A B N S R H F D Q D K I E Y I A S
K C M E B Q E D G M E R G I S Y F Y I I H C T S R S + C Y E F A I R + G I B M E B
Q E D F P S C R S A R I E T N R L C N R H A E B M S Q I B S Q E O I C A A E D
B M N A N A T C B K S Y B M B S S B Y C P D F I A N H I A N M E C I A B E D H
B S B D Y I D S C Y Y S D E P B N I C I E Y I B S C L M I Y F Y S B M I Y

Plaintext reversed is:

Y I M B S Y F Y I M L C S + B I Y E I C I N + B P E D S Y Y C S D I Y D B S B H D
E B A I C E M N A I H N A I F D P C Y B S S B M B Y S K B C T A N A N M B D E
A A C I O E Q S B I Q S M B E A H R N C L R N T E I R A S R C S P F D E Q B E
M B I G R I A F E Y C S R S T C H I I Y F Y S I G R E M G D E Q B E M C K S A
I Y E I K D Q D F H R S N + B A I C V Q E N + C S Y Y S Q S B A B E M B Y N A

* * *

"Bacon" may be found in the ciphertext, in "The Two Noble Kinsmen," (iv, 3, 36):

+Dau+. ...and there shall we be put in a caldron of
Lead, and Vsurers grease, amongst a whole million of
Cutpurses, and there boyle like a Gamon of <Bacon>
That will never be enough.
+Doct+. How her braine coynes?

Ciphertext is:

A N D T H E R E B O Y L E L I K E A G A M O N O + F B A C O N + T H A T V I L L N
E V E R B E E N O V G H H O V H E R B R A I N E C O Y N E S

Plaintext, +4 is:

E R H B M I Y I F S D P I P N O I E L E Q S R S K F E G S R B M E B C N P P R
I + C I Y F I I R + S C L M M S C M I Y F Y E N R I G S D R I A

Plaintext, alternate letters:

R B I I S P P O E E S S F G R M B N P I I F I S L M + C I F E R + G D I

* * *

Last, in this "cipher" sequence, we come to "The Tragedie of Othello the Moore of Venice" (ii, 3, 248). Only four lines need be shown.

+Othe+. . .Thy honestie, and loue doth mince this matter,
Making it light to+Cassio: Cassio+I love thee,
But never more be officer of mine.
Looke if my gentle Loue be not rais'd vp:

Ciphertext is:

T H Y H O N E S T I E A N D L O V E D O T H M I N C E T H I S M A T T E R M A
K I N G I T L I G H T T O C A S S I O C A S S I O I L O V E T H E E B V T N E
V E R M O R E B E O F F I C E R O F M I N E L O O K E I F M Y G E N T L E L O
V E B E N O T R A I S D V P

Plaintext is:

B M D M S R I A B N I E R H P S C I H S B M Q N R G I B M N A Q E B + B I Y Q E

O N+R L N B P N L M B B S G E A A N S G E A A N S N P S C I B M I I F C B R I
C I Y Q S Y I F I S K K N G I Y S K Q N R I P S S O I N K Q D L I R B P I P S
+C I F I R S+B Y E N A H C T

Plaintext, +4 reversed:

T C H A N E Y B S R I F I C S P I P B R I L D Q K N I O S S P I R N Q K S Y I
G N K K S I F I Y S Q Y I C I R B C F I I M B I C S P N S N A A E G S N A A E
G S B B M L N P B N L R N O E Q Y I B+B E Q A N+M B I G R N Q M B+S H I C S P
H R E+I N B A I R S M D M B

Well! Look at that last "word." That's not the way to spell "Shakespeare," is it? But Shakespeare the business man spelled it in six different ways, using dreadfully crude penmanship. Critics have marveled at this, considering that the man is alleged to have written nearly a million words. (A computer count by Brigham Young University of the entire works brings it to 983,779).

Thus we have seen,+forty-one times,+a most appropriate word coupled in plaintext with Francis Bacon's name--+cipher+. We may add to that my original decryption of the Sonnet Dedication, +CYPPHRS BEKAAN BACON+.

* * *

A word similar to Bacon's surname is "beacon," and, as we have seen, that was once his forebear's name. Here are other contemporary ways to spell that: "beacen, becen, becen, baecen, bikene, bekne, bekene, beeken, beken, bekin, beakon."

Yes, Shakespeare did, in the ciphertext, spell it as "Beacon" in "Troilus and Cressida" (ii, 2, 16), but notice how it is written in the plaintext +and just after+"who knowes what follows":

+Hect+. ...More ready to cry out, who knowes what followes
Then+Hector+is: the wound of peace is surety,
Surety secure: but modest Doubt is cal'd
The Beacon of the wise: the tent that searches
To th'bottom of the worst. Let Helen go,
Since the first sword was drawne about this question,

Ciphertext is:

T H E N H E C T O R I S T H E V O V N D O F P E A C E I S S V R E T Y S V R E
T Y S E C V R E B V T M O D E S T D O V B T I S C A L D T H E+B E A C O N+O F
T H E V I S E T H E T E N T T H A T S E A R C H E S T O T H E B O T T O M E O
F T H E V O R S T L E T H E L E N G O S I N C E T H E F I R S T S V O R D V A
S D R A V N E A B O V T T H I S Q V E S T I O N

Plaintext is:

B M I R M I G B S Y N A B M I C S C R H S K T I E G I N A A C Y I B D A C Y I
B D A I G C Y I F C B Q S H I A B H S C F B N A G E P H B M I F I E G S R S K
B M I C N A I B M I B I R B B M E B A I E Y G M I A B S B M I F S B B S Q I S
K B M I C S Y A B P I B M I P I R L S A N R G I B M I K N Y A B A C S Y H C E
A H Y E C R I E F S C B B M N A V C I A B N S R

Plaintext reversed is:

R S N+B A I C V A N+M B B C S F E I R C E Y H A E C H Y S C A B A Y N K I M B
I G R N A S L R I P I M B I P B A Y S C I M B K S I Q S B B S F I M B S B A I
M G Y E I A B E M B B R I B I M B I A N C I M B K S R S G E I F I M B H P E G
A N B F C S H B A I H S Q B C F I Y C G I A D B I Y C A D+B I Y C A A N+I G E
I T K S H R C S C I M B A N Y S B G I M R I M B

The second "B I Y C A A N" shown depends for its existence upon the word "surety" in the ciphertext. However in the "Famous Historie of Troilus+and+Cressida" (in the 1609 quarto), the word is not "+surety+" but "+surely+" which makes a great deal more sense. But the name would then have been "P I Y C A A N," which would not do. Thus this 1623 repair of the earlier ciphertext.

* * *

Almost the same phrase is repeated in "The second Part of Henry the Sixt." The first one (i, 4, 29) is uttered by Bullingbrooke:

Ciphertext is:

V H A T F A T E S A V A I T T H E D V K E O F S V F F O L K E

Plaintext, +4 is:

C M E B K E+B I A E C E N+B B M I H C O I S K A C K K S P O I

Thirty-four lines later, The Duke of York adds the second (i, 4, 63) almost identical phrase:

Ciphertext is:

T E L L M E V H A T F A T E A V A I T S T H E D V K E O F S V F F O L K E

Plaintext, +4 is:

B I P P Q I C M E B K E+B I E C E N+B A B M I H C O I S K A C K K S P O I

* * *

The author of the 1623 edition of Shake-speare's works openly used his own name on five occasions-->Bacon+. We have been seeking signals; a signature writ plainly like this beckons beguilingly. We find it twice in "The First Part of King Henry the Fourth" (ii, 1, 88):

+Enter Travellers+.

+Tra+. Come Neighbors: the boy shall leade our Horses downe the hill: wee'l walke a-foot a while, and ease our Legges.

+Theeves+. Stay.

+Tra+. Iesu blesse vs.

+Fal+. Strike down with them, cut the villains throats; a whorson Caterpillars: <Bacon>-fed Knaues, they hate vs youth; downe with them, fleece them.

+Tra+. O, we are vndone, both we and ours for ever.

+Fal+. Hang ye gorbellied knaues, are you vndone? No ye Fat Chuffes, I would your store were heere. On <Bacons>, on, what ye knaues?

Let us select the capitalized words, beginning with "Iesu" and string them together, as has been rewarding while studying Shakespeare's epitaph.

The Ciphertext is:

I E S V S T R I K E C A T E R P I L L A R S+B A C O N+F E D K N A V E S O H A
N G N O F A T C H V F F E S I O N+B A C O N+S

The reversed ciphertext is:

S N O C A B N O I S E F F V H C T A F O N G N A H O S E V A N K D E F N O C A
B S R A L L I P R E T A C E K I R T S V S E I

The plaintext is:

A R S G E F R S N A I K K C M G B E K S R L R E M S A I C E R O H I K R S G E
F A Y E P P N T Y I B E G I O N Y+B A C A I N+

Just before the last singular spelling of Bacon's name, we see "BEGOIN." Can we accept that too? Or, if not, why not? We can find the same plaintext, using only the first words of each speech, to read">BACAIN"+ again.

* * *

We were working on a page of "The First Part of King Henry the

Fourth" in which the opentext name "Bacon" appeared twice. Let us turn to the previous page (ii, 1, 26) where we will see it repeated: "I have a

Gammon of Bacon, and two razes of Ginger, to be delivered as farre as Charing-crosse. The Turkies in my Pannier are quite starved."

"Bacon" having been dragged into the dialogue, next some "Turkies" are plucked up and added to the menu. These Gammons and Turkies have a history going back to 1598 and the earliest quarto edition of the First Part of Henry IV. In our 1623 edition, "Gammon" and "Bacon" have been newly capitalized, and two words omitted from the beginning of the next sentence. Here is how Francis Bacon contrived to have his name and new rank injected into the later version:

1+. Car+. What Ostler, come away, and be hangd: come away.

2+. Car+. I haue a Gammon of <Bacon>, and two razes of Ginger, to be deliuered as farre as Charing-crosse.

1+. Car+. The Turkies in my Pannier are quite starued. What Ostler? A plague on thee, hast thou neuer an eye in thy head? Can'st not heare?

The ciphertext is:

I H A V E A G A M M O N O + F B A C O N + A N D T V O R A S E S O F G I N G E R T
O B E D E L I V E R E D A S F A R R E A S C H A R I N G C R O S S E T H E T V
R K I E S I N M Y P A N N I E R A R E Q V I T E S T A R V E D

The plaintext is:

N M E C I E L E Q Q S R S K F E G S R E R H B C S Y E A I A S K L N R L I Y B
S F I H I P N C I Y I H E A K E Y Y I E A G M E Y N R L G Y S A A I B M I B C
Y O N I A N R Q D T E R R N I Y E Y I V C N B I A B E Y C I H

Alternate letters are:

M C E E Q R K E S E H C Y A A K N L Y S I I N I I E K
Y I A M Y R G S A + B I C O I N + Q T R N Y Y V N I B Y I

In the 1598 quarto, the words "Gods Bodie" preceded "The Turkies . . ." These original words were deleted in the 1623 edition so as to produce the letters "SA" just preceding "BICOIN." "SA" referred to Bacons new (1621) title of Viscount St. Alban, after which he sometimes signed his name as "Francis S. A."

Just a little cutting and trimming to bring his identity up to date.

* * *

In "Loves Labour's Lost" (v, 2, 552), the "Clowne" enters and says, "I Pompey am." Berowne contradicts him: "You lie, you are not he." The clown repeats that he is "Pompey surnam'd the great"; this is probably a play upon the name of a 1595 drama by Kyd, "Pompey the Great, his faire Corneliaes Tragedy."

The clown continues with a four line verse; it is italicized and the last two lines are:

+And travailing along this coast, I heere am come by chance,
And lay my Armes before the legs of this sweet Lasse of France+.

This is comedy, but a question of identity has been raised:

The ciphertext is:

A N D T R A V A I L I N G A L O N G T H I S C O A S T I H E E R E A M C O M E
+ B Y C H A N + C E A N D L A Y M Y A R M E S B E F O R E T H E L E G S O F T H I
S S V E E T L A S S E O F + F R A N C E +

The plaintext is:

E R H + B Y E C E N + P N R L E P S R L B M N A G S E A B N M I I Y I E Q G S Q I
F D G M E R G I E R H P E D Q D E Y Q I A F I K S Y I B M I P I L A S K B M N
A A C I I B P E A A I S K K Y E R G I

Plaintext reversed is:

I G R E Y K K S I A A E P+B I I C A A N+M B K S A L I P I M B I Y S K I F A I
Q Y E D Q D E P H R E I G R E M G D F I Q S G Q E I Y I I M N B A E S G A N M
B L R S P E L R N P N E C E Y B H R E

"France" and "by chance," appearing in the ciphertext, are serviceable indicators; they are pointers to this echoing anonym.

* * *

Quoting now from the 1634 Quarto of "The Two Noble Kinsmen" (v, 1, 122):

Yea him I doe not love, that tells close offices
The fowlest way, nor <names concealments> in
<The boldest language>, such a one I am,
And vow that lover never yet made sigh
Truer then I. O then most soft sweet goddesse
Give me the victory of this question,

The title-page says this was written by John Fletcher and William Shakespeare. Some critics say Shakespeare had no hand in it and some say he wrote the whole of it.

Nevertheless, we shall look for a "name" concealed in "The boldest language":

Ciphertext is:

G I V E M E T H E V I C T O R Y O F T H I S Q V E S T I O N

Ciphertext reversed is:

N O I T S E V Q S I H T F O Y R O T C I V E H T E M E V I G

Plaintext, +4 is:

R S N+B A I C V A N+M B K S D Y S B G N C I M B I Q I C N L

Likewise, at the very beginning of this play, another display of the name may be found in the first verse of "The Song."

* * *

The Sonnets are a rich source of cryptonyms for the signature of Sir Francis Bacon, once Chancellor of England, Baron Verulam and Viscount St. Alban. Let us explore Sonnet 34:

Lines 1 to 4 are as follows:

Why didst thou promise such a beautiful day,
And make me travaile forth without my cloake,
To let base cloudes ore-take me in my way,
Hiding thy brau'ry in their rotten smoke.

Ciphertext is:

V H Y D I D S T T H O V P R O M I S E S V C H A B E A V T I O V S D A Y A N D
M A K E M E T R A V A I L E+F O R T H+V I T H O V T M Y C L O A K E T O L E T
B A C E C L O V D E S O R E T A K E M E I N M Y V A Y H I D I N G T H Y B R A
V R Y I N T H E I R R O T T E N S M O K E

Plaintext, +4 is:

C M D H N H A B B M S C T Y S Q N A I A C G M E F I E C B N S C A H E D E R H
Q E O I Q I+B Y E C E N+P I K S Y B M C N B M S C B Q D G P S E O I B S P I B
F E G I G P S C H I A S Y I+B E O I Q I N+R Q D C E D M N H N R L B M D F Y E
C Y D N R B M I N Y Y S B B I R A Q S O I

Lines 9 to 12 are:

Nor can thy shame giue phisicke to my grieffe,
Though thou repent, yet I have still the losse,
Th'offenders sorrow lends but weake reliefe
To him that beares the strong offenses losse.

Ciphertext is:

NORCANTHYSHAMEGIVEPHISICKETOMYGRIEFETHO
VGHTHOVREPENTYETIHAVESTILLTHELOSSETHOFF
ENDERSSORROVLENDSSBVTVEAKERELIEFETOHIMTH
ATBEARESTHESTRONGOFFENSESLOSSE

Ciphertext reversed is:

ESSOLSESNEFFOIGNORTSEHTSERAEBTAAHTMIHOTEF
EILEREKAEVTVBSDLNELVORROSSREDNEFFOHTESSO
LEHTLLITSEVAHITEYTNEPERVOHTHGV OHTEF EIRG
YMOTEK CISIHP EVIGEMAHSYHTNACRON

Plaintext, +4 is:

I A A S P A I A R I K K S L R S Y B A I M B A I Y E I F B E M B Q N M S+B I K
I N+P I Y I O E I C B C F A H R I P C S Y Y S A A Y I H R I K K S M B I A A S
P I M B P P N B A I C E M N B I D B R I T I Y C S M B M L C S M+B I K I N+Y L
D Q S B I O G N A N M T I C N L I Q E M A D M B R E G Y S R

Here, following the noteworthy word "forth" at the beginning of the ciphertext (and next to "trauaile"), he declares his name in four places.

* * *

Meditate upon these four lines from Sonnet 59:

Oh that record could with a <back-ward> looke,
Even of five hundreth courses of the Sunne,
Show me your image in some antique booke,
Since minde at first in carrecter was done.

Ciphertext is:

S H O V M E Y O V R I M A G E I N S O M E A N T I Q V E B O O K E S I N C E M
I N D E A T F I R S T I N C A R R E C T E R V A S D O N E

Ciphertext reversed is:

E N O D S A V R E T C E R R A C N I T S R I F T A E D N I M E C N I S E K O O
B E V Q I T N A E M O S N I E G A M I R V O Y E M V O H S

Plaintext, +4 is:

I R S H A E C Y I B G I Y Y E G R N B A Y N K B E I H R N Q I G R N A I O S S
F I C V N B R E I Q S A R N I L E Q N Y C S D I Q C S M A

Plaintext, alternate letters:

I S A C I G Y E R+B Y K E H N+I R A O S I V+B E Q A N+L Q Y S I C M

Notice that we have+reversed+the ciphertext in order to uncover these two examples. "with a <back-ward> looke," we have shown "his image in some antique booke."

"He simply reversed the cipher!" as Professor Moriarity once ex-claimed triumphantly, while trying to outwit Sherlock Holmes.

* * *

Consider this, in "The second Part of Henry the Sixt," (iii, 1, 71):

+King+. . . Our kinsman+Gloster+is as innocent,
From meaning Treason to our Royall Person,

As is the sucking Lambe, or harmelesse Dove:
 The Duke is vertuous, milde, and too well giuen,
 To dreame on euill, or to worke my downefall.
 +Qu+. Ah what's more dangerous, then this fond affiance?
 Seemes he a Doue? his feathers are but borrow'd,

Ciphertext is:

T H E D V K E I S V E R T V O V S M I L D E A N D T O O V E L L G I V E N T O
 D R E A M E O N E V I L L O R T O V O R K E M Y D O V N E F A L L A H V H A T
 S M O R E D A N G E R O V S T H E N T H I S F O N D A F F I A N C E S E E M E
 S H E A D O V E H I S F E A T H E R S A R E B V T B O R R O V E D

Ciphertext reversed is:

D E V O R R O B T V B E R A S R E H T A E F S I H E V O D A E H S E M E E S E
 C N A I F F A D N O F S I H T N E H T S V O R E G N A D E R O M S T A H V H A
 L L A F E N V O D Y M E K R O V O T R O L L I V E N O E M A E R D O T N E V I
 G L L E V O O T D N A E D L I M S V O V T R E V S I E K V D E H T

Plaintext, +4 is:

H I C S Y Y S F B C F I Y E A Y I M + B E I K A N + M I C S H E I M A I Q I I A I
 G R E N K K E H R S K A N M B R I M B A C S Y I L R E H I Y S Q A B E M C M E
 P P E K I R C S H D Q I O Y S C S B Y S P P N C I R S I Q E I Y H S B R I C N
 L P P I C S S B H R E I H P N Q A C S C + B Y I C A N + I O C H I M B

The last line of the ciphertext, "Seemes he a Doue? his feathers are but borrow'd," is followed by these suggestive lines:

For hee's disposed as the hatefull Rauen.
 Is he a Lambe? his Skinne is surely lent him,
 For hee's enclin'd as is the rauinous wolues.
 Who cannot steale a shape, that meanes deceit?

In 1592 Robert Greene published the "Groatsworth of wit" which contained an attack upon Shakespeare in the following terms:

Yes, trust them not: for there is an upstart crow, beautified with our feathers, that with his tiger's heart wrapped in a player's hide, supposes he is as well able to bombast out a blank verse as the best of you: and being an absolute Johannes factotum, is in his own conceit the only Shake-scene in the country.

The Second Part of Henry the Sixt first appeared in quarto in 1600, eight years after the "Groatsworth," and this bold black raven in borrowed feathers was indeed Shakespeare.

* * *

In "The two Gentlemen of Verona" (ii, 1, 135) Valentine has written a letter for Silvia; she objects to its style and Valentine says: "Ile write your Ladyship another"; to this she replies, "And when it's writ: for my sake read it ouer."

Ciphertext is:

A N D V H E N I T S V R I T F O R M Y S A K E R E A D I T O V E R

Plaintext is:

E R H C M I R N + B A C Y N + B K S Y Q D A E O I Y I E H N B S C I Y

Then Silvia withdraws, and this is said:

+Speed+. Oh <Iest vnseene: inscrutable: inuisible,>
 As a nose on a mans face, or a wethercocke on a steeple:
 My Master sues to her: and she hath taught her Sutor,
 He being her Pupill, to become her Tutor.
 Oh excellent deuise, was there euer heard a better?

The "excellent device" produces this:

Ciphertext:

O E C E L L E N T D E V I S E W A S T H E R E

Ciphertext reversed is:

E R E H T S A V E S I V E D T N E L L E C E O

Plaintext is:

I Y I M+B A E C I A N+C I H B R I P+P I G I S+

Truly a jest unseen--inscrutable--invisible. Until just now.

* * *

"Put thyselfe into the tricke of singularitie." That is good advice for the resolution of this bit of jesting, from "The Tragedie of Romeo and Juliet" (ii, 4, 64):

+Mer+. Sure wit, follow me this ieast, now till thou hast worne out thy Pump, that when the single sole of it is worne, the ieast may remaine after the wearing, sole-singular.

+Rom+. O single sol'd ieast, soly singular for the singlennesse.

+Mer+. Come betweene vs good+Benvolio,+my wits faints.

+Rom+. Swits and spurs, Swits and spurs, or Ile crie a match.

Ciphertext is:

C O M E B E T V E E N E V S G O O D B E N V O L I O M Y V I T S F A I N T S S V I T S A N D S P V R S S V I T S A N D S P V R S O R I L E C R I E A M A T C H

Plaintext, +4 is:

G S Q I F I B C I I R I C A L S S H F I R C S P N S Q D C N+B A K E N+R B A A C N B A E R H A T C Y A A C N B A E R H A T C Y A S Y N+P I G+Y N I E Q E B G M

Plaintext reversed is:

M G+B E Q E I N+Y G I P N Y S A Y C T A H R E A B N C A A Y C T A H R E A B N C A A B R N E K A B N C D Q S N P S C R I F H S S L A C I R I I C B I F I Q S G

* * *

"By Francis Bacon? That may be a peculiar phrase to turn up in the Works of William Shakespeare. Yet we can find it in "Macbeth" (iii, 2, 5):

'Tis safer, to be that which we destroy,
Then by destruction dwell in doubtfull joy.

Ciphertext is:

T I S S A F E R T O B E T H A T V H I C H V E D E S T R O Y T H E N B Y D E S T R V C T I O N D V E L L I N D O V B T F V L L I O Y

Ciphertext reversed is:

Y O I L L V F T B V O D N I L L E V D N O I T C V R T S E D Y B N E H T Y O R T S E D E V H C I H V T A H T E B O T R E F A S S I T

Plaintext, +4 is:

D S N P P C K B F C S H R N P P I C H R S N B G C Y B A I H D F R I M B D S Y

B A I H I C M G N M C B E M+B I F S B Y I K E A A N+B

* * *

Another example of "Fs" as the signature abbreviation of Bacon's surname (as in "Bote-swaine") may be found in Sonnet 2, the last five lines:

If thou couldst answer this faire child of mine
Shall sum my count, and make my old excuse
Proouing his beautie by succession thine.
This were to be new made when thou art ould,
And see thy blood warme when thou feel'st it could,

The next-to-last line may "be new made," as follows:

Ciphertext is:

T H I S V E R E T O B E N E V M A D E V H E N T H O V A R T O V L D

Ciphertext reversed is:

D L V O T R A V O H T N E H V E D A M V E N E B O T E R E V S I H T

Plaintext, +4 is:

H P C S B Y E C S M B R I M C I H E Q C I R I+F S B I Y I C A N+M B

* * *

The first seven lines of Sonnet 111 are as follows:

O For my sake doe you wish fortune chide,
The guiltie goddesse of my harmfull deeds,
That did not better for my life provide,
Then publick meanes which publick manners breeds.
Thence comes it that <my name receives a brand>,
And almost thence my nature is subdu'd
To what it workes in, like the Dyers hand,

A name branded like a Dyer's hand should interest us because of "what it workes in." Now Bacon does an infrequent thing: he enciphers his name twice+within the ciphertext,+rather than the plaintext, by using alternate letters.

Ciphertext is:

T H E N P V B L I C K M E A N E S V H I C H P V B L I C K M A N N E R S

Alternate letters are:

T E P+B I K E N+S H C P+B I K A N+E S

But, in the complete 14 line sonnet, he reverts to his more common practice; in the plaintext, "cipher" may be found, along with two more specimens of his name.

* * *

Here's a line from "A Midsommer nights Dreame" (ii, 1, 150) that shows the deft economy of the encipherer: "At a faire Vestall, throned by the West,"

Ciphertext is:

A T A F A I R E V E S T A L L

Plaintext is:

E+B E K E N+Y I C I A B E P P

Plaintext reversed:

P P E+B A I C I Y N+E K E B E

Both spellings of his name share the same+"N"!

* * *

Another example of such frugality may be found in "The Tragedie of Coriolanus" (i, 1, 130); it is another "one-liner."

True is it my Incorporate Friends (quoth he)

Ciphertext is:

T R V E I S I T M Y I N C O R P O R A T E F R I E N D S

Plaintext is:

+B Y C I N+A N B Q D N R G S Y T S Y E+B I K Y N+I R H A

* * *

"The Phoenix and the Turtle" has Shakespeare's name printed at the end. It is preceded by a separate title-page labeled "LOVES MARTYR OR, ROSALINS COMPLAINT," in which it is called "the Turtle and Phoenix" (1601). Only one line on this page is printed in large italics:

The ciphertext is:

D O N E B Y T H E B E S T A N D C H I E F E S T O F O V R

Ciphertext, +4 reversed is:

R V O F O T S E F E I H C D N A T S E B E H T Y B E N O D

Plaintext, +4 is:

Y C S K S+B A I K I N+M G H R E B A I F I M B D F I R S H

The poem itself has been described as "strange and remote," and "trembling on the verge between fantasy and nonsense" (A. L. Rowse). Consider the sense of the tenth verse:

Propertie was thus appalled,
That the selfe was not the same:
Single Natures <double name>,
Neither two nor one was called.

"Double name"? Let us probe beneath the first line:

Plaintext is:

P R O P E R T I E V A S T H V S A P P A L L E D

Ciphertext reversed is:

D E L L A P P A S V H T S A V E I T R E P O R P

Plaintext, +4 is:

H I P P E T T E A C M+B A E C I N+B Y I T S Y T

* * *

These lines are from "The Tragedie of Titus Andronicus" (iv, 1, 64), and spoken by Marcus:

+Mar. . . Appollo, Pallas, Ioue,+or+Mercury,+
Inspire me that I may this treason finde

My Lord looke heere, looke heere+Lauinia+.

Ciphertext is:

I N S P I R E M E T H A T I M A Y T H I S T R E A S O N F I N D E

Ciphertext reversed is:

E D N I F N O S A E R T S I H T Y A M I T A H T E M E R I P S N I

Plaintext, +4 is:

I H R N K R S A E I Y B A N M B D E Q N B E M+B I Q I Y N+T A R N

Lavinia cannot write because both her hands have been cut off but Marcus, who himself has lost a hand, directs her by his example:

+He writes his <Name> with his staffe, and guides it with feete and mouth+.

This sandie plot is plaine, guide if thou canst
This after me, I haue writ my <name>.

Ciphertext is:

T H I S A F T E R M E I H A V E V R I T M Y+N A M E+

Plaintext, +4 is:

B M N A E K+B I Y Q I N+M E C I C Y N B Q D R E Q I

* * *

Perhaps the most well-remembered cliché from Shakespeare's works is, "What's in a name." The literal quotation is as follows, from "The Tragedie of Romeo and Juliet":

What? in a names that which we call a Rose,
By any other word would smell as sweete,

Here, in 25 lines, the word "name" is uttered eight times. The line just before this citation (ii, 2, 37) is, "Belonging to a man"; it did not appear in the first Quarto edition of the play.

The ciphertext is:

T O A M A N V H A T I N

The plaintext, +4 is:

B S E Q E R C M E B N R

Alternate letters are:

B E E C E N

A few lines afterward are these provocative lines (ii, 2, 50):

<By a name,
I know not how to tell thee who I am>:
My name deare Saint, is hatefull to myselfe,
Because it is an Enemy to thee,
Had I it written, I would teare the word.

"who I am" did not appear in the 1597 Quarto, but was added to the 1599 and 1623 versions. Let us examine the first six words.

The ciphertext is:

B Y A+N A M E+I K N O V N O T

Alternate letters are:

B A A E K O N
* * *

He who writes under a pseudonym must change names, a phrase we may find in "The Tragedie of King Lear" (iv, 2, 15):

+Gon+. ...Backe+Edmond+to my Brother,
Hasten his Musters, and conduct his powres.
I must <change names> at home, and giue the Distaffe
Into my Husbands hands.

Ciphertext, +4 is:

H A S T E N H I S M V S T E R S A N D C O N D V C T H I S P O V R E S I M V S
T C H A N G E N A M E S A T H O M E A N D G I V E T H E D I S T A F F E I N T
O M Y H V S B A N D S H A N D S

Plaintext, +4 is:

M E A B I R M N A Q C A B I Y A E R H G S R H C G B M N A T S C Y I A N Q C A
B G M E R L I R E Q I A E B M S Q I E R H L N C I B M I H N A+B E K K I N+R B
S Q D M C A F E R H A M E R H A

Plaintext reversed is:

A H R E M A H R E F A C M D Q S B R N I K K E B A N H I M B I C N L H R E I Q
S M B E A I Q E R I L R E M G B A C Q N A I Y C S T A N M B G C H R S G H R E
A Y I+B A C Q A N+M R I B A E M

Interestingly, in the 1608 Quarto the phrase is not "change names," but "change armes." Perhaps "armes" was not adequately significant.

* * *

In "A Midsommer nights Dreame" (i, 2, 41) "Quince the Carpenter" is selecting, from a company of artisans, the actors to play in a sketch of "Pyramus and Thisbie."

"Now good+Peter Quince,+ call forth your Actors. . . Answer as I call you."

(Several are selected, and the dialogue continues):

...Now <name> the rest of the Players. This is+Ercles+ vaine, a tyrants vaine: a louer is more condoling.
+Quin.+ +Francis Flute+the Bellowes-mender.

Ciphertext is:

N O V+N A M E+T H E R E S T O F T H E P L A Y E R S T H I S I S E R C L E S V
A I N E A T Y R A N T S V A I N E A L O V E R I S M O R E C O N D O L I N G+F
R A N C I S+F L V T E T H E B E L L O V E S M E N D E R

Plaintext, +4 is:

R S C R E Q I B M I Y I A B S K B M I T P E D I Y A B M N A N A I Y G P I A C
E N R I E B D Y E R+B A C E N+R I E P S C I Y N A Q S Y I G S R H S P N R L K
Y E R G N A K P C B I B M I F I P P S C I A Q I R H I Y

The gentleman named was also playing a part.

* * *

What proof do we demand, what is proof enough? Inspect these lines from "Much adoe about Nothing" (ii, 2, 28):

+Iohn+. What prooffe shall I make of that?
+Bor+. <Prooffe enough>, to misuse the Prince,

Ciphertext is:

P R O O F E E N O V G H T O M I S V S E T H E P R I N C E

Ciphertext reversed is:

E C N I R P E H T E S V S I M O T H G V O N E E F O O R P

Plaintext, +4 is:

I G R N Y T+I M B I A C A N+Q S B M L C S R I I K S S Y T

Conclusion

We might continue with other examples, but reasonable observers should not insist upon more. We have reached a place where each of these signatures cannot all be ascribed to happenstance; these+one-hundred and thirteen+illustrations must not all have occurred by chance. +Fourteen+ examples have been shown in which the playwright's name appears three or more times. +Ten+times an abbreviation of his first name has just preceded his last. +Forty-three+times we have found it in conjunction with a version of "cipher." +Nine+times it is found twice within one line of text.

In addition, we have found this enciphered name on +twenty+ occasions together with, either in ciphertext or plaintext, the word "name." Must such subtlety forever escape the perception of the literary mind? While we follow the trail of such vintage etymological imprints, must we overlook these peculiarities? Our compass points across the wake of an immensely informed scholar; shall we still insist that he was innocent of cryptographic design--helpless to reveal his name through the composition of such coherent, but well concealed, devices?

In the+Advancement of Learning+, Book VI, Francis Bacon described three of the most desirable features of ciphers. Then he wrote, "lastly, if it be possible, that they be managed without suspicion." Today we call such ciphers steganograms; in these, the very existence of secret writing is concealed.

In the italicized words of Bassino in "The Merchant of Venice" (iii, 2, 130):

+You that choose not by the view
Chance as faire, and choose as true:
Since this fortune falls to you,
Be content, and seek no new+.

We perceive a design, a pattern of order in the results of our experiments. The "messages" are barren of the dramatic content some wishful skeptics may crave; we are tendered only a name, however unequivocally identified.

Sadly, the name is easy to deny because our ancestors have, for twelve generations, been willing to venerate a different label.

To the Reader

This Figure, that thou here seest put,
It was for gentle Shakespeare cut;
Wherein the Grauer had a strife
with Nature, to out-doo the life:
O, could he but haue drawne his wit
As well in brasse, as he hath hit
His face; the Print would then surpasse
All, that was ever writ in brasse.
But, since he cannot, Reader, looke
Not on his Picture but his Booke.

B. I.

This famous verse faces the portrait of Shakespeare in the 1623 Folio. O, whose name and wit abides therein, unseen?
Perhaps these excavations are merely superficial and offer only a

cursory view of other cryptic intelligence lying beneath them. Yet these seemingly primitive cipher artifacts speak to us with singular finality. We have passed through a long-sealed chamber where such specimens of antique cryptography still endure.

Eighty years ago Mark Twain asked if "Shakespeare will have to vacate his pedestal this side of the year 2209." The answer is, as the authentic playwright puts it in "The Two Noble Kinsmen": forthwith--"Give me the victory of this question."

Adjuration.

+No pleasure is comparable to the
standing upon the vantage ground of truth+.
--Francis Bacon

Chapter 15

What sort of man was Francis Bacon? In a short +Life+ published in +The Works+, Baynes & Son, London, 1824, the anonymous biographer offers this brief yet almost charismatic portrait:

He was of a middling stature; his forehead spacious and open, early impressed with the marks of age; his eye lively and penetrating; his whole appearance venerably pleasing: so that the beholder was insensibly drawn to love, before he knew how much reason there was to admire him. In this respect we may apply to my lord Bacon what Tacitus finely observes of his father-in-law, Agricola: a good man you would readily have judged him to be, and been pleased to find him a great man.

Those talents that commonly appear single in others, and they too men of reputation, shone forth in him united and eminent. All his contemporaries, even those who hated the courtier, stand up and bear witness together to the superior abilities of the writer and pleader, of the philosopher and companion. In conversation he could assume the most differing characters, and speak the language proper to each, with a facility that was perfectly natural; or the dexterity of the habit concealed every appearance of art: a happy versatility of genius, which all men wish to arrive at, and one or two, once in an age, are seen to possess. In public, he commanded the attention of his hearers, and had their affections wholly in his power. As he accompanied what he spoke with all the expression and grace of action, his pleadings, that are now perhaps read without emotion, never failed to awaken in his audience the severest passions he intended they should feel. This is not a picture of him drawn from fancy; it is copied; and that too but in miniature, after another taken by one who knew him well; a good judge of merit, and seldom known to err, at least in heightening a favourable likeness. . . [the glosses indicate that this sketch was drawn from the writings of Rawley, Evelyn, Osborn and Ben Jonson.]

In 1924 one Edwin J. Des Moineaux published a pamphlet entitled "MANUSCRIPT +said to be+ HANDWRITING +of+ WILLIAM SHAKESPEARE IDENTIFIED +as+ PENMANSHIP OF ANOTHER PERSON," (Phillips Printing Co, Los Angeles). The author contested the authenticity of a "Shakespeare signature" written at the bottom of a recently discovered manuscript fragment of the play "Sir Thomas More" (Harlein MS No. 7368, British Library). This play had previously been attributed to another Elizabethan, Anthony Munday, but the +New York Times+ in 1917 found space to award this lucky find of 147 lines first prize as: "The Most Important Discovery in the History of Literature." The Editors then announced that the signature of The Bard of Avon appended to the manuscript was genuine beyond all possible doubt. Great storms of literary protest ensued.

However, according to other authorities, the signature did not match the handwriting in the 147 lines of this fragment of the play, or even the other verified Shakespeare signatures. The "Most Important Discovery" was quickly dropped by the newsroom autographic experts of the +Times+. In his brief paper, Des Moineaux daringly offered facsimiles as proof that, in his opinion, the 147 lines of this play were drafted in the calligraphy of Francis Bacon. In his Foreword he comments acidly:

which could possibly have been the author of plays and poems that "touch the horizon of all human thought": a butcher's apprentice or a college alumnus; a mischievous poacher or an attache of an embassy; a Stratford toper or a London Barrister; a village vagabond or a member of Parliament; a country rustic or an habitue of royal precincts; a Bank-side showman or a producer of classic revels; a petty money changer or a privy councillor; a litigious maltster or an Attorney General; an associate of illiterates and vulgarians or a consort of the most brilliant and refined men of his time; an indolent lout equipped with nothing but the patois of Warwickshire or an ambitious student who acquired a vocabulary of 18,000 words?

Lout? Maltster? Good Heavens! But daunting outbursts such as this will not alone depose the Stratford King. They only serve to arouse sleeping scholars to search again into the misty domain of Stratfordian surmise, mayhap to rise anew atop some hastily erected, freshly disguised and hopefully impregnable tower of profound literary conjecture. The defenders of tradition rarely delay as they prepare to bring us back to our senses, but during the interval we may feel more comfortable in ascribing The works to an industrious, educated man than in inventing excuses to credit them to a Warwickshire refugee from child support payments.

* * *

Francis Bacon was not a poet: so say modern critics. Perhaps they are unaware of these quotations collected by Mrs. Henry Pott (+Francis Bacon and his Secret Society+, Schulte & Co., Chicago 1891):

It is he that filled up all numbers [lines of verse], and performed that which may be compared or preferred to insolent Greece or haughty Rome (Ben Jonson). ("These numbers will I teare, and write in prose." Shakespeare, "Loves Labour's lost," iv, 3, 55.)

His Lordship was a good poet, but +concealed,+ as appears by his letters (John Aubrey).

The author of "The Great Assises Holden in Parnassus" [attributed to the playwright John Day] ranks Lord Verulam next to Apollo [the Greek god of all the Arts].

The poetic faculty was strong in Bacon's mind. No imagination was ever at once so strong and so subjugated. In truth, much of Bacon's life was passed in a visionary world. . .magnificent day-dreams. . .analogies of all sorts (Macaulay)

Few poets deal in finer imagery than is to be found in Bacon. . .His prose is poetry (Campbell).

The varieties and sprightliness of Bacon's imagination, an imagination piercing almost into futurity, conjectures improving even to prophecy. . .The greatest felicity of expression and the most splendid imagery (Basil Montagu).

"The wisdom of the Ancients. . .a kind of parabolical beauty. . .To the Advancement of Learning he brings every species of poetry by which the imagination can elevate the mind from the dungeon of the body to the enjoying of its own essence. . .Metaphors, similitudes and analogies make up a great part of his reasoning. . .Ingenuity, poetic fancy, and the highest imagination and fertility cannot be denied him (Craik).

The creative fancy of a Dante or Milton never called up more gorgeous images than those suggested by Bacon, and we question much whether their worlds surpass his in affording scope for the imagination. His extended over all time. His mind brooded over all nature. . .unfolding to the gaze of the spectator the order of the universe as exhibited to angelic intelligences (Devey)

The tendency of Bacon to see analogies is characteristic of him, the result of that mind not truly philosophic but truly poetic, which will find similitudes everywhere in heaven and earth (Dr. Abbott).

I infer from this sample that Bacon had all the natural faculties which a poet wants: a fine ear for metre, a fine feeling for imaginative effect in words, and a vein of poetic passion. . .The truth is that Bacon was not without the "fine phrensy" of a poet (Spedding).

We may recall Edmund Howes' 1615 list of 27 "excellent Poets" who had written during Elizabeth's reign. Among them he ranked, "according

to their priorities," Francis Bacon as eighth in prominence. "willi" Shakespeare he scored as thirteenth. Nonetheless, the literary opinions of Bacon's contemporaries don't impress modern authorities: where are his works, they demand?

where indeed.

Let us hear from Bacon himself (+Of the Advancement of Learning,+ Book II, Chapter XIII, p. 106):

. . . +Poesy+ cheereth and refreshes the soule; chanting things rare, and various, and full of vicissitudes. So as +Poesy+ serveth and conferreth to Delectation, Magnaminty, and Morality; and therefore it may seem deservedly to have some Participation of Divinenesse, because it doth raise the mind, and exalt the spirit with high raptures, by proportioning the shewes of things to the desires of the mind; and not submitting the mind to things, as +Reason+ and +History+ doe.

The author of Shakespeare's works, who wrote lively dramatic and poetic histories of the kings of England, Rome and Greece, might agree.

* * *

We are all familiar now with Francis Bacon's odd manner of writing, whether in opentext, ciphertext or plaintext. Consider Sonnet 81:

Or I shall liue your Epitaph to make,
Or you suruiue when I in earth am rotten,
From hence your memory death cannot take,
Although in me each part will be forgotten.
Your name from hence immortall life shall haue,
Though I (once gone) to all the world must dye,
The earth can yeeld me but a common graue,
When you intombed in mens eyes shall lye,
Your monument shall be my gentle verse,
Which eyes not yet created shall ore-read,
And tongs to be, your beeing shall rehearse,
When all the breathers of this world are dead,
You still shall liue (such vertue hath my Pen)
Where breath most breaths, euen in the hearts of men.

What sad words.

As we have seen, Bacon was in his acknowledged writings a master of ambiguity, of +double entendre+. We have another example of it in these elegiac verses. There are many other mysteries, already raised by good scholars, about the meaning of the +Sonnets+. Perhaps more labor in cryptology will reveal the answers.

Upon Francis Bacon's death his friend George Herbert wrote this lament; it deserves mournful music:

While thou dost groan 'neath weight of sickness slow
And wasting life with doubtful step doth go,
What wise fates sought I see at last fulfilled:
Thou needs must die in April--so they willed,
That here the flowers their tears might weep forlorn,
And there the nightingales melodious mourn,
Such dirges only fitting for thy tongue,
Wherein all eloquence most surely hung.

I don't remember ever being sorry for anyone so anciently demised. Now for Francis Bacon, gone for nearly four centuries, I am.

He was buried, as directed, near his mother, in the parish church of St. Michael, near St. Albans. This picturesque and lonely little church became a place of pilgrimage, and will, we believe, become so once more. The obligations of the world are, as his biographer says, of a kind not to be overlooked. There is no department in literature or science or philanthropy, no organization for the promulgation of religious knowledge, which does not owe something to Francis Bacon [from +Francis Bacon and his Secret Society,+ supra].

We have reviewed the abundant evidence to connect Francis Bacon with the composition of Shakespeare's works, and the lack of it to support the authorship of the divine object of the Bardolators' sanctification. The catalog is, I think, clear and convincing, yet it covers ground already scoured by scholars having biases in many directions. In the past they have been unable to agree to terms of any sort. I have included the historical documentation chiefly to show that Francis Bacon was capable of writing the works, those that we have become accustomed to regard as belonging to William Shakespeare; that Bacon casually let fall that he was a poet and that he wrote under an alias; and that it is more than likely that a wealthy, traveled, cultured English barrister did so. To the contrary, the proof that the rustic Bard of Avon wrote them rests very uncomfortably upon apocrypha, title-page labels, and the many contrived and imaginative interpretations of the "internal evidence" claimed to be found in the books themselves. The negative evidence, relating to Shakespeare's sketchy education and mundane character, seems to foreclose upon the Stratford Birthplace as the source of this classical literature. Yet a preference for tradition or toward a variety of authors to be credited with Shakespeare's works has become a matter of literary taste: a habit based on faith, a subjective selection leading often to an emotional conclusion. The choice so provided is hardly a useful way to end a quarrel. In the end, by disregarding the dead hand of tradition and conjecture, perhaps science will prevail.

Bacon did not invent the cipher that he employed, he merely adapted it. Whether Johannes Trithemius did or did not originate this particular method, a book was published in 1606 collecting his early Sixteenth Century description of several cryptographic schemes. One of them required that open cues be included in the ciphertext, that the cues refer to particular letters of the ciphertext, that the ciphertext letters be concealed as a steganogram, that a keyed abbreviated alphabet be employed to cryptanalyze the ciphertext, and that the resulting doubly enciphered letters then be submitted to the ancient Caesar cipher system for final decryption. Such nearly impervious, yet still regular, elegance must have seemed to Francis Bacon attractive.

This was the state of the art of cryptography, so far as Bacon was concerned, when he devised his private cipher and published +SHAKESPEARES SONNETS+. The plan he selected agreed with his openly expressed opinion of the need for deep security. Steganography, as described by Trithemius, seemed to insure the safety of the cryptographic system that Bacon then modified for his own use. His was not intended to convey protracted messages; his was not necessarily useful to describe the enemy's order of battle in wartime; his was certainly not made to be quickly deciphered. The cues, the signals, were sometimes susceptible to two interpretations; one might be fashioned so as to lead onward to a solution while the other was intentionally structured to produce only alphabetical chaos. These indicators exactly fitted the ideal paradigm of cipher excellence that Bacon had described in +The Advancement of Learning+. His practical system was disadvantaged because it required more than considerable time, tenacity and the testing of alternatives to find the plaintext, yet these same qualities gave it the power to be almost impenetrable.

Bacon's "Bote-swaine cipher" (if I may call it that) was intended only to identify him as the sire of the poems and plays that betoken the exquisite imagination of the author. He was content to leave only his seal, his signature, though often coupled with "cipher" or "name;" for him that was enough. In his day it was far from uncommon for authors, while employing anonymity or an alias, to write into their works an acrostic signature and ordinary pride of craftsmanship tempted many of them to do so. Bacon did the same but he was far more cautious than the others. He was far too cautious, considering the long ages of time that have passed while his deeds have remained concealed. He was for himself a hard taskmaster as he strained to entertain his audiences, and as he secretly toiled to instruct them without tiring them. He was not a man to tolerate any easy intrusion into his privacy, to permit any effortless prying into his reclusive occupations. It has cost us much labor to scratch away these few flakes of opaque varnish that have obscured his name; perhaps it is not time to rest, because Trithemius described more than one cipher scheme.

Now the Stratfordian stalwarts must deal with a confirmed cipher with more than a hundred illustrations. I offer them a primary obstacle, a single word at which to aim: "Bote-swaine." I offer them indicators and cryptographic landmarks, such as that word's initial printed letter: a top-

pled-over great capital "B." I offer them a name for a nameless gravestone. I offer them a proven alphabet, a tool for basic research. Mere literary doubt will no longer be sufficient; claims of error must be directed against this word, this cue, this alphabet, this "FORTH.", and then traced back through the cryptographic system that I have demonstrated; every corroborative example must be impassively analyzed and shown to be false.

Ridicule, patronizing appeals to authoritative dogma, doctrinaire confabulations, simplistic invocations to propitiate the gods of chance, semantic fabrications of plausible counter hypotheses--those derisive debating techniques, those lost promises, those prosthetic aids to Avonian fantasy that have served in the past--those shall henceforward not be good enough. William and Elizebeth Friedman illuminated the statistical problem with these charming insights: ". . . There are limits even to coincidence; if the mathematical probability is very small indeed, [1 divided by the odds against] and we take other factors of the situation into account, it often becomes unreasonable to maintain that what happens is the result of accident. If a man continues to throw seven after seven at dice, and this happens again and again, it would be absurd not to think that the dice were loaded. . . ."

It is not in a spirit of impertinence that I make this challenge; I have no wish to provoke the thoughtful and unparochial scholars of academia, or any other literates who cherish our English language and perceive in its Elizabethan foundations the faculties of a superb genius, of an inventive master of words, phrases, style and eloquence of fanciful expression. I have dealt fairly with the material that is presented here, and I impose upon critics the duty to deal fairly with that. The cryptographic procedures that I have described need not be cast aside merely because their footings are more than four centuries old. Those who make the effort to understand them may find a study of Sixteenth and Seventeenth Century cryptograms to be as worthwhile and as fascinating as it has been for me.

Indeed, what does it matter who wrote the works of William Shakespeare when the poems and the plays remain for us to admire and enjoy--to venerate, as Mark Twain said, "until the last sun goes down"?

It matters because truth matters. There is some elemental secret about Francis Bacon's life, some basic circumstance still unexplained. At least Ben Jonson must have known. Had Bacon other friends, faithful to this strange trust, who never revealed his quiet deeds? Have the descendants of such a coterie persisted through the long ages? Do such initiates still quietly enjoy this deception with cryptic smiles? Who knows? The problem must not be discarded.

It has been observed that a writing is hardly ever subjected to cipher analysis unless there is good reason to believe that it conceals a secret. I hope that in these pages I have furnished a good reason and that my own work will encourage other fundamental research, rather than foment a stormy windfall of missiles crafted within some complacent Nineteenth Century workshop of conventional wisdom.

Again there is more work to be done, a great deal more. Perhaps in some other unexamined text, or in quite another unsuspected cipher, there can be discovered a footnote to this antique puzzle. We have raised a ghost and it will take time, much more time, to put him at his ease.

* * *

Now Sam, I have offered my proofs and my briefs; I will here rest my case. We have taken Master William by surprise and spoiled his sly game. The jurors of a new panel of our peers shall become the judges of the facts in this case; the informed members of the +general laity+ are about to reach their verdict. Can you hear me, Sam?

Finis.

Addendum

Why shouldn't truth be stranger than fiction?
After all, fiction has to make sense.
--Mark Twain

Chapter 16

In this Addendum I hope to interest recruits, those that can endure

cryptographic drudgery merely for the hope of discovery, for the chancy promise of a moment of fleeting intellectual delight. I expect them to be rewarded because there are few things that I have kept in reserve.

For this purpose I will attach some computer programs written in Microsoft GWBASIC. But a computer is not absolutely necessary. One may cut up long strips of paper with two identical, twenty-one letter alphabets typewritten vertically, in series, on each one. Sliding them along beside one another is surely a way that the composers of Caesar cryptograms produced their own ciphers 400 or more years ago. Sophisticated slide devices like this were recently in use in cryptographic parlors until computers displaced them.

Unfortunately, a modern bedside copy of the plays or poems won't do for this work and the cost of an original forbids. For research, only a facsimile reprint of Shakespeare's publications will be of service. The spelling and even the phrasing of current editions has been corrected to suit modern editors: for example, the first word of dialogue in a recent copy of the First Folio is not "Bote-swaine" but "Bosun". The editors have done their readers many favors in rewording the allusions, modernizing the spelling and even in lifting whole passages from earlier versions of the plays and substituting them for others that were shown in the First Folio. The motives for these corrections are laudable because they were intended to improve the understanding and interest of students. However, only true reproductions of the originals are suitable for the uses of cryptology.

Only sixteen (quarto editions) of the thirty-six plays assembled in the 1623 First Folio had previously been printed. There have been several facsimile reprints of the Folio published in the last hundred years and copies are likely to be located in a university or public library; other such editions include the poems and quarto versions of the plays. The most recent and widely distributed facsimile publication of the First Folio is one done by the Yale University Press from their copy (London: Geoffrey Cumberlege, Oxford University Press, first edition of 1954, with subsequent printings in 1954 and 1955). The title is the same as the original. There are at least two earlier facsimiles. The best source for photo or xerographic copies, in the United States, of pages of the originals and of other 16th and 17th Century material in printed or manuscript form, is the Folger Shakespeare Library, 201 East Capitol St. S.E., Washington, D. C. 20003 (202-544-4600). The library is administered by the Trustees of Amherst College. Requests are answered quickly and their charges are reasonable. The same is true of The Huntington Library, 1151 Oxford Road, San Marino, CA 91108 (818-405-2100). In England the most complete collections of Elizabethan and Jacobean books are to be found in the British Library, Reference Division, Photographic Service, Great Russell St., London WC1B 3DG.

There are at least three concordances to Shakespeare's works that have been produced. These are lists of all of the words the author employed, arranged in alphabetical order with a quotation of the line or sentence in which each of them occur; a citation is given for the name of the play, the act, the scene and the line number. The editors and publishers have agreed to a standard notation for their references. They have left the Acts alone (there are almost always five), but they have altered the Scenes so that often there are more scenes than the playwright labeled or planned on. This sometimes affects the line numbers as compared to counting them in the original. But a convention has been adopted and is used in the more recent references, as: W. Tale, iv, 4, 402. This translates to "The Winters Tale, Act 4, Scene 4 at line 402 following the first line in that Act and Scene". Or perhaps L.L.L. v, 2, 552. Still, only modern editions of the plays show where the newly defined Scenes begin. And Sonnet echoes should not be ignored; these are cited as: 1, 1, indicating Sonnet number 1, line number 1.

* * *

The following program is accurate for up to 252 characters entered from the keyboard or from a disk file. Beyond that certain mistakes in the plaintext output will occur every 252 characters, up to 1000. It is completely accurate when compiled. A compiled version on a 5 1/4" disk is available from the author for \$10.00, and it is in the public domain.

```
10 KEY OFF:SCREEN 0:COLOR 14,1:CLS:COLOR 14,1
20 PRINT:PRINT:COLOR 14,0:PRINT SPC(21);">>>      This is SKIP10.EXE
<<<";SPC(26);:COLOR 0,7:PRINT
```



```

510 NEXT J%
520 J%=0:M(J%)=0:E$="":Y$=""
530 IF N > 252 THEN Y$="M":R$="MYFILE":PRINT
540 IF N < 253 THEN COLOR 14,0:PRINT:PRINT:PRINT"To make a disk file enter M
":PRINT
550 IF N < 253 THEN INPUT"Otherwise hit return      ";Y$:COLOR 14,1:PRINT
560 IF Y$="M" OR Y$="m" THEN GOTO 580 ELSE GOTO 640
570 IF N < 253 THEN GOTO 640
580 IF N < 253 THEN COLOR 11,1:CLS:PRINT:PRINT"Files on disk are (Limit for
compiled program--about 8000 characters):"
590 IF N < 253 THEN FILES"?????????"
600 IF N < 253 THEN PRINT SPC(13);"Enter a name for the new disk file"
610 IF N < 253 THEN PRINT SPC(12);"(maximum of 8 letters, no extension)":PRINT
620 IF N < 253 THEN INPUT"CAUTION: If the name you enter exists, it will be
ERASED and written over      ";R$:COLOR 14,1:CLS:PRINT
630 IF N < 253 AND R$="" THEN PRINT:PRINT"You must enter a name.":GOTO 540
640 IF N < 253 THEN COLOR 10,4:PRINT"To reverse ciphertext hit";:COLOR
30,0:PRINT" D ";:COLOR 10,4:PRINT"otherwise hit a key for each series.":COLOR
14,1:V$=INPUT$(1):CLS:PRINT
650 IF V$="D" OR V$="d" THEN GOSUB 1980:COLOR 14,1
660 IF Y$="M" OR Y$="m" THEN COLOR 14,1:CLS:PRINT "Diskfile ";R$;" has been
created."::COLOR 10,1
670 LOCATE 25,29:COLOR 9,0:PRINT " Hit X to exit":COLOR 14,1:CLS 2:COLOR
14,1:LOCATE 2,1
680 IF V$="D" OR V$="d" THEN LOCATE 25,17:COLOR 9,0:PRINT " Hit X to exit,
ciphertext is reversed.":COLOR 14,1:CLS 2:COLOR 14,1:LOCATE 2,1
690 IF N < 253 AND V$="D" OR V$="d" THEN COLOR 11,1:PRINT "Ciphertext reversed
is:":COLOR 14,1:ELSE IF N<253 THEN COLOR 11,1:PRINT"Ciphertext is:":COLOR 14,1
700 FOR J%=1 TO N:IF N < 253 THEN PRINT CHR$(M(J%));" ";
710 E$=E$+CHR$(M(J%))
720 NEXT J%
730 COLOR 14,6:IF N > 1 AND N < 253 THEN PRINT N;"Letters entered.":COLOR 14,1
740 IF N > 252 THEN GOSUB 2130:COLOR 14,1:PRINT "Diskfile ";R$;" has been
created":COLOR 14,1:GOTO 2230
750 IF Y$="M" OR Y$="m" THEN GOSUB 2130:GOTO 760
760 COLOR 14,1
770 K=0:IF LEN(E$) > 320 THEN COLOR 14,6:PRINT"To set lower printout speed enter
a number from 1 to 20, otherwise hit return. ":INPUT K:COLOR 14,1
780 COLOR 11,1:PRINT"Plaintext, +4 is:":COLOR 14,1
790 B$="ABCDEFGHIJKLMNQRSTVY"
800 C$="EFGHIJKLMNQRSTVYABCD"
810 FOR Q=1 TO LEN(E$):FOR JJ=1 TO (K*20):NEXT JJ
820 X=INSTR(B$,MID$(E$,Q,1))
830 IF X>0 THEN MID$(E$,Q,1)=MID$(C$,X,1)
840 T$=E$:GOSUB 3230
850 PRINT" ";
860 NEXT Q
870 COLOR 0,7
880 PRINT:PRINT "To read from 2 to 10 skips, enter Return, or hit a
key.":S$=INPUT$(1)
890 IF S$=CHR$(13) THEN BB=1:GOTO 900 ELSE IF S$="X" OR S$="x" THEN GOTO 1780
ELSE GOTO 910
900 BB=BB+1:GOTO 970
910 LOCATE CSRLIN-1:PRINT SPC(80);:LOCATE CSRLIN
920 IF BB>1 THEN COLOR 14,6:PRINT "Last skip is ";AA$;
930 COLOR 15,0
940 INPUT " Enter a number from 2 to 10 to select skip or 1 to exit";BB:COLOR
14,1
950 IF BB=1 THEN GOTO 1780
960 IF BB <2 OR BB >10 THEN BEEP:PRINT"Error...";:GOTO 920
970 IF BB=2 THEN AA$="Second"
980 IF BB=3 THEN AA$="Third"
990 IF BB=4 THEN AA$="Fourth"
1000 IF BB=5 THEN AA$="Fifth"
1010 IF BB=6 THEN AA$="Sixth"
1020 IF BB=7 THEN AA$="Seventh"
1030 IF BB=8 THEN AA$="Eighth"
1040 IF BB=9 THEN AA$="Ninth"
1050 IF BB=10 THEN AA$="Tenth"
1060 LOCATE CSRLIN-1:COLOR 14,1:PRINT SPC(79);:LOCATE CSRLIN-1

```

```

1070 COLOR 7,1:PRINT AA$;" (1)":COLOR 14,1
1080 COLOR 14,1
1090 FOR Q=1 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1100 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1110 NEXT Q
1120 PRINT
1130 COLOR 11,1
1140 COLOR 11,1:W$=INPUT$(1):GOSUB 3240
1150 COLOR 7,1:PRINT AA$;" (2)":COLOR 14,1
1160 COLOR 14,1
1170 FOR Q=2 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1180 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1190 NEXT Q
1200 PRINT
1210 COLOR 11,1:W$=INPUT$(1):GOSUB 3240:IF BB=2 THEN PRINT:GOTO 1760
1220 COLOR 7,1:PRINT AA$;" (3)":COLOR 14,1
1230 COLOR 14,1
1240 FOR Q=3 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1250 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1260 NEXT Q
1270 PRINT
1280 COLOR 11,1:W$=INPUT$(1):GOSUB 3240:IF BB=3 THEN PRINT:GOTO 1760
1290 COLOR 7,1:PRINT AA$;" (4)":COLOR 14,1
1300 COLOR 14,1
1310 FOR Q=4 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1320 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1330 NEXT Q
1340 PRINT:COLOR 11,1:W$=INPUT$(1):GOSUB 3240:IF BB=4 THEN PRINT:GOTO 1760
1350 COLOR 7,1:PRINT AA$;" (5)":COLOR 14,1
1360 COLOR 14,1
1370 FOR Q=5 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1380 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1390 NEXT Q
1400 PRINT:COLOR 11,1:W$=INPUT$(1):GOSUB 3240:IF BB=5 THEN PRINT:GOTO 1760
1410 COLOR 7,1:PRINT AA$;" (6)":COLOR 14,1
1420 COLOR 14,1
1430 FOR Q=6 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1440 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1450 NEXT Q
1460 PRINT
1470 COLOR 11,1
1480 COLOR 11,1:W$=INPUT$(1):GOSUB 3240:IF BB=6 THEN PRINT:GOTO 1760
1490 COLOR 7,1:PRINT AA$;" (7)":COLOR 14,1
1500 COLOR 14,1
1510 FOR Q=7 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1520 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1530 NEXT Q
1540 PRINT
1550 COLOR 11,1:W$=INPUT$(1):GOSUB 3240:IF BB=7 THEN PRINT:GOTO 1760
1560 COLOR 7,1:PRINT AA$;" (8)":COLOR 14,1
1570 COLOR 14,1
1580 FOR Q=8 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1590 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1600 NEXT Q
1610 PRINT
1620 COLOR 11,1:W$=INPUT$(1):GOSUB 3240:IF BB=8 THEN PRINT:GOTO 1760
1630 COLOR 7,1:PRINT AA$;" (9)":COLOR 14,1
1640 COLOR 14,1
1650 FOR Q=9 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1660 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1670 NEXT Q
1680 PRINT:COLOR 11,1:W$=INPUT$(1):GOSUB 3240:IF BB=9 THEN PRINT:GOTO 1760
1690 COLOR 7,1:PRINT AA$;" (10)":COLOR 14,1
1700 COLOR 14,1
1710 FOR Q=10 TO LEN(E$) STEP BB:FOR JJ=1 TO (K*20):NEXT JJ
1720 T=ASC(MID$(E$,Q,1)):GOSUB 3220
1730 NEXT Q
1740 IF V$="D" OR V$="d" OR P$="D" OR P$="d" THEN COLOR 11,1:PRINT"(Ciphertext
was reversed.)"
1750 W$=INPUT$(1):PRINT

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1760 IF BB=10 THEN GOTO 1780 ELSE IF S$=CHR$(13) THEN GOTO 900
1770 W$="":IF Z$="d" THEN Z$="D":IF V$="d" THEN V$="D":IF P$="d" THEN P$="D":IF
Y$="m" THEN Y$="M"
1780 Y$="":COLOR 14,0:PRINT:PRINT "If you made (or read) a diskfile and wish to
read it again, hit R."
1790 IF Z$="D" OR Z$="d" THEN GOTO 1800 ELSE COLOR 14,0:PRINT"    To run letters
entered again, reverse or make diskfile, hit A."
1800 INPUT"                To quit enter X, or to start over enter S.":W$
1810 IF W$<>"R" AND W$<>"r" AND W$<>"A" AND W$<>"a" AND W$<>"S" AND W$<>"s" AND
W$<>"X" AND W$<>"x" OR W$="" THEN PRINT:GOTO 1780
1820 IF W$="S" OR W$="s" THEN BEEP:PRINT"Are you sure?.....Enter N to
stop ":QQ$=INPUT$(1):IF QQ$="N" OR QQ$="n" THEN COLOR 14,1:CLS:PRINT:GOTO 1780
ELSE COLOR 14,1:CLS:RUN 230
1830 IF W$="X" OR W$="x" THEN COLOR 14,1:GOSUB 1880:COLOR 14,1:CLS:PRINT:GOSUB
2090:GOSUB 1890:GOSUB 1910:PRINT:COLOR 14,6:PRINT"SKIP10.EXE terminated.":COLOR
14,1:END
1840 IF W$="A" OR W$="a" AND N < 253 THEN P$="":CLOSE:COLOR 14,1:CLS:GOTO 520
1850 IF W$="R" OR W$="r" THEN P$="":COLOR 14,1:CLS:E$="":COLOR
14,4:PRINT:PRINT"To read your diskfile ";R$;", enter the name
again.":CLOSE:PRINT:GOTO 2170
1860 IF Z$="D" OR Z$="d" AND W$="A" OR W$="a" THEN CLS:COLOR 14,1:PRINT:PRINT
"To read your diskfile again, enter ";R$:CLEAR:COLOR 14,1:GOTO 2170
1870 IF N > 252 AND W$="A" OR W$="a" THEN W$="R":GOTO 1850
1880 IF W$="X" OR W$="x" THEN BEEP:INPUT"Are you sure?.....Enter N to
stop ";WW$:IF WW$="N" OR WW$="n" THEN COLOR 14,1:CLS:GOTO 1780 ELSE RETURN
1890 IF R$="" THEN RETURN ELSE GOTO 1900
1900 CLOSE:COLOR 14,4:PRINT:PRINT"To erase the file -";R$;"- hit X, otherwise
hit RETURN":PRINT:SS$=INPUT$(1):IF SS$="X" OR SS$="x" THEN PRINT:PRINT" Diskfile
";R$;" erased.":KILL R$:RETURN ELSE RETURN
1910 IF SS$="X" OR SS$="x" THEN RETURN ELSE GOTO 1920
1920 IF R$="" THEN RETURN ELSE COLOR 14,4:PRINT"To rename the file -";R$;"- hit
X, otherwise hit RETURN":GOTO 1930
1930 TT$=INPUT$(1):IF TT$=CHR$(13) THEN RETURN ELSE COLOR 14,1:PRINT "Enter new
name."
1940 LINE INPUT DD$
1950 NAME R$ AS DD$
1960 PRINT:PRINT "File renamed ";DD$:RETURN
1970 END
1980 F=0:L=N+1
1990 COLOR 14,1
2000 F=F+1:L=L-1
2010 IF F=L THEN GOTO 2050
2020 IF F=L+1 THEN GOTO 2050
2030 SWAP M(F),M(L)
2040 GOTO 2000
2050 COLOR 11,1:PRINT"Ciphertext reversed is:"
2060 COLOR 14,1
2070 RETURN
2080 END
2090 IF R$ <> "" THEN COLOR 11,1:PRINT:PRINT"Last file made or read was
";R$:GOTO 2100
2100 IF N > 1 THEN COLOR 14,1:PRINT:FOR J%=1 TO N:PRINT CHR$(M(J%));" ";:NEXT J%
ELSE RETURN
2110 IF N > 1 THEN COLOR 11,1:PRINT"(Last";N;"letters)":COLOR 14,1:J%=0:RETURN
2120 END
2130 CLOSE
2140 OPEN"O",#1,R$
2150 PRINT#1, E$;
2160 CLOSE #1:RETURN
2170 K=0:COLOR 14,1:PRINT"Files available are (None with extensions
listed)":PRINT:FILES"?????????"
2180 PRINT"                (Limit is about 8000 characters.)"
2190 INPUT"Enter name of file to read ";R$:
2200 ON ERROR GOTO 3290
2210 IF R$<>" " THEN GOTO 2230 ELSE COLOR 10,4:INPUT"To reverse ciphertext enter
D, otherwise hit Return ";P$:COLOR 14,1:CLS
2220 IF R$="" THEN CLS:PRINT:PRINT"You must enter a filename.":GOTO 2170 ELSE
CLS:PRINT
2230 IF R$="MYFILE" THEN E$="":
2240 COLOR 10,4:INPUT"To reverse ciphertext enter D, otherwise hit Return

```



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";P$:COLOR 14,1
2250 COLOR 9,0:LOCATE 25,1:PRINT" Pause-Break to stop scrolling, X to exit.
Diskfile is ";R$;:IF P$="D" OR P$="d" OR V$="D" OR V$="d" THEN PRINT "
reversed.":COLOR 14,1:LOCATE 2,1 ELSE PRINT:COLOR 14,1:LOCATE 3,1
2260 IF P$="D" OR P$="d" OR V$="D" OR V$="d" THEN CLS 2:COLOR 11,1:PRINT
"Ciphertext is reversed":COLOR 14,1 ELSE CLS 2:COLOR 11,1:PRINT"Ciphertext
is:":COLOR 14,1
2270 COLOR 14,1:OPEN"I",#1,R$
2280 IF P$="" THEN GOTO 2290 ELSE IF P$="D" OR P$="d" THEN GOTO 2310
2290 IF P$="" THEN INPUT #1,E$:GOSUB 2300:GOTO 2340
2300 FOR J=1 TO LEN(E$):I$=MID$(E$,J,1):MID$(E$,J,1)=CHR$(ASC(I$) AND 223):NEXT
J:RETURN
2310 IF P$="D" OR P$="d" THEN INPUT #1,E$:GOSUB 2320:GOTO 2330
2320 FOR J=1 TO LEN(E$):I$=MID$(E$,J,1):MID$(E$,J,1)=CHR$(ASC(I$) AND 223):NEXT
J:RETURN
2330 T$=E$:E$="":FOR A=LEN(T$) TO 1 STEP-1:U=ASC(MID$(T$,A,1)):PRINT CHR$(U);"
";:E$=E$+CHR$(U):FOR JJ=1 TO (K*20):NEXT JJ:NEXT A:GOTO 2350
2340 COLOR 14,1:FOR A=1 TO LEN(E$):PRINT MID$(E$,A,1);" ";:FOR JJ=1 TO
(K*20):NEXT JJ:NEXT A
2350 IF LEN(E$)<3 THEN GOTO 3290 ELSE COLOR 14,6:PRINT LEN(E$);"letters.":GOTO
760
2360 PRINT:PRINT"          In order to prepare a file for use with this program, do
the following:"
2370 PRINT"1. With your word processor SAVE your 'Shakespeare' file as an ASCII
file."
2380 PRINT"2. Stage directions and the character's names (both in italics in
the"
2390 PRINT" original) should be erased. Using 'find and replace,' do the
following:"
2400 PRINT"3. Remove quotation marks AND commas. Put ONE quotation mark AT THE
BEGINNING."
2410 PRINT"4. Save the result as an ASCII file. This can then be processed by
ASCIFILE."
2420 COLOR 14,4:PRINT"          In contemporary editions the printing of the INITIAL
capital letters "
2430 PRINT" has usually been accurately preserved, and these may be taken as
reliable.":COLOR 14,1
2440 PRINT"          However the spelling in most Shakespeare texts has been
modernized,"
2450 PRINT" so the results may be doubtful. There are several facsimile
editions"
2460 PRINT" of the 1623 Folio, one being 'Mr. William Shakespeares Comedies,"
2470 PRINT" Histories & Tragedies', Yale University Press, 1954 and later
printings."
2480 PRINT" There are also facsimiles of the early quarto editions of the plays
and"
2490 PRINT" poems. With these you can check your own copy; most good libraries"
2500 PRINT" have them, and a Xerox machine."
2510 PRINT"          Good hunting.":SPC(10);"Penn Leary"
2520 PRINT" Version 2.4, 3/26/92":SPC(30);"218 So. 95"
2530 PRINT" Contributed to the public domain.":SPC(17);"Omaha NE 68114":PRINT
2540 PRINT" To run ASCIFILE program hit A, otherwise hit return."
2550 PRINT" To view an index of occurrences of Bacon's name, hit B, otherwise
hit return."
2560 PRINT" (To select B, the file INDEX2.EXE must be on this directory.)
2570 W$=INPUT$(1):GOSUB 3240
2580 CLS:IF W$="A" OR W$="a" THEN CLEAR:GOTO 2620
2590 IF W$="B" OR W$="b" THEN CLS:GOTO 3260
2600 RETURN
2610 END
2620 CLS
2630 DEFINT A-Z
2640 DIM T(1024),I(1024),K(1024),N(1024),G(1024),A(1024),B(1024),J(1024)
2650 PRINT:PRINT"This file will convert an ASCII file containing spaces,
punctuation, etc."
2660 PRINT"to a file readable by SKIP10.EXE. J will be converted to I; W and U
will"
2670 PRINT"be converted to V, and X and Z will be discarded."
2680 COLOR 10,4:PRINT"Remove all quotation marks AND commas with your word
processor.":COLOR 14,1

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2690 PRINT"                LIMIT, ABOUT 8000 CHARACTERS."
2700 PRINT"All letters will be capitalized and output to a new file."
2710 COLOR 14,1:PRINT"Files available are (None with extensions
listed):":PRINT:FILES"?????????"
2720 INPUT"Enter name of file to read.":R$
2730 IF R$="" THEN BEEP:PRINT:PRINT"You must enter a filename. Hit a key and
start over.":W$=INPUT$(1):CLEAR:CLS:GOTO 10
2740 COLOR 10,4:PRINT"Diskfile = ":R$;"":":COLOR 11,1:PRINT:PRINT"Ciphertext
is:":COLOR 14,1
2750 OPEN"I",#1,R$
2760 INPUT #1,A$
2770 COLOR 14,1:FOR A=1 TO LEN(A$)
2780 PRINT MID$(A$,A,1);
2790 NEXT A
2800 PRINT:PRINT LEN(A$);" Characters."
2810 CLOSE
2820 FOR G=1 TO LEN(A$):CC$=MID$(A$,G,1):MID$(A$,G,1)=CHR$(ASC(CC$) AND
223):NEXT G
2830 FOR N=1 TO LEN(A$)
2840 B=ASC(MID$(A$,N,1))-64
2850 J=J+1
2860 T(J)=B
2870 NEXT N
2880 I=0
2890 FOR K=1 TO J
2900 IF T(K)<1 OR T(K)>25 THEN T(K)=0:GOTO 2980
2910 IF T(K)=23 OR T(K)=21 THEN T(K)=22
2920 IF T(K)=10 THEN T(K)=9
2930 IF T(K)=24 THEN GOTO 2980
2940 I=I+1
2950 T(I)=T(K)
2960 D$=CHR$(T(I)+64)
2970 C$=C$+D$
2980 NEXT K
2990 PRINT C$
3000 A$=C$
3010 PRINT="";I;"squeezed and capitalized ciphertext letters converted to"
3020 PRINT"        Bacon's 21 letter alphabet. (Hit a key)"
3030 W$=INPUT$(1):CLS
3040 PRINT:PRINT"Next make a diskfile for the new ASCII ciphertext."
3050 PRINT:PRINT"Files on disk are:"
3060 FILES"?????????"
3070 PRINT SPC(13);"Enter a name for the new disk file"
3080 PRINT SPC(12);"(maximum of 8 letters, no extension)":PRINT
3090 INPUT"CAUTION: If the name you enter exists, it will be ERASED and written
over        ":Z$:COLOR 14,1:PRINT
3100 IF Z$="" THEN BEEP:PRINT:PRINT"You must enter a name. Hit a key and start
over.":W$=INPUT$(1):CLEAR:CLS:GOTO 20
3110 OPEN"O",#1,Z$
3120 PRINT#1, A$
3130 CLOSE #1
3140 OPEN"I",#1,Z$
3150 INPUT #1,A$
3160 COLOR 10,0:PRINT"Contents of new diskfile ";Z$;" is:":COLOR 14,1:PRINT
3170 PRINT A$
3180 CLOSE
3190 PRINT"To run again hit A; to exit hit Return."
3200 W$=INPUT$(1):IF W$="A" OR W$="a" THEN CLEAR:GOTO 2620 ELSE CLEAR:CLS:GOTO
20
3210 END
3220 IF CHR$(T)="B" OR CHR$(T)="N" THEN COLOR 11,1:PRINT CHR$(T+32);" ";:RETURN
ELSE COLOR 14,1:PRINT CHR$(T+32);" ";:RETURN
3230 IF MID$(T$,Q,1)="B" OR MID$(T$,Q,1)="N" THEN COLOR 11,1:PRINT
MID$(T$,Q,1);:RETURN:ELSE COLOR 14,1:PRINT MID$(T$,Q,1);:RETURN
3240 IF ASC(W$)=88 OR ASC(W$)=120 THEN PRINT:GOTO 1780 ELSE RETURN
3250 END
3260 SHELL "INDEX2"
3270 GOTO 10
3280 END
3290 IF ERR=53 THEN COLOR 14,4:PRINT "The file ";R$;" was not found, so enter a

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corrected file name.":W$=INPUT$(1):CLEAR:RUN 10 ELSE GOTO 3300
3300 IF ERR=58 THEN DD$="":PRINT:PRINT"Error--you entered an existing file
name.":RESUME 1920 ELSE GOTO 3310
3310 CLS:COLOR 14,4:LOCATE 21,1:PRINT "The file ";R$;" is not in SKIP10 format
or is too long."
3320 PRINT"Run SKIP10 again, hit M and then A for formatting instructions."
3330 PRINT"Hit a key to start over.           ":W$=INPUT$(1):COLOR
11,1:CLEAR:RUN 10

```

* * *

The following is a list of 267 versions of Bacon's name found in the 1623 Folio edition of the plays, the "apocryphal" plays printed in the 1664 Folio, and in the Poems. Using the above program, the initial capital letters of each line of verse may be entered. Modern editions of the works usually follow the same capitalization of the first letter of each line.

List of Initial Capital letters only.
SHAKESPEARE - BACON
CIPHER LOCATIONS

MOST "p." REFERENCES ARE TO PAGES IN
THE YALE UNIVERSITY 1954 FACSIMILE
OF THE 1623 FIRST FOLIO (act, scene,
line)

CAPS = Initial Capital Letters
** = Alternate 1st Capital Letters.
*** = every 3rd 1st Capital Letter
**** = every 4th 1st Capital Letter
***** = every 5th 1st Capital Letter
***** = every 6th 1st Capital Letter
***** =every 7th 1st Capital Letter

[= overlapping
\$\$ = open text "cipher" or "decipher"
nearby.
+ = no. of lines following.
Quarto = Shakespeare quarto edition
Other references are to various
Shakespeare facsimiles.

"Front matter," pages preceding
the plays:

"To the memory" poem
BECEAN
1st 11 caps **CAPS

ALL'S WELL THAT ENDS WELL

FRBEEKEEIN
1,1,245 *****CAPS
But my intents are fixt, and + 50
FRBBACEN
2,1,88 p.235 ***** CAPS
Bring in the Admiration, that we + 42
BECEN
2,3,130 p.238 ***CAPS
The propertie by what + 12
BACEN
2,4,50 p.240 ** CAPS
Par That you will take your + 8

ANTHONY AND CLEOPATRA

FBEKEAN
1,3,86 p.833 **CAPS
Ile leave you Lady. + 18

BECQYN
2,5,31 p.838 CAPS
Ile set thee in a shower of + 5
BECKAN
2,6,59 p.839 ****CAPS
Ant That will I Pompey + 21
BECQQAN
3,13,79 p.847 CAPS
To heare from me you had + 6
BYKEN
4,7,8 p.850 **CAPS
Ant They do retyre. + 8
BECEN
5,2,8 p.855 **CAPS
The beggers Nurse, and Caesars + 9

AS YOU LIKE IT

BECAYN
Ce1. I did not then intreat + 28
BACAN
3,2,103 p.195 CAPS
If the cat will after kinde + 4
BAKEAN
3,5,57 p.199 *****CAPS
Then any of her lineaments + 41

COMEDY OF ERRORS

FBICAN
1,1,1 p.85 **CAPS
Proceed Solinus to procure + 13
BECEN
4,1,32 p.93 *****CAPS
I pray you see him + 22
[BECON
[5,1,114 p.97 *****CAPS
[To separate the husband and the + 24
[BYCEN
[5,1,135 p.97 ***CAPS
[It cannot be that she hath done + 12
BEQEN
5,1,312 p.99 **CAPS
Though now this grained face of + 8
BACIN
\$\$5,1,336 p.99 **CAPS
S. Dromio I sir am Dromio + 9

CORIOLANUS

BEEKEN
1,4,26 p.603 ****CAPS
Lar Their noise be our + 20
BOCEN
2,1,209 p. 607 **CAPS
But with them, change of Honors +10
BECAN
2,3,222 p.611 *****CAPS
Their Liberty, make them of no + 20
BACEN
4,6,114 p.622 ****CAPS
Brut But is this true sir? + 18
BICEN
4,7,4 p.623 **CAPS
Their talke at Table, and + 8

CYMBELINE

BACEEN

1,1,113 p.860 CAPS
The loathnesse to depart + 15

FRBECENS

1,1,144 p.860 **CAPS
It is your fault that I + 10

BECEN

1,6,141 p.865 **CAPS
I dedicate my selfe to your + 8

BACQEAN

2,4,76 p.869 **CAPS
In workemanship, and Value + 10

BECEN

3,5,87 p.875 ****CAPS
I will not aske againe. + 18

BEQEN

4,2,69 p.877 CAPS
I haue heard of such. what + 4

BAKEN

4,2,388 p.880 *****CAPS
Ile hide my Master from the + 20

BYQEN

5,5,424 p.888 ****CAPS
Ioy'd are we, that you are. + 22

BEKIN

5,5,487 p.889 ****CAPS + FINIS
Th'Imperiall Caesar, should + 12

HAMLET

BEKEEEN

1,2,86 p.744 CAPS
In obstinate Condolement, is + 18

BECEN

1,4,54 p.747 CAPS
That beetles o're his base into + 4

BEECEN

1,5,205 p.749 ***CAPS
Then your particular demands + 14

BYQEN

2,1,112 p.750 *****CAPS
I am sorrie that with better + 25

BECCEN

3,1,30 p.755 CAPS
That he as 'twere by accident + 5

FBECEN

3,1,84 p.755 CAPS
Is sicklied o're with the pale + 4

[BECEIN

[3,2,64 p.757 *****CAPS
[To feed & cloath thee. why + 29

[BEKEEN

[3,2,88 p.757 CAPS
[It is a damned Ghost that + 4

BECEN

3,3,92 1604 Quarto ***CAPS
That has no relish of salvation + 12

BECIN

3,4,49 1604 Quarto CAPS
The heyday in the blood + 4

BECEN

3,4,210 p.762 ***CAPS
These profound heaues + 13

BACAN

4,3,83 p.763 CAPS
Qu. I will not speake with + 4

BYKYN

4,7,4 p.765 ****CAPS
That he which hath your Noble + 16
BACAN
4,7,36 1604 Quarto ****CAPS
I loved your father and we love + 33
BECAN
4,7,80 1604 Quarton ****CAPS
Then settled age, his fables + 23
[BEACENS
[4,7,127 p.766 *****CAPS
[The Frenchman gaue you, +28
[BAECEN
[4,7,143 p.766 ****CAPS
[It may be death. + 20
[BAECEN
[4,7,167 p.766 ****CAPS
[There on the pendant boughes + 16
BAACCEN
5,2,138 p.769 ****CAPS
Hor. I, good my Lord. + 24

HENRY IV, PT.1

BACEN
1,1,79 p.350 **CAPS
In enuy, that my lord + 8
BAKEN
That I will by tomorrow + 4
[BEEQEN
[3,1,71 p.362 *****CAPS
[Mort The Arch-Deacon hath + 25
[BECKEN
[3,1,78 p.362 *****CAPS
[The remnant Northward, lying + 25
BEECAN
3,1,144 p.363 ***CAPS
Ile haste the writer; and + 16
BECCAN
3,1,176 p.363 ***CAPS
In strange concealments: + 15
BACEN
5,2,5 p.372 ***CAPS
The king would keepe his word + 13
BECEN
5,2,96 p.373 ***CAPS
In the adventure of this + 13
BICEN
5,5,27 p.375 *****CAPS
To you this honourable bounty + FINIS

HENRY IV, PT.2

BEECEN
1,1,6 p.376 **CAPS
The which in every language **CAPS
BECAN
1,1,38 p.377 **** CAPS
That stopp'd by me, to breath +16
[BEECAN
[1,3,95 p.380 *****CAPS
[Thou (beastly Feeder) art so + 25
[BEQAN
[1,3,101 p.380 ****CAPS
[They, when Richard liv'd, + 19
BYBECCEN
3,1,98 p. 388 *** CAPS
They say the Bishop, and + 27
BECEN

4,2,11 p.392 CAPS
That man that sits within + 4
BECAEN
4,4,96 p.395 **CAPS
The manner and true order + 11
BEQAN
5,5,76 p.402 *****CAPS
To see perform'd the tenure + 24

HENRY VIII

BEKEN
1,1,56 p.542 *****CAPS
Buc The diuell speed him + 20
BEECON
1,2,36 p.544 **CAPS
The Splinters, Carders, Fullers + 10
BECEN
1,2,86 p.544 ****CAPS
In fear our motion will + 16
FBEKGEN
2,3,92 p.551 CAPS
I have beene begging sixteene + 5
BAQAAN
3,2,100 p.556 ***CAPS
Suf The King, the King. +16
BAEKAN
3,2,30 p.558 *****CAPS
I will not taint my mouth + 25
BECEN
3,2,373 p.559 ***CAPS
I have no power to speake + 12
BEQEN
5,1,109 p.564 CAPS
Cran I humbly thanke your + 4
BICEN
5,5,9 p.567 CAPS
Kin Thanke you good Lord + 8

HENRY V

FSBECEN
1,2,132 p.407 **CAPS
In ayde whereof, we of the + 11
BECAN
2,2,42 p.410 CAPS
If little faults proceeding + 4
BACEHN
3,2,39 p.413 **CAPS
Tells Harry that the King + 11
FBEAECHAN
4,1,8 p.419 *** CAPS
Besides, they are our outward + 24
BEQAN
4,1,53 p.419 ***CAPS
Tell him Ile knock his Leake + 27

HENRY VI, PT.1

[BECEN
[1,1,41 p.433 *****CAPS
[Is Talbot slaine then + 35
[FBACKEN
[1,1,125 p.433 ****CAPS
[The French exclaym'd the Devill + 16
BEKEN
1,4,13 p.435 **CAPS

To intercept this inconvenience + 8
BECEEN
2,4,101 p.440 ***CAPS
Ile note you in my book + 17
FBAQEON
2,5,90 p.441 *****CAPS
But as the rest, so fell + 36
BYCEN
3,1,166 p.443 *****CAPS
Rich Thy humble servant voves + 20
BECKEEHN
3,2,37 p.443 ***CAPS
That hardly we escap't + 27
BECAN
3,4,55 p.446 CAPS
To haste unto your coronation + 4
[BACEN
[4,1,90 p.446 **CAPS
[This fellow heere with + 8
[BEKAEN
[4,1,79 p.446 ****CAPS
[This is my servant + 20
BEQEEN
4,5,66 p.449 ****CAPS
It warm'd thy Fathers heart + 23
BICEN
5,1,57 p.451 ***CAPS
Alan Then march to Paris + 12
BECEN
5,4,131 p.454 *****CAPS
Thou shalt be plac'd as Viceroy + 16
BEECEN
5,5,24 p. 454 *****CAPS
That he should be so abject + 26

HENRY VI, PT.2

BAKON
1,1,6 p.456 all CAPS
In presence of the Kings + 1
BECEN
1,3,43 p.459 **CAPS
Is this the fashions in + 8
BECEN
3,1,85 p.467 *****CAPS
Som That all your interest in + 25
BAECEN
3,2,47 p.469 ***CAPS
Their touch affrights me + 16
BAKEN
3,2,62 p.470 **CAPS
I would be blinde with + 8
BEAKCEN
3,2,359 p.472 CAPS
'Tis not the Land I care + 6
BECON
4,8,6 p.478 CAPS
Buc I heere they be, that + 4

HENRY VI, PT.3

FBACEIN
1,1,227 p. 485 ***CAPS
If you be king, why + 18
FBEKCEEN
1,2,62 p.486 ****CAPS
Mount Brother, I goe: Ile winne + 29
[BEECEYN
[1,4,13 p.486 **CAPS

[In blood of those that had + 12
[BECEN
[1,4,13 p.486 ***CAPS
[In blood of those that had + 12
BEKEN
2,2,49 p.490 CAPS
King Full well hath Clifford + 10
BECEN
2,2,91 p.490 CAPS
To blot out me and put his own + 4
BECEN
2,5,21 p.493 *****CAPS
Ile beare thee hence, and let + 31
BAKEN
2,6,85 p.493 **CAPS
War I, but he's dead. Of with + 8
BEKAN
5,6,50 p.507 ****CAPS
To wit, an indigested and + 16

HISTORY, JOHN OLDCASTLE 1664 FOLIO

BAECON
\$\$P. 46, col. 1, ln. 37 all CAPS
And sit within...a cipher +3
BECCAN
P. 53, col. 1, ln. 37 CAPS
La.Po I will withdraw + 5
[BACAEN
[P. 53, col. 2, ln. 11 CAPS
[L.Cob To cut such simple + 5
[BEKCEHN
[P. 53, col. 2, ln. 16 CAPS
[Cob Journeying, my Lord from + 6

HISTORY, LORD CROMWELL 1664 Folio

[BECKEEN
[p.15 col.2 ln.13 CAPS
[This two moneths day + 6
[BEEKEN
[p.16 col.2 ln.12 **CAPS
[Fri I promise you I have not + 10
BECEEEEN
p.16 (18) col.1 ln.36 ***CAPS
To send him to the university + 19
FBACEAN
p.22 col.2 ln.61 ****CAPS
BEKEN
p.23 col.2 ln.1 **CAPS
Hod I warrant you I'le fit + 9
BAEQKAN
p.24 col.2 ln.52 *****CAPS
Mo I love health well, but + 32
BEKEN
p.27 col.2 ln.56 ***CAPS
Crom I am that Cromwell that + 12

JULIUS CAESAR

BACEN
1,2,70 p.700 ****CAPS
That you would have me seeke + 16
BACEN
1,2,207 p.701 CAPS
That could be mov'd to smile + 4
BECEN

1,3,38 p.703 ***CAPS
If you could but winne the Noble + 12
BECCAN
2,2,36 p.707 all CAPS
It seems to me most strange + 4
BECEEN
2,2,41 p.707 ****CAPS
The Gods do this in shame +24
BEQEN
3,2,280 p.712 CAPS
Through this, the wel-beloved +4
BEEQQEN
5,1,61 p.717 ***CAPS
If you dare fight to day + 18
FBECEN
5,3,25 p.719 ***CAPS
Into his eares; I may say + 15

KING JOHN

BAKAN
1,1,195 p.306 *****CAPS
And then comes answer like + 29
BACOEN
2,1,138 p.308 *****CAPS
Ile smoake your skin-coat + 25
BECEN
2,1,295 p.309 ***CAPS
Fra It shall be so + 12
BECEEN
3,1,223 p.314 **CAPS
If thou stand excommunicate, + 12
BECHAN
4,2,17 p.318 *****CAPS
This acte, is as an ancient tale + 29

KING LEAR

BEECEAN
1,1,50 p.773 *****CAPS
Interest of Territory, Cares + 30
BECCEEN
1,4,330 p.779 *****CAPS
Gon. Do you marke that? + 36

4,1,43 p.790 CAPS
I'th'way toward Dover, do it + 4
BECEEAN
4,4,13 p.792 CAPS
The which he lackes; that to + 6

THE LONDON PRODIGAL, 1664 FOLIO
(None found.)

LOCRINE 1664 Folio
(none found.)

A LOVERS COMPLAINT (verse)
(none found.)

LOVES LABOUR LOST

BECEN
2,1,183 p.127 ***CAPS

Boy I would you heard it + 12
BEKEN
5,2,736 p.143 **CAPS
In the converse of breath + 8
BACKEIN
5,2,746 p.143 ****CAPS
The holy suite which faire + 27

MACBETH

FBACEN
1,7,59 p.725 ***CAPS
Macb If we should faile? + 12
BEECEN
2,1,41 p.726 *****CAPS
I have thee not and yet + 30
BAQCEAN
2,3,50 p.727 *****CAPS
Macd Ile make so bold to call + 36
BECEN
3,4,86 p.732 *****CAPS
To those that know me +25
BACEHN
4,3,86 p.736 **CAPS
Than summer-seeming lust + 10

MEASURE FOR MEASURE

BACEN
1,2,183 p.63 CAPS
There is a prone and speech + 4
BACEN
1,3,40 p.63 a11 CAPS
I have on Angelo impos'd + 4
BECEN
5,1,473 p.83 *****CAPS
Duke. I would thou hadst done + 20
[BECAN
[5,1,525 p.84 **CAPS
[Thy slander I forgive + 8
[BYEQCAAN
[5,1,525 p.84 CAPS
[Thy slander I forgive + 7

MERCHANT OF VENICE

BECEN
2,7,18 p.171 **CAPS
This casket threatens men + 8
BEKCEN
3,5,126 p.178 **CAPS
That have of late so hudled + 10
BECAAN
4,1,225 p.180 **CAPS
I pray you look upon + 10
BAKEN
4,1,274 p.180 *****CAPS
To view with hollow eye, + 21
BEQCEN
4,1,403 p.181 ****CAPS
To bring thee to the gallows, + 19
BEKAN
5,1,276 p.184 *****CAPS
Antho. I am dumb. + 28

THE MERRY WIVES OF WINDSOR

BUCEN
5,5,58 p.59 *****CAPS
That ere she sleepe has thrice + 20

MIDSUMMER NIGHTS DREAM

BECEEN
1,1,209 p.147 ***CAPS
To morrow night, when Phoebe + 15
BECCEN
2,1,121 p.149 *****CAPS
To be my Henchman + 20
BECEN
2,1,147 p.149 **CAPS
Till I torment thee for this + 7
BEECEN
3,2,270 p.155 ***CAPS
I would I had your bond: for + 15
BECKEN
3,2,167 p.156 *****CAPS
Till ore their browes, death + 25
BICEN
4,1,152 p.158 **CAPS
I cannot truly say how I came + 8

MUCH ADO ABOUT NOTHING

BECEN
5,3,39 p.121 **CAPS
In the true course of all + 8

OTHELLO, THE MOORE OF VENICE

BEICAN
1,2,36 p.802 CAPS
Cassio The Duke do's greet + 5
BEQEN
1,3,85 p.803 CAPS
Their deerest action in the + 4
BEQEN
2,3,250 p.811 **CAPS
But never more be Officer + 11
BEQAEEN
3,3,106 p. 813 **CAPS
I heard thee say even now, + 12
BEAEKIN
3,3,261 p.815 ***CAPS
Though that her Iesses were + 18
BEQEAN
3,4,60 p.817 **CAPS
Intirely to her love + 10
BEQCAN
The Sun to course two hundred + 15

PASSIONATE PILGRIM
(none found.)
PERICLES 1664 Folio

BECEN
1,4,18 p.12 *****CAPS
Ile then discourse our woes + 16
BEECEN
2,1,28 p.16 **CAPS
The great ones eate vp + 10

BAKEN
2,1,131 p.20 ***CAPS
Till the rough Seas, that + 12
BACKAEN
1,5,11 p.28 *****CAPS
This by the eye of Cinthya + 30

PHOENIX AND THE TURTLE
(none found.0

PURITAN WIDOW OF WATLING STREET
1664 FOLIO
(None found.)

RAPE OF LUCRECE (line)

[BEKEYNECIB
[247-310
[2nd line of verses 30-39
[BECEN
\$\$1398 ***CAPS
In Aiax eyes blunt rage + 15
BEACEN
1631 ***CAPS
If thou my loves desire + 20
BEEQEN
1637 ***CAPS
The lechors in their deed

RICHARD II

FBBACEN
1,1,80 p.327 **CAPS
Ile answer thee in any + 8
BEKAEN
1,3,244 p.331 **CAPS
To counterfaite oppression + 5
BECIUN
2,1,214 p.334 *****CAPS
That their events can never + 25
FBECEN
2,2,37 p.335 *****CAPS
Tis in reversion that I do + 32
BAEKQEN
2,3,68 p.336 ***CAPS
Nor It is my Lord of + 18
BAQAN
3,2,188 p.339 **CAPS
This ague of feare is over- + 9
BECEN
4,1,104 p.343 *****CAPS
To the bosom of good old + 32
BEQEEN
4,1,205 p.344 *****CAPS
The pride of Kingly sway + 27
BECEN
5,1,32 p.345 CAPS
Take thy Correction mildly + 4
BECIN
5,3,3 p.346 CAPS
Tis full three monthes since + 8
[BEQEN
[5,3,162 p.348 **CAPS
[This Prison where I live + 8
[BEKEN
[5,3,164 p.348 ***CAPS

[I cannot do it: yet I'll + 12

RICHARD III

BECEN
1,2,210 p.512 CAPS
To him that hath most cause + 5
BECAEN
1,4,27 p.516 CAPS
Inestimable Stones, vnvalued + 5
BACAN
1,4,57 Quarto CAPS
That stabb'd me in the field + 5
BECEN
3,4,33 p.525 ***CAPS
I doe beseech you, send for + 16
[BECEN
[3,7,46 p.527 *****CAPS
[Thus sayth the Duke, thus + 20
[BEECEN
[3,7,47 p.527 ****CAPS
[But nothing spoke, in warrant + 25
BICEN
3,7,111 p.527 **CAPS
Rich I doe suspect I have done + 8
BEQEEN
4,3,58 p.531 ****CAPS
Ioves Mercury, and Herald + 20

ROMEO AND JULIET

BHECAN
Prologue 1599 Quarto **all CAP
BAKHEN
Prologue 1599 Quarto ***all CAPS
BEKAN
1,2,47 p.653 ***CAPS
Turne giddie, and be holpe + 12
BEECEN
1,2,65 p.654 ***CAPS
I was your Mother, much upon + 16
BEKIN
3,4,41 p.667 **CAPS
Jul Then window let day in + 8
FCCBECCEN
3,5,73 p.667 ***CAPS
But much of griefe, shewes + 24
BAKCAN
4,2,44 p.670 ***CAPS
They are all forth + 21

SONNETS (verse)

BACANFS
8, 9 **CAPS
If the true concord + 10
FBYCON
64-65 all ***CAPS
When I have seen the + 10
BEKIN
70 ***CAPS
That thou are blam'd + 12
[76-77 all CAPS
[That every word doth almost + 7
[BAKAN
[76-77 **all CAPS
[O know sweet love I alwaies + 7

FBAKAEN
100, 101 **CAPS
If time have any wrinkle + 10
BECEAN
144 all CAPS
Tempteth my better angel + 4

TAMING OF THE SHREW

BEAECAN
Ind,1,53 p.208 **** CAPS
This do, and do it kindly, + 25
[BECEN
[Ind,1,118 p.209 *** CAPS
[To see her noble lord + 12
[BECAAEN
[Ind,1,122 p.209 CAPS
[To raine a shower of + 6
BECAN
2,1,171 p.216 *****CAPS
Pet I pry you do. Ile attend + 25
FBAEKEN
4,1,176 p.222 CAPS
Pet I tell thee Kate, 'twas + 6
BEECEN
4,2,20 p.222 *****CAPS
I wil with you, if you be so + 26
BECEN
4,3,68 p.224 CAPS
Away with it, come let me + 5
FBAIEECEN
5,2,54 p.229 CAPS
Too little payment for so + 7

THE TEMPEST

[BECQEEN
[1,2,85 p.2 ****CAPS
[BEECEN
[1,2,85 p.2 *****CAPS
[I pray thee marke me: +29
BECCEN
2,1,138 p.7 CAPS
The truth you speake doth + 4
BEEKEN
2,1,262 p.8 **CAPS
That now hath feiz'd them + 10
[FBAAKEN
[4,1,155 p.15 ****CAPS
[Beare with my weakenesse, + 24
[BEKAN
[4,1,164 p.15 ***CAPS
[I my Commander, when I presented +15
[BEEKAAN
[4,1,165 p.15 **CAPS
[I thought to have told thee + 13

TIMON OF ATHENS

BEQEN
1,1,221 p.680 CAPS
Tim I take all and your + 4
BICEN
3,3,24 p.684 CAPS
I'de such a courage to do +11
BECEN
4,3,222 p.690 ***CAPS

That the bleak ayre +12
BECEN
5,1,160 p.694 ***CAPS
Therefore so please thee to + 12

TITUS ANDRONICUS

BACEN
2,3,62 p.635 **CAPS
Thy Temples should be planted + 8
BECEN
2,3,302 p.637 *****CAPS
King Thou shalt not baile + 23
BECEN
4,2,76 p.643 CAPS
Chi Thou hast undone our
BEKEN
5,1,45 p.646 ***CAPS
This growing Image of thy + 12
FBBACAN
5,3,49 p.650 *****CAPS
But gentle people, give me + 36

TROILUS AND CRESSIDA

BECIN
1,3,178 p.574 ****CAPS
In pleasure of my Spleen + 16
BECON
3,3,158 p.585 **CAPS
Time hath (my lord) a wallet + 7
BEECON
3,3,191 p.585 ****CAPS
Ulis Is that a wonder? + 20
BEQEN
3,3,217 p.585 *****CAPS
In time of action: I stand + 19
BECAN
4,5,202 p.591 *****CAPS
AEne Tis the old Nestor + 19

TWELFE NIGHT
(none found)

TWO GENTLEMEN OF VERONA

BECEN
1,1,115 p.21 ****CAPS
Pro. But what said she? + 20
BECEN
1,2,71 p.22 ****CAPS
Tooke up so gingerly? +16
BECEN
3,2,51 p.32 *****CAPS
Th. Therefore as you unwind her + 20
FBECEEN
4,1,51 p.32 CAPS
But to the purpose; for we + 5

TWO NOBLE KINSMEN all Quarto

FBBACCEN
1,2,38 ***CAPS
It is for our resyding + 21
BACCEN

1,3,13 CAPS
The great Bellona ile sollicite + 5
BACEN
1,3,33 CAPS
BACCAN
3,1,77 ****CAPS
The trespasse thou hast done me + 19
BEQCEN
3,6,21 ***CAPS
Is but a debt to honour, and + 15
[BACEEAN
[3,6,150 ****CAPS
[This treacherie like a most + 26
[BAKEEN
[3,6,162 **CAPS
[In service of so excellent + 12
BEQEAN
3,5,268 *****CAPS
I never shall enjoy her, + 25

VENUS AND ADONIS (line)

FBACEN
348 *****CAPS
It flasht forth fire, as + 30
BICEN
417 *****CAPS
If springing things be + 20
FBECEN
497 *****CAPS
But now I liv'd and life + 26

THE WINTERS TALE

BEQEN
1,2,240 p.279****CAPS
If thou inclin'st that way, thou + 18
FBECEEEEN
3,2,199 p.287 *****CAPS
Blemish his gracious Dame + 37
BAQEN
3,3,16 p.288 ****CAPS
I have heard (but not beleev'd) + 16
BAQEN
5,1,152 p.299 ***CAPS
Th' adventure of her person? + 11
BEACAN
5,3,26 p.302 ***CAPS
In thy not chiding: for she + 15

YORK-SHIRE TRAGEDY
(none found.)

267 CAPS

PENN LEARY
218 So. 95 St.
Omaha NE 68114
7/7/92

Chapter 17
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Penn Leary has been a trial lawyer in his native city of Omaha, Nebraska since 1947. During WW II he was a bomber test pilot assigned to Wright Field and later to O.S.S. He is a writer in the fields of law, electronics, weather and aeronautics. His hobbies include photography, printing, machine shop work, electronics, Elizabethan history, computers and cryptography. He is married to Marian Hansen Leary. They have three children Brian, Erin, and Shawn (and sons-in-law Gary Wence and Mike Considine) of whom they are immensely proud.

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