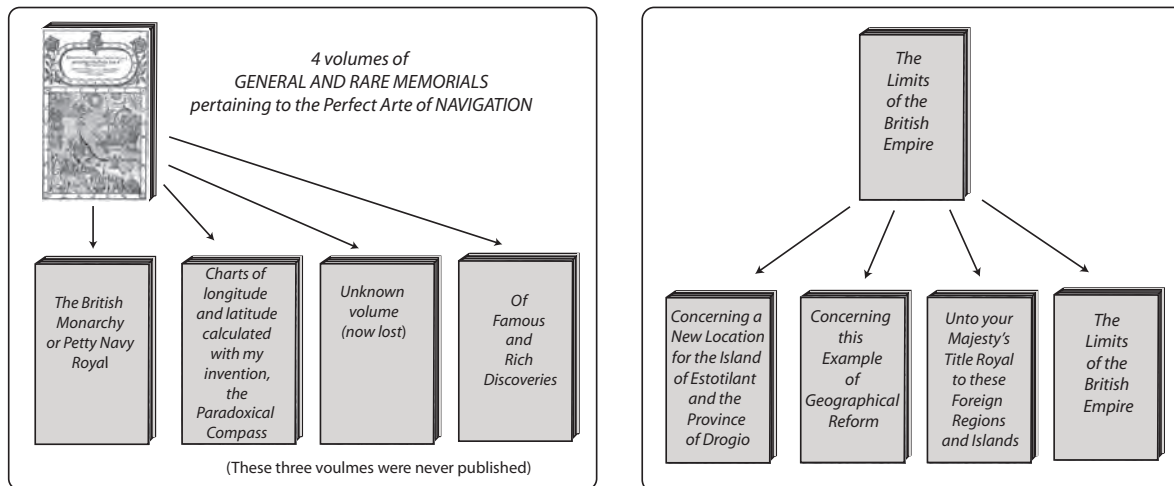


(WHAT I CALL) THE RIDDLE OF THE ROYAL RING IN JOHN DEE'S THE LIMITS OF THE BRITISH EMPIRE

As a one-man band trying to drum up imperial enthusiasm for what he calls the “British Empire,” John Dee wrote 2 sets of books, each consisting of 4 volumes or documents.

What I call the “Riddle of the Royal Ring” is *Britanici Imperii Limites* (or *The Limits of the British Empire*.) Dee’s work is a compilation of 4 documents assembled under his supervision in 1593 and be placed in the Crown’s Archives. It was only discovered in 1976, and now resides in the British Library.



In the introduction to his comprehensive study of Dee’s work entitled, *John Dee, The Limits of the British Empire*, Ken Macmillan points to numerous clues that suggest these 4 documents were originally written for the Queen Elizabeth I around 1577 or 1578.

(MacMillan, Ken, with Jennifer Abeles, *John Dee, The Limits of the British Empire*, pp. 4-5)

During these years, London was abuzz with interest in the New World. Martin Frobisher had returned from his first voyage to what is now Baffin Island, Canada. Sir Humphrey Gilbert was applying for his letters patent to colonize all of North America north of Florida.

The second manuscript in Dee's 4 volume set was entitled *Concerning this Example of Geographical Reform*. Dee's term "Geographical Reform" refers to eight new refinements he has made to existing world maps. He is quick to offer his apologies to his cartographer friends Gerard Mercator and Abraham Ortelius, but "it is the burning love for the majesty of truth which inflames and impels me."

For example, Abraham Ortelius had estimated the difference between London to Baffin Island to be about 30 degrees of longitude. But after the recent voyage of Martin Frobisher, Dee had first-hand knowledge that it was closer to 50 degrees of longitude.

At the beginning of the document, Dee refers to the "rare and novel features shown in our Diagram." Unfortunately, the "Diagram" which apparently accompanied his text has not survived, but Dee paints a detailed picture of it with his words.

Concerning Cambalu and Quinsay

However, what I said above – that both cities Cambalu and Quinsay, were situated on almost the same parallel as Venice – may be readily understood if we understand that the single little black circle shown on the left-hand side of your majesty's throne represents Cambalu, the capital of Cathay. But, by wonderful chance (as I hope) the City of Heaven (that is, of course, Quinsay) happens to be located at the middle joint of the index finger which encircles the hilt of your sword.

And there are other things, very noteworthy, which as if by Divine will, adorn the surroundings of your imperial seas.

For under your crown (the most glorious in the whole world), almost in the middle of it, is concealed an island, once known as Chryse, but now commonly called Japan (but incredibly, spoken of by the great M: Paulus Venetus as Zipangu), the object of easily the first voyages of this century, undertaken on the initiative of the princes of Castile.

Thirdly, at the right side of your majesty the coast of Atlantis is pleased to be found, almost opposite Quinsay.

But about the feet of your supreme highness lies the Strait of Arianus, which your British subjects, voyaging in the northern seas both to the east and the west, were the first to visit, and to sail through, to the honor of yourself and to the benefit of the commonweal.

And if these things are true which we have so far heard tell, those four places which I have named their own geographical symmetry.

But concerning these things, and others relating to them (which are known hitherto to have lain hidden under the shadow of your wings) many wonderful, surprising, secret, and very delightful facts will, if it pleases our august and blessed Empress, with God's will, be revealed within the next seven years.

[from John Dee, *Document II: Concerning this Example of Geographical Reform*, folios 8 and 9;

from MacMillan, Ken, with Jennifer Abeles, *John Dee, The Limits of the British Empire*,

(Westport, CT, Praeger, 2004), p.41]

It's pretty clear that the missing illustration was a map. Ken MacMillan suggests it was probably similar to the map Dee later drew for Sir Humphrey Gilbert in 1582. This circumpolar projection depicts all of the northern hemisphere from the North Pole down to the Tropic of Cancer.



John Dee's 1580 Circumpolar Map of the Northern Hemisphere
(prepared for Sir Humphrey Gilbert)

But Dee's "diagram was more than simply a map. It was a way for him to graphically express his vision for the British Empire. Nowadays, most maps, (like road maps, maps in atlases, and even Google Maps and MapQuest-type computer maps) are technically accurate representations of land areas. They aren't intended express moral or political beliefs. But things were different in Dee's time.

As Mary E. Hazard writes in *Elizabethan Silent Language*, "Most known medieval and early Renaissance maps were designed, not to convey technical geographical information, but rather for other kinds of didactic purposes." Didactic means "intended to teach, particularly having a moral instruction as an ulterior motive." Hazard states that "scientific accuracy" was not "the main motive in mapping." (Mary E. Hazard, *Elizabethan Silent Language*, Lincoln, U. of Nebraska, 2000, p.67)

Hazard even quotes from John Dee's chapter on Geography in his *Preface to Euclid*, summarizing, "As Dee suggests, aesthetics, nostalgia, sensationalism, and other motives besides geographical accuracy generated interest in maps, and among these, metaphorical expression was historically foremost."

Dee cites two large cities in Cathaia (China), Cambalu (Beijing) and Quinsay (Hangzhou). He calls Cambalu "the royal seat," and indeed, the name comes from the word *Khanbal-iq*, meaning "Great residence of the Khan."

Based on his readings of the Arab historian Ismael Abu al Fida (1273-1331) and Marco Polo (1254-1324), Dee says these two cities in China lie on the same parallel as Venice, Italy (which is at 45 degrees north latitude).



Queen Elizabeth I on her throne
(illustration by Jim Egan)

Dee describes 4 places which have what he calls “geographical symmetry.” In the middle of them he has apparently drawn a picture of a Queen Elizabeth I, on her throne, holding a sword.

Here is a summary of the four places Dee describes:

- 1 Cambalu (Beijing) and Quinsay (Hangchou) in Cathay (China)
- 2 Chryse (Japan)
- 3 Atlantis (Dee’s term for North America)
- 4 Strait of Arianus (the sea route to China)

As a picture is worth a thousand words,
I have attempted to recreate the image which Dee has described in words.
(In other words, this is my illustration of the Queen,
and the place names Dee mentions,
superimposed upon Dee’s 1582 map).



It seems a bit unusual that Dee would put Queen Elizabeth in the middle of the North Pacific. She is way on the other side of the North Pole from her realm in England.

Why is Cambalu a “little black circle”?

And why is Quinsay the “middle joint” of the Queen’s “index finger”?

These smell like Dee-clues to me.

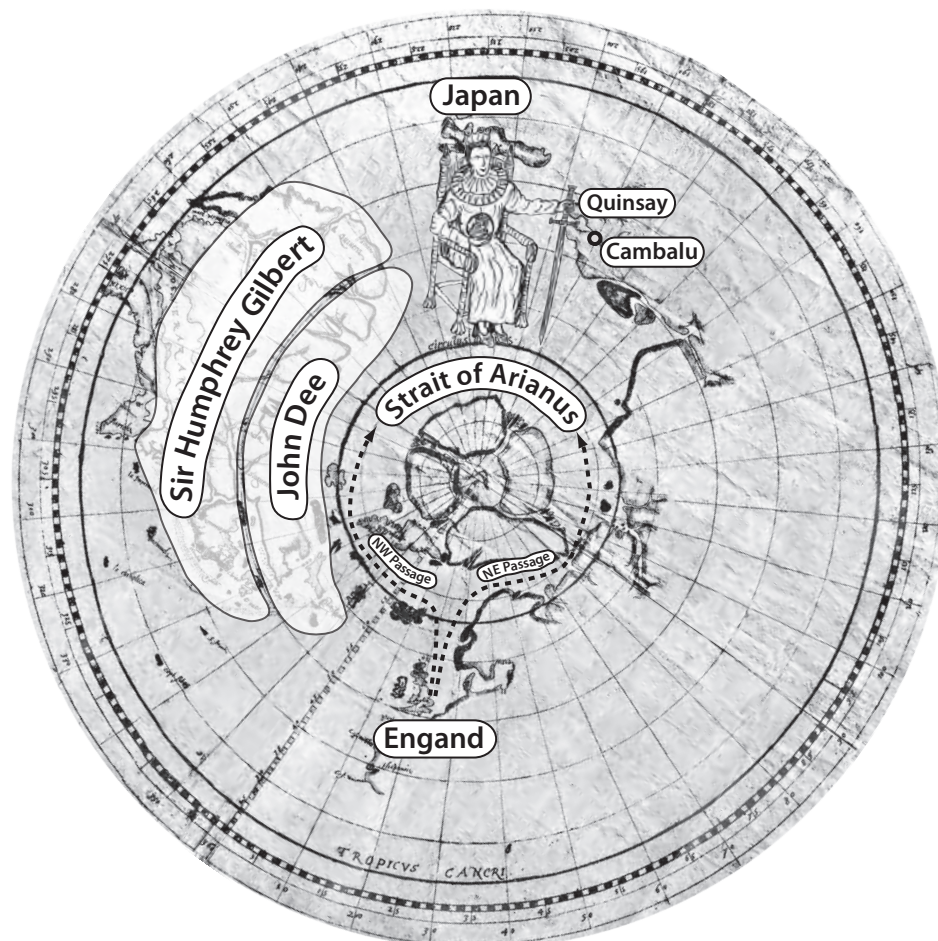
One of the short-term goals for Dee’s “sales pitch” to the Queen was to help his associate Sir Humphrey Gilbert obtain his “letters patent” for all of North America (north of Florida.) Indeed, Gilbert was succesful on June 11, 1578.

And for all his help in the imperial negotiations, as well as for his cartographic and navigational advice, John Dee was granted all lands north of the 50 degree latitude by Sir Humphrey Gilbert. This grant wasn’t actually made until September 10, 1580, but it had probably been under negotiation between Gilbert and Dee for some time. It’s clear from John Dee’s remarks about the “courageous Captain...S.H.G.” in Dee’s 1570 *Preface to Euclid* that he and Gilbert had been working towards the same ends since the late 1560’s.

(Dee, *Preface*, p. A.j, or 43, or myBook 2, page 191)

Suddenly, the Queen doesn’t seem so far from home. Now, right by her side, she has her courageous courtier, Sir Humphrey Gilbert, and her perspicacious philosopher, John Dee!

[Perspicacious is a good word to describe Dee, it means perceptive, astute, and wise.]



***Dee was a visionary.
Here are a few things he envisioned way back in the mid 1500's:***

1. British Empire extending around the World
2. British Colonization of North America
3. Global trade between the Orient and the West
4. Trade through the Northeast and Northwest Passages

Now let's look back on Dee's ideas from today's perspective:

1. Indeed, the British Empire grew to be the largest Empire the world has ever seen. By 1922, the British Empire held sway over on quarter of the world's population and covered one quarter of the Earth's total land area. It was so global that the expression arose, "The sun never sets on the British Empire."
2. The British ruled the East coast of America (At least up until the American Revolution...and for a brief period in the 1960's during the British Invasion of Animals, Hermits, Beatles and Stones.)
3. Nowadays, China is the world's leading exporter. (For example, over 40% of consumer goods in the US now come from China.)
4. OK... maybe Dee was a bit too optimistic about these two sea passages. Centuries after Dee, they were both finally found to exist, but they have never become major trade routes.

Besides being a visionary, Dee knew the power of ***visual symbols***. An illustration or a map can tell a story in away words cannot.

Dee's simple Monas symbol encapsulates a number of his ideas about astronomy, geometry, proportion, optics and even theology. Dee's Title-page illustration for *General and Rare Memorials*, with Elizabeth at the helm of the ship of state, is chock-filled with symbolism.

Similarly, this map-image of Queen Elizabeth ruling the seaways of the Northern Hemisphere is a powerful geographic and political statement.

Like Dee himself, Dee's symbolism has a serious side, but it also had a light-hearted, playful side. Dee had fun with his toys: his symbols, his geometry, his numbers.

His imperial patroness, Elizabeth, had a serious side, but fortunately, Bess loved clever riddles as well.

Dee loved putting things right in front of your eyes, while still making them invisible... unless you took the time and energy to reflect on his puzzle.

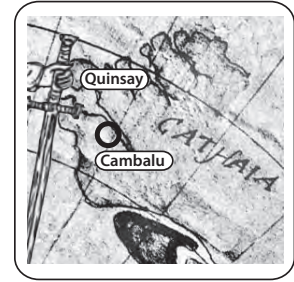


Good Queen Bess
playing the lute

Let's take a look closer at some of his clues:

It seemed curious that Dee had labeled China's royal city, Cambalu (or Beijing), with a "little black circle," instead of something simpler, like large dot or an asterisk.

And as he associates Quinsay (Hangzhou) with the "middle joint" of the Queen's index finger, it occurred to me that the "little black circle" might be a **ring** that should go on the Queen's index finger.



The Elizabethans loved rings, and circular things.

Elizabethans would have picked up on Dee's ring metaphor right away. They were crazy about rings.

As Mary E. Hazard writes in *Elizabethan Silent Language*, "More than any other widely used jeweled artifact, rings were valued for their talismanic and symbolic functions. Men and women both wore rings in profusion, sometimes several on one finger, sometimes between the first and second knuckle, or on the thumb, sometimes tied by ribbons around one's neck, elbow, or waist. Rings figure often in the complications of literary plots and in historical legend, and they are the subject of much speculative comment."

One reason for this ring fetish was that Elizabethans had a "fascination with the shape of a circle. Circular form was a comfort to Elizabethans, physical and metaphysical."

(Mary E. Hazard, *Elizabethan Silent Language*, U. of Nebraska, 2000, p.112 and pp. 59-61)



Queen Elizabeth 1
at her Coronation
(attributed to
Robert Peake
the Elder)

The idea that rings were symbolically important to Dee can be seen in this entry from the year 1578 in his personal diary:

"26 Aug. Circa 6 mane my wife dreamt that all of her rings were broken (as it were in one place cracked). Perhaps she is about to have as many children as there are rings: since the bone always appeared from a bag: but to others it may signify that great gifts will follow. Christ is propitious."

Here is my modernization:

"On August 26, 1578, at around six o'clock in the morning, my wife Jane had a dream that all of her rings were broken – they had all been cracked in the same place.

Perhaps this is a sign that she will have as many children as she has rings, as babies are born in an amniotic sac that ruptures at birth.

Alternately it might mean that we will become rich. Christ gives signs if favorable things are to follow."

[Jane Fromonds and John Dee had gotten married
about 6 months earlier, on Feb 5, 1578]

[Edward Fenton suggests that Dee derived the idea that "bones" as a "symbol of life" derives from *Ezekiel 37*, "This is what the Sovereign Lord says to these bones: I will make breath enter you, and you will come to life. I will attach tendons to you and make flesh come upon you and cover you with skin." Later in his Diary, Dee refers to the "bag of nature" as a "matrix," which is Latin for "womb." (Edward Fenton, *The Diaries of John Dee*, Oxfordshire, Day Books, 1998, pp. 3, 17, and 161)]

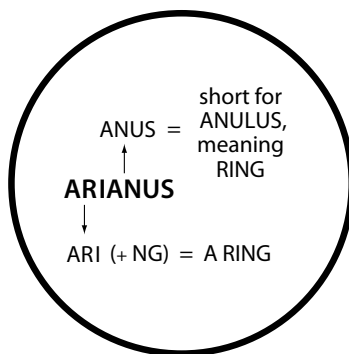
Today, things like clothes, jewelry, artwork, and architecture can have a certain amount-symbolic meaning. But in Elizabethan times, these material objects were *super-symbolic*. As Mary E. Hazard writes in *Elizabethan Silent Language*, “In all sizes of three-dimensional objects—from the smallest, whether coin or finger ring, the the largest, a great prodigy house—the shape and substance of Elizabethan artifacts work as units of nonverbal or extraverbal communication, grounding communication with the gravity of the things of this world.

(Mary E. Hazard, *Elizabethan Silent Language*, p. 139)

I noticed that Dee made a third cryptic reference to the idea of a “ring” in the place name “Strait of Arianus.” The more commonly-used term for this body of water is the “Strait of Anian.” The name probably derives from the Chinese province of Ania, which Marco Polo mentions in the 1559 edition of his book of travels.

This “Strait of Anian” separates Asia and North America on maps made by Giacomo Gastaldi (1562) and Bolognino Zalteri (1567). But European cartographers started using the term to describe the whole open sea passage they thought connected Northern Europe with Northern China.

Dee implies that his “Strait of Arianus” includes **both** the Northeast and Northwest Passages, suggesting that explorers (like Stephen Borough and Martin Frobisher) had already entered it and even “sailed through” it.

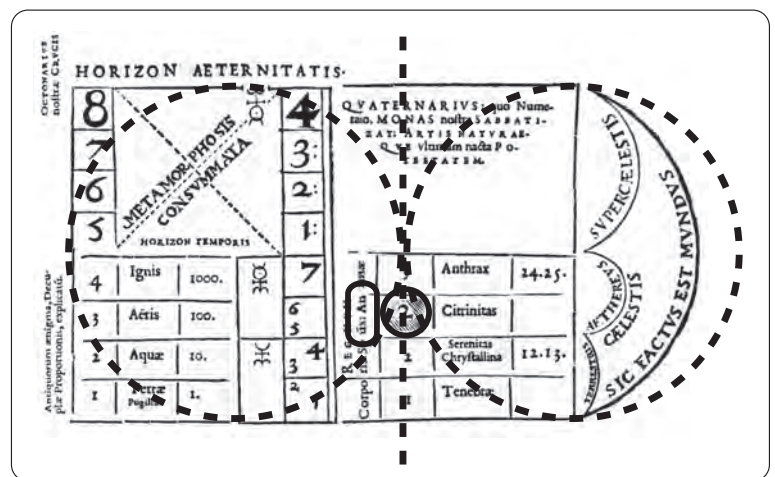


By concocting the term “Arianus” instead of using the customary term “Anian,” I think Dee is making a word-game riddle. The Latin word *anus* in “Arianus” is shortened version of *anulus*, meaning “ring.”

Also, the beginning of Dee’s term “Ari,” sounds a lot like the beginning of the English expression, “A ring.”

Dee plays the same word-game in the *Monas Hieroglyphica*. In his “Thus the World was Created” chart, he hides the word *Anus* by associating the first part of the word *An-imae* and in the last part of the word *Spirit-us*.

[As I have explained earlier, this is a hidden reference to the well-known Greek tales of the Ring of Gyges, and Glaucon’s two rings, which are recounted in Plato’s *Republic*.]



In Greek, the prefix *ari* strengthens the word with which it is combined. It comes from the same root as *aretê*, meaning excellence. If the creative Dee was combining a Greek prefix and a Latin suffix, Arianus might mean “excellent ring,” which corresponds with the importance Dee placed this ring of water.

He seems to be describing the “strait” as the **whole ring of water** that goes around the ice cap of the North Pole, that is, the Northeast Passage, the Northwest Passage, and the North Pacific passage to China and Japan as well.

He also explains that the four places he refers to have “their own geographical symmetry.” It’s pretty apparent that this “symmetry” is a square, or in this case, a square rotated to be a **diamond**.



But there's another ring that Dee wants the reader to consider.

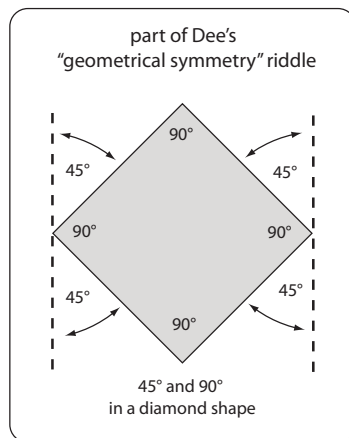
Twice in this document Dee emphasizes that Cambalu and Quinsay are “situated on almost the same parallel as Venice.” European cartographers knew Venice was on the 45° latitude line.

This 45° latitude line is important because it divides the whole Northern Hemisphere in two parts:

From the equator (0°) to the 45° line.

And from the 45° line to the North Pole (90°).

Picture this 45-degree latitude line as a circular band whose center-point is the North Pole.

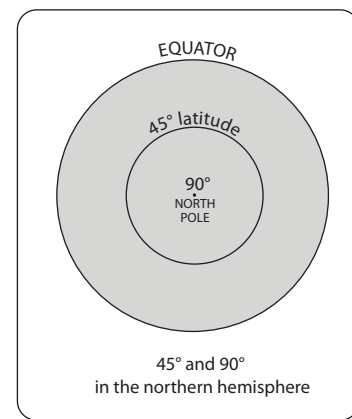


Let's return to the "geometric symmetry" of the diamond-shape.

Its edges are each 45° from vertical and there are four internal 90° angles.

In a circumpolar view of a globe, 45° and 90° are important as well. Only now, the 45° is depicted as a circular shape and the 90° is depicted as a point.

(Using number to show a connection between a "square" and a "circle" would have been right up Dee's alley.)



Now put the diamond shape and the circular band together and what have you got?



A Diamond Ring !

What a fitting symbol to depict Elizabeth's "imperial seas" and the riches she will obtain from international trade!

Dee is hinting about this ring-shape with references to smaller rings, like Quinsay (or Hangzhou) being located at the "middle joint" of the Queen's index finger and China's royal city, Cambalu (Beijing) being depicted as a "little black circle."

Today, most brides get diamonds for wedding rings, but in Elizabethan times only the Queen and her rich courtiers could afford diamonds. In portraits of Queen Elizabeth I, she always is depicted wearing on a crown, brooch, collar or necklace festooned with diamonds.

John Foxe (in *Acts and Monuments*, London, 1563) reports that Elizabeth even used a diamond to etch a short poem in the glass window at Woodstock, where she had been imprisoned by her sister Queen Mary I:

“Much suspected by me,
Nothing proved can be,
Quoth Elizabeth prisoner.”

Diamonds were also an important feature of the brooch she gave Sir Humphrey Gilbert just before his expedition of 1583 to settle the first Elizabethan colony. . A letter from Maurice Browne to Thomas Tynne, dated sometime between April 28 and May 3, 1583 describes the gift in great detail:

**“After Sir Humphrey had taken his leave of her majesty and gone down to Hampton,
the Queen sent Sir Humphrey, as a token of her especial good favor,
A very excellent Jewel.**

**The device was An Anchor of gold set with 29 diamonds with the
Portrait of A Queen holding the ring of an Anchor in one hand
the fluke of the Anchor in the other hand.**

**In the breast of which picture there is set A very great pointed Diamond,
and in the Crown that stands on the head is set A very great ruby
and at each end of the anchor a great pearl.**

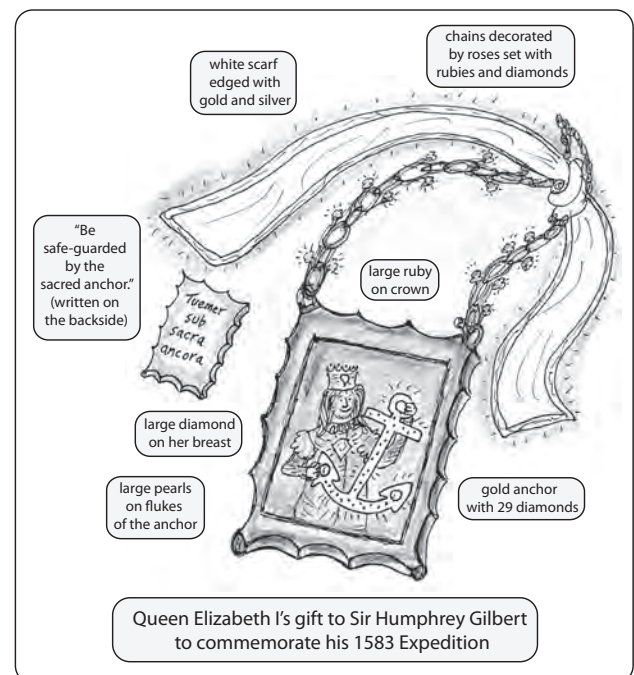
**On the back side of the anchor is written as follows,
*Tuemur sub sacra ancora.***

[Be safe-guarded by the sacred anchor.]

**Which Jewel doth hang at two chains devised
with roses set with rubies and diamonds, which
was tied with two of her color [rose-colored or pink]
tagged with gold and enamel and A scarf
of white silk Cypress [a translucent fabric]
edged with a fair lace of gold and silver.”**

(My modernization, made from a letter written by Maurice Browne to John Thynne, written between April 25 and May 3, 1583, in David Beers Quinn and Neal Cheshire, *The New Founde Land of Stephen Parmenius*, U. of Toronto Press, 1972, p. 204-5)

Based on Browne’s description, I’ve drawn this conception of what this brooch might have looked like. The diamond is prominent on her bosom, which is close to her heart. And the 29 diamonds certainly made this sacred Anchor of Hope sparkle!



After explaining the “geographical symmetry” of the “four places,” Dee begins his concluding sentence this way: “But concerning these things and others relating to them...”

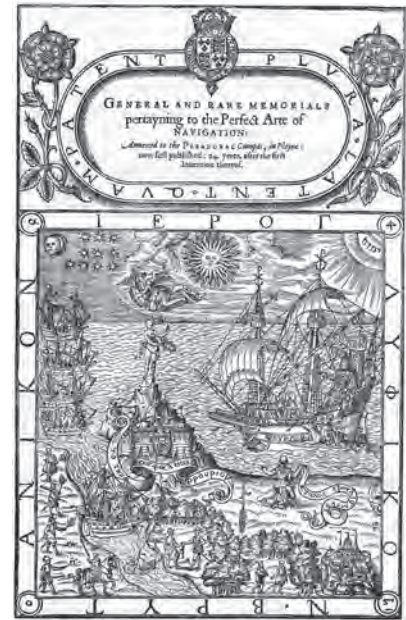
Dee is certainly emphasizing the importance of England’s discovery of the Northeast and Northwest Passages here, but the “other” main thing Dee was pushing for at this time was for England to get a foothold in the New World. He is encouraging Elizabeth to “make a steadfast watch post,” as he puts it, on the Title page of *General and Rare Memorials*.

This “watch post,” he later specifies, is one of the most well protected natural bays on the east coast of America:

It’s the one Verrazano called Refugio.

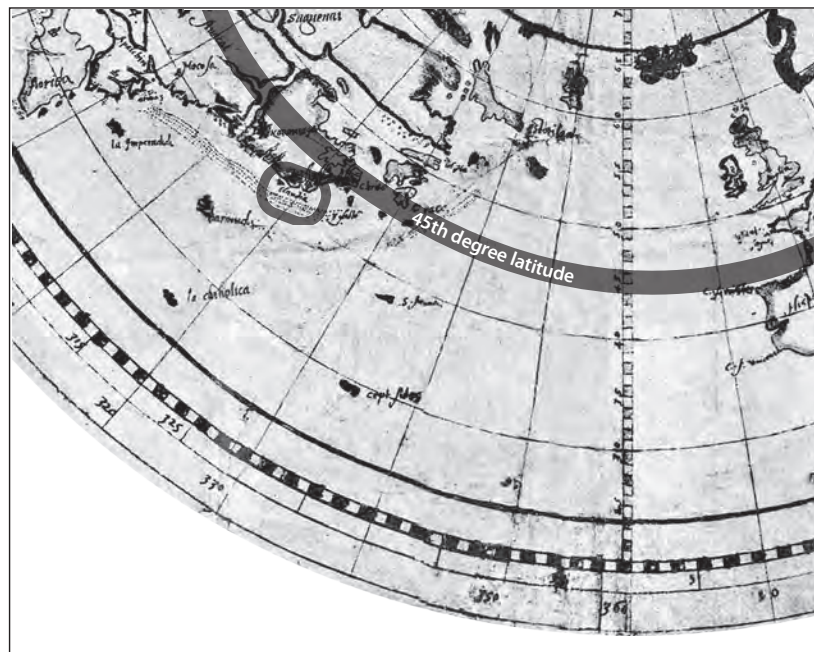
It’s the one Dee named the Dee River and port.

It’s Narragansett Bay in present-day Rhode Island.



Dee’s circumpolar map only has a few dozen place-names on it. It’s telling that among them is Claudia, the triangular island at the entrance to the John Dee River and port.

In actuality, the tiny island of Claudia (Block Island) is only about 15 square miles. And Dee’s map covers about 80 million square miles. The island should really only be a speck, instead of a discernable triangle. But in Dee’s mind, Claudia was the all-important key that unlocked the door to the Dee River.

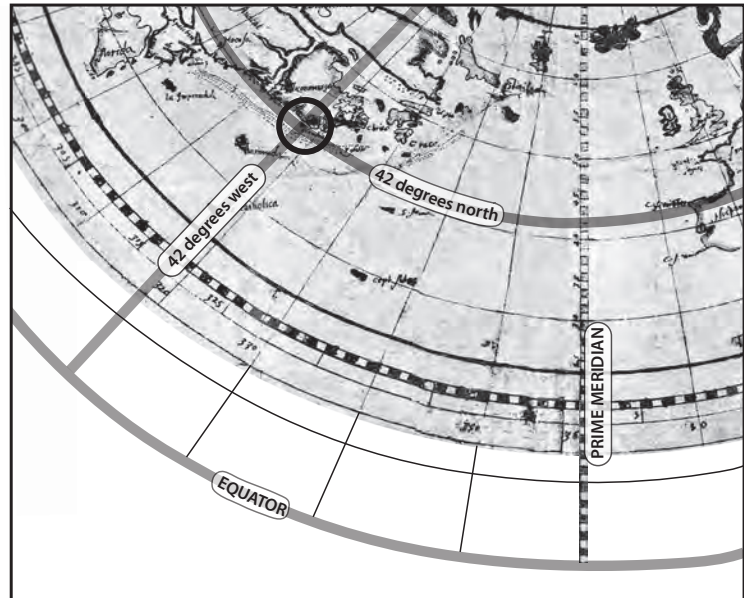


Claudia is close to, but not on, the 45th degree north latitude line.

Dee’s “45-degree-latitude diamond-ring” comes pretty close to Claudia. But doesn’t quite touch it. Even Dee was aware that Claudia was located at “about 42 degrees” latitude.

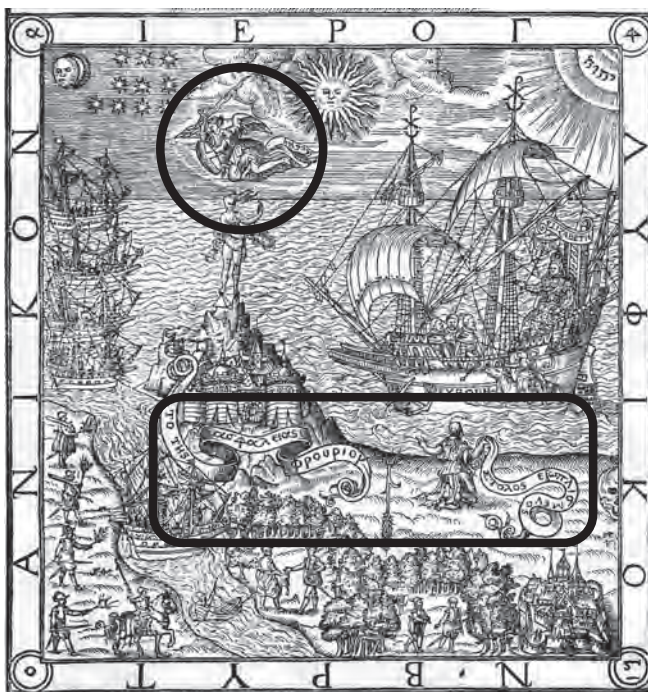
Besides the “geometrical symmetry” of the “four places,” Dee wants us to see the same “geometrical symmetry” in the location of the Claudia as well!

Not only is Claudia
42° latitude
north of the Equator,
 it is also
42° longitude
west of the Prime Meridian!



On Dee's map, the island of Claudia (and the John Dee River and port) is located at 42 degrees north latitude and 42 degrees west longitude.

Michael is Angel number 42



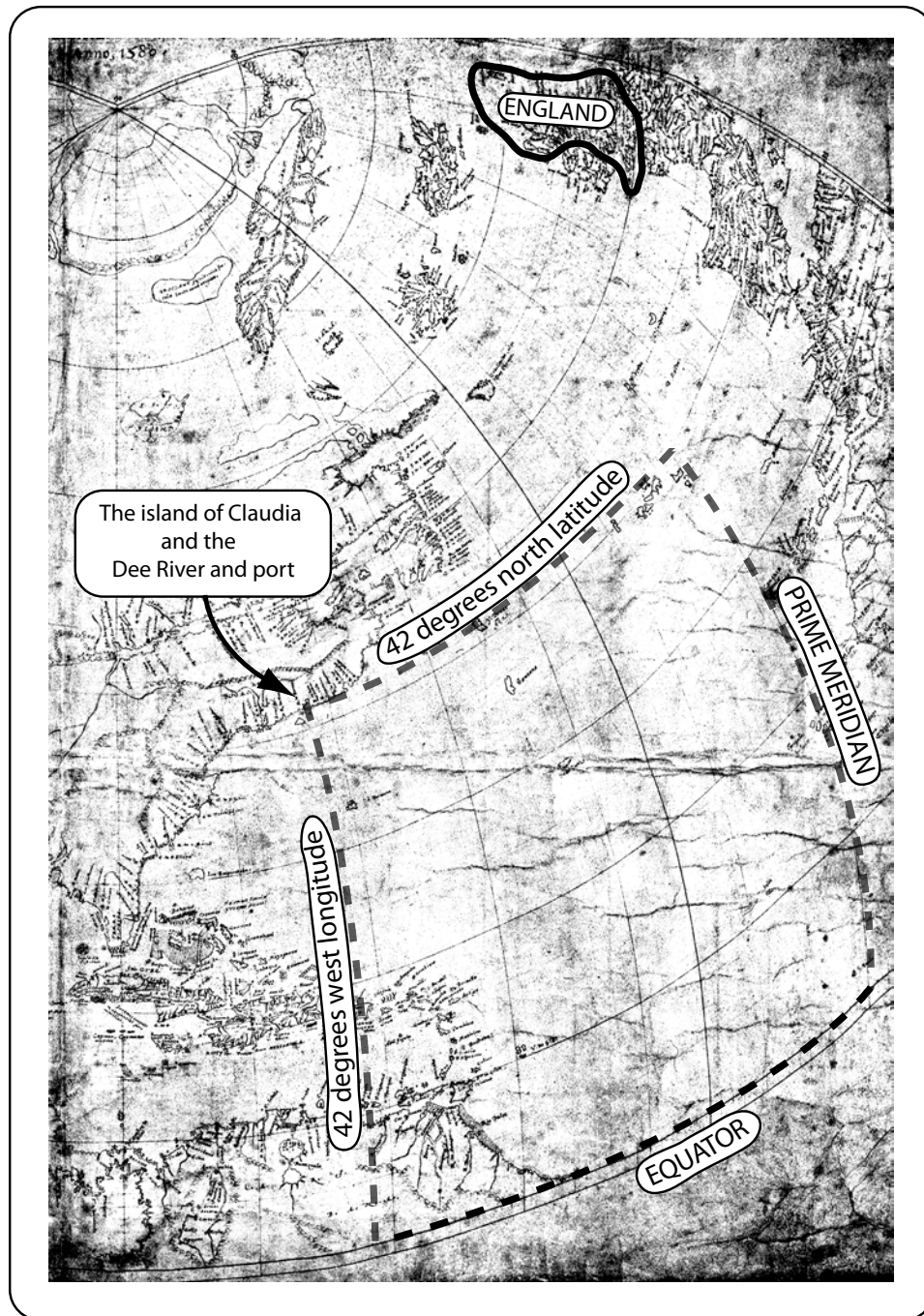
“Send forth a sailing expedition...
 to make a steadfast watch-post.”

As explained earlier, Dee placed archangel Michael above the “steadfast watch post” in the Title page illustration of *General and Rare Memorials*.

In the Hebrew Shemhamphorasch, or 72 names of God, or the 72 Angel-names, the Angel Michael is number 42.

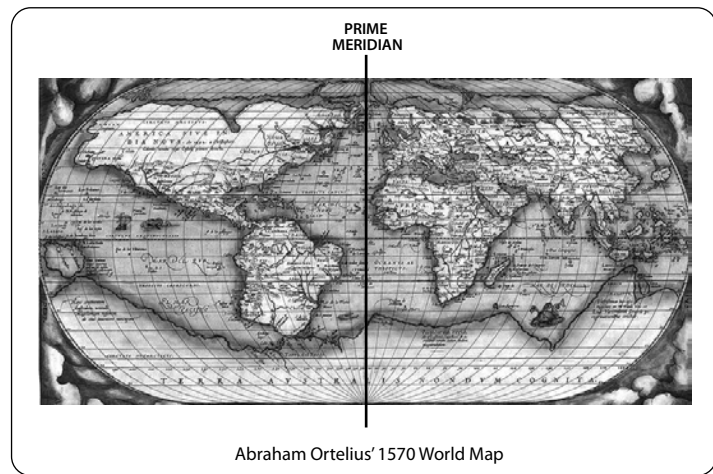
Thus, right in front of our eyes, Dee is **pinpointing** the exact location (latitude as well as longitude) of the Dee River and port.

Dee also drew an extremely detailed map of North America in 1580. Here I have drawn a dashed line to show what I call the “Claudia square.” This perspective makes Claudia and the Dee River seem pretty close to England.



The island of Claudia and the Dee River and port is located at 42 degrees north latitude as well as 42 degrees west longitude (as seen on part of Dee's 1580 map of North America)

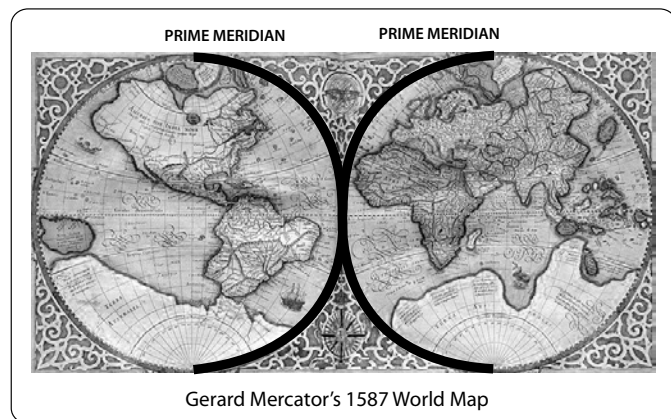
Dee seems to be using the same Prime Meridian that his cartographer friends Gerard Mercator and Abraham Ortelius used: the north-south line passing through the islands of Sao Miguel and Santa Maria in the Azores.



Abraham Ortelius' 1570 World Map

But Dee tells us he has placed the east coast of America further west than his friends placed it on their maps of the world.

Because Dee was estimating the longitude, he had a little flexibility to make things work out so well. (Still, it turns out that Dee was pretty close; Block Island is actually 44 degrees longitude west of the Azores.)



Gerard Mercator's 1587 World Map

Dee's reference to the "next seven years" (which he cryptically calls a "*Sabbatizat*" in the *Monas Hieroglyphica*) could refer to Martin Frobisher's seven-year letters patent or Sir Humphrey Gilbert's seven-year letters patent. If these voyages were successful, Elizabeth would indeed be in for many "wonderful, surprising, secret, and very delightful facts."

This "Diagram" of Elizabeth ruling the "imperial seas" provides a new perspective on the Newport Tower, which I claim Dee designed.

In one respect, the Atlantic Ocean is wide, and it's a long way from England to the island of Claudia and the Dee River. But in another respect, when seen in comparison to the distance from England to Japan, China, or to the West Coast of America, Claudia and the Dee River are not really very far at all. As Dee thought globally, he would have probably considered trip to settle the Dee River as a relatively simple first step.

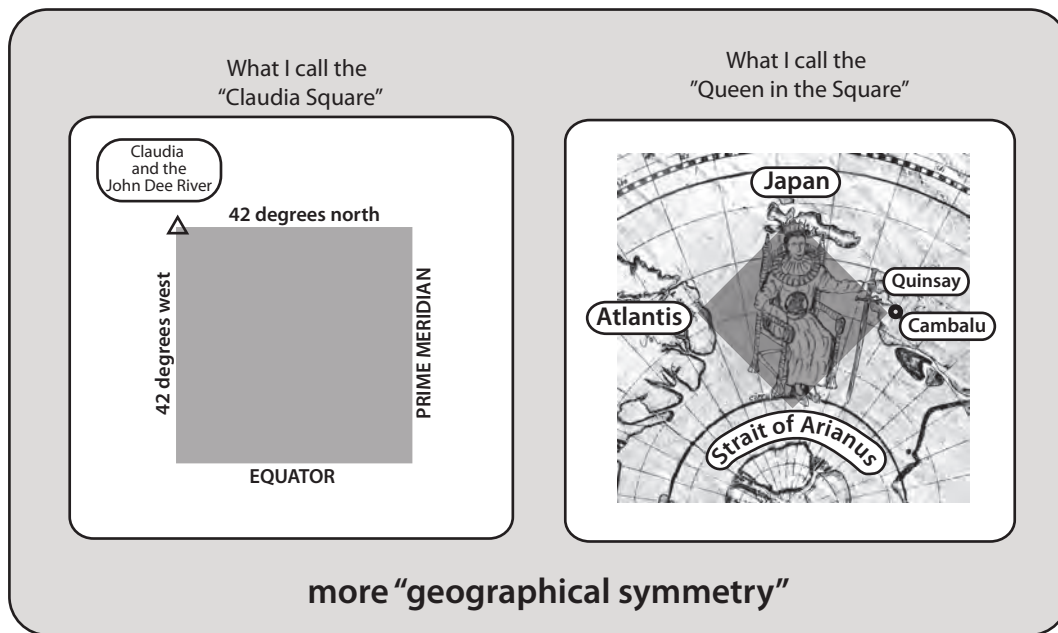
Dee selected what is now Narragansett Bay to be the first Elizabethan colony in the New World. He named the bay after himself: the Dee River and port.

He designed the first building to be a symbol as well. Not just a symbol of his mathematical cosmology, but as a city-center, a welcoming beacon, a focal point for the English colonization of the East Coast of America.

The whole process just took a little bit longer than he had anticipated.

We've seen that the 42° latitude of Claudia is close to the 45° latitude of Venice, Beijing, and Hangzhou. But there's another connection.

If we take what I call "the Claudia Square" of Dee's circumpolar projection, and flatten it out, it becomes a square. Though different in size and orientation, this square is essentially the same shape in which Dee has placed the Queen.



I'll admit that my analysis of a map that doesn't even exist might seem a little bit imaginative. If I was analyzing anyone else but the clever John Dee, such an analysis would indeed sound overreaching. But Dee was a geometric humorist. Having a brain hard-wired with an understanding of geometry, his humorous riddle-games naturally involve navigational geometry, geometric shapes, and number.

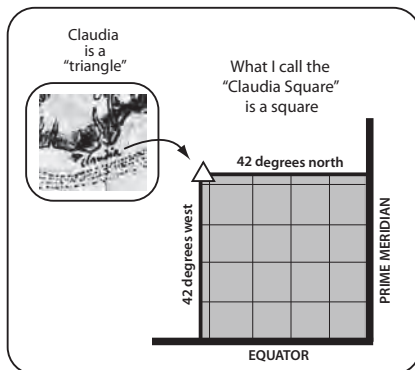
The idea of drawing a circumpolar projection of the earth is a challenging geometric puzzle in itself (Dee seems to have been the first Englishman to do it). It's obvious that the distance between longitude lines varies greatly (they are very close together in the region around the North Pole), but the distances between the latitude lines are the same all over the map.

Being in geometric-puzzle-mode, he simply made some geometric riddles to keep his presentation to the Queen lighthearted. But he also wanted to portray the Queen's legal right to most the Northern Hemisphere seen "geometrically ordained" by nature.

Dee was a geometric spin doctor. And his spinning worked. Somehow he managed to wheedle (for free) most of what is now Canada and Alaska.

What I call Dee's "Claudia Square" relates to another main theme of Dee's mathematical cosmology (as espoused in his *Propaedeumata Aphoristica* (1558 and 1568) and his *Monas Hieroglyphica*) (1564). It has to do with the relationship between "four-ness and "three-ness." Or as Dee puts it:

"Quaternarius Internario Conquiescens."
or
"The Quaternary Rests in the Ternary."



Here, the "Quaternary" (the "Claudia square") is created by that single reference point, which has a "Ternary" shape (the triangular island of Claudia).

As the horizontal axis of the square (the Equator) and the vertical axis of the square (the Prime Meridian) are the basis or grid of the whole map, only one point (Claudia) is needed to define the whole "Claudia Square."

And as we have seen, Dee uses the equilateral triangle (Δ) as a personal symbol of his name: Dee, (the Greek Delta or the Latin letter D). And, this delta-shaped island points towards the mouth of the Dee River.

One can almost hear Bess giggling with delight at the cleverness of Dee's well-woven grand plan for the nascent British Empire.

In his book *Geometrical Landscapes, The Voyages of Discovery and the Transformation of Mathematical Practice*, Amir Alexander explains that the great Elizabethan geometers were also the great Elizabethan geographers.

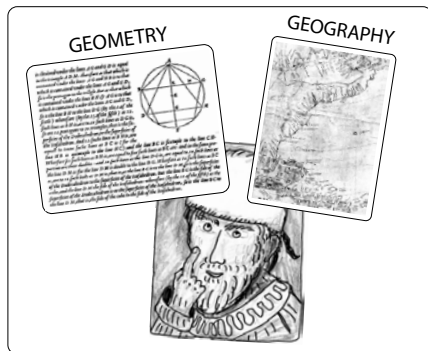
He writes extensively on the views John Dee and Thomas Harriot held about the British Empire. (Harriot was much younger than Dee (1560-1621), but actually visited the New World on Sir Walter Raleigh's mission to Roanoke Island in 1585-86.

In Chapter 3, entitled "Mathematical Empires," Alexander writes, "John Dee was known to his contemporaries as the foremost promoter of exploration and discovery in his time."

Alexander summarizes, "English mathematicians, it is shown, were active and enthusiastic participants in the exploration enterprise. They not only lent their technical expertise to support the voyages, but also promoted and publicized them using the familiar narrative of geographical exploration. Most importantly, the mathematicians adopted this imagery and applied it to their own trade, describing themselves as daring voyagers on the uncharted mathematical oceans." (Alexander, Amir, *Geometrical Landscapes*, Stanford, Stanford U. Press, 2002, pp. 72-73 and p.3)

To these Elizabethan math-explorers, "geography and geometry" went hand-in-hand. And clever Dee even integrated "geography and geometry" with the Queen's hand.

A DEEPER LOOK AT THE TITLE OF JOHN DEE'S WORK: THE LIMITS OF THE BRITISH EMPIRE



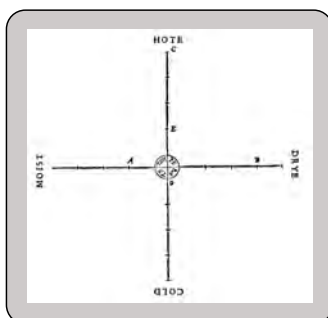
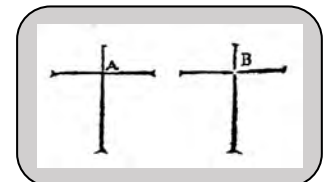
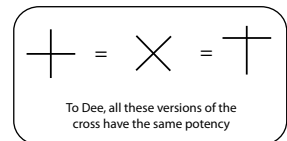
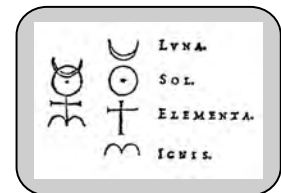
It's pretty obvious that John Dee had a geometrical mind. He could speak at length on each of the 465 propositions of Euclid's *Elements*. He was perhaps Elizabethan England's best cartographer. He advised most of the great Elizabethan explorers on geometry of navigation. It's pretty obvious he would see geography through the eyes of the geometer.

Beyond the “point, line, and circle,” the 2-D geometric shape which fascinated Dee the most was the Cross. He writes extensively on the Cross in his *Monas Hieroglyphica* and it is one of the 4 parts of his Monas symbol.

Dee sees the equilateral cross, the saltire cross (tilted to form an X) and his offset cross as having the same meaning or potency. The cross is a symbol of the “Union of Opposites,” or “Separatio and Conjunctio.”

In Theorem 6, Dee visualizes the Cross several ways:

- as the number 3 (two lines and a point)
- or as the number 4 (four lines)
- or even as 7 (as $3+4=7$),
- or as 8 (two crosses, X, X, or $4+4=8$),
- or as 10 (Roman numeral X, which he even relates to the Pythagorean tetraktys, $1+2+3+4 = 10$).



In his *Preface to Euclid*, Dee's entire “Art of Graduation” illustration is based on the shape of a Cross.

On another level, the Cross represented Christianity and Jesus—at the core of Dee's theology and the theology of most of Europe at the time (whether Protestant or Catholic).

So it should not be surprising to find a cryptic visual reference to a Cross in the text and illustrations in his presentation to the Queen. To find it, we must match wits with the clever Dee, who still speaks to us through his writings and illustrations.

Dee gave his work a powerful title:
Brytanici Imperii Limites
(or Limits of the British Empire)

British Empire

The very idea of a British Empire is a bold concept that seems to have sprouted from Dee's polymathic and patriotic mind. But to him, it was not a brand-new vision for Britain's future. It was a recouping or continuation of an ancient British Empire. In Dee's mind, the British Empire dated back to the days of King Arthur and Saint Brendan (around 550). It also extended through the times of Prince Madoc (around 1170) and John and Sebastian Cabot (around 1500).

By using the potent word "Empire" Dee might have had in mind the Persian Empire or the Greek Empire. But I think he was implying that the British Empire someday would become as great as the Roman Empire (or the Holy Roman Empire, which followed the Roman Empire).

However, Dee's "Empire" was a little different from these earlier Empires, which were primarily "land empires." Dee's envisioned "British Empire" was more of a "maritime empire."

Limits

Let's focus on the remaining word of this powerful title, the word "Limits." It's a much deeper word than it might appear at first glance.

Obvious synonyms for "Limits" might be "boundary, bounds, outer edge, or perimeter." Nowadays, "limits" actually implies a "boundary that restricts or confines." But this is a modern meaning of "limits," so it's probably not what Dee had in mind.

Dee's not thinking in terms of a "restricting," a "confining" or a "contracting." In fact he's thinking just the opposite. He's thinking big. He's thinking of an expansive area. He's trying to get the Queen to think outside the box of her little island-realm. He's encouraging her to think globally.

"Ancient Bounds and Limits"

To Dee, "limits" was not simply a "boundary." In his *General and Rare Memorials* he refers, several times, to Britain's "Ancient Bounds and Limits." It would be unlike the scholar Dee to be redundant. He wouldn't use two synonyms connected by the word "and." If they were synonyms, he would have picked just one of them. Thus, in Dee's mind "Bounds" and "Limits" seem to mean two different things.

"Sea Limits"

Dee provides more clues about what he means by "Limits." At least ten times throughout his text, he uses the more specific term "Sea Limits," suggesting a maritime empire.

What the term “*Limites*” meant to the Romans

Dee’s Latin word *Limites* is the plural of the word *limes* (pronounced like “lie-mess.”). The Romans borrowed the word *limes* from the Greek word *lexris* meaning “in the shape of a cross.”

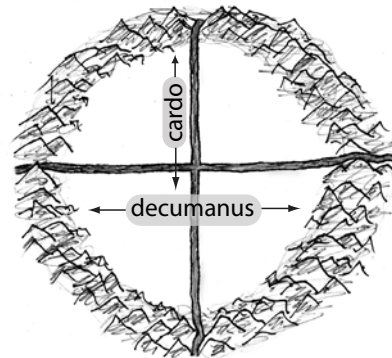
Greek:	<i>lexris</i>	“in the shape of a cross”
Latin:	<i>limes</i> (singular) <i>limites</i> (plural)	“in the shape of a cross”

As the Roman Empire expanded into the hinterlands of Europe, paths or roads were built to allow for the swift transport of trade goods and armies.

Roman engineers would make two main *Limites* across a large field or region.

The path that ran north–south was called *cardo limes*.

The path that ran east–west was called *decumanus limes*.



two kinds of Roman “*Limites*”
(Roman roads forming a cross shape)

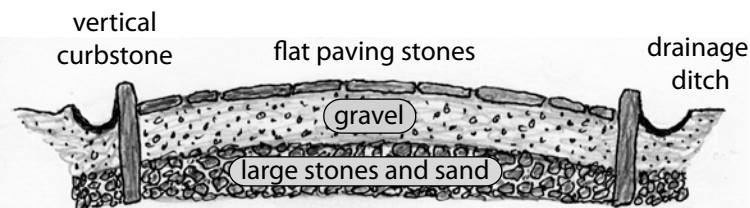
The Romans quickly learned that too much chariot and cart traffic led to rutted paths (dusty when dry and full of puddles when rainy). Roman engineers quickly became adept at the art of building roads.

First, workers would dig out the roadway, fill it with a solid base of large stones, then add about a foot of gravel. Then they would finish off the surface with artfully-fitted, flat paving-stones. Along the edges were vertical curbstones and drainage ditches.

The Roman roads were so well-constructed, many can still be seen throughout Europe today.



tightly fitted paving stones of a Roman road



cross-section of a typical Roman Road

When “path *limites*” were upgraded to “Roman Road *limites*, they were called *Limites Maximi*. The *cardo maximus* was the great north-south road through a region. The *decumanus maximus* was the great east-west road.

(Peterson, JWM., *Computer aided Investigation of Ancient Cadastres*, thesis paper, University of East Anglia, England, January 1993, p.12)

As these roads were used as boundary lines for the distribution of lands, the word *limites* took on the meaning of “boundary.” Modern historians extended the meaning of “*limites*” to mean “marked and fortified frontiers of the Roman Empire.”

In the north of England, Hadrian’s Wall is sometimes referred to as *Limes Britannicus*. The northern edge in Europe is called *Limes Germanicus*, and the eastern edge, bordering Arabia, is called the *Limes Arabicus*.

But I don’t think either of the definitions “boundary line” or “fortified frontier” is precisely the meaning Dee seems to have had in mind for his word *Limites*.

As Isidore of Seville writes in *Etymologies* (a 20–volume encyclopedia compiled by the Archbishop of Seville, Spain, around 600 AD; and which Dee had in his library):

“The two largest *limites* in the fields are the *cardo* and the *decumanus*.

The *cardo* is directed from the northern pole (*cardo*) of the sky:

without doubt the sky is turned in a northern cycle.”

In Latin, *cardo* means “a hinge” or “a point about which something turns,” hence, “the North Pole.”

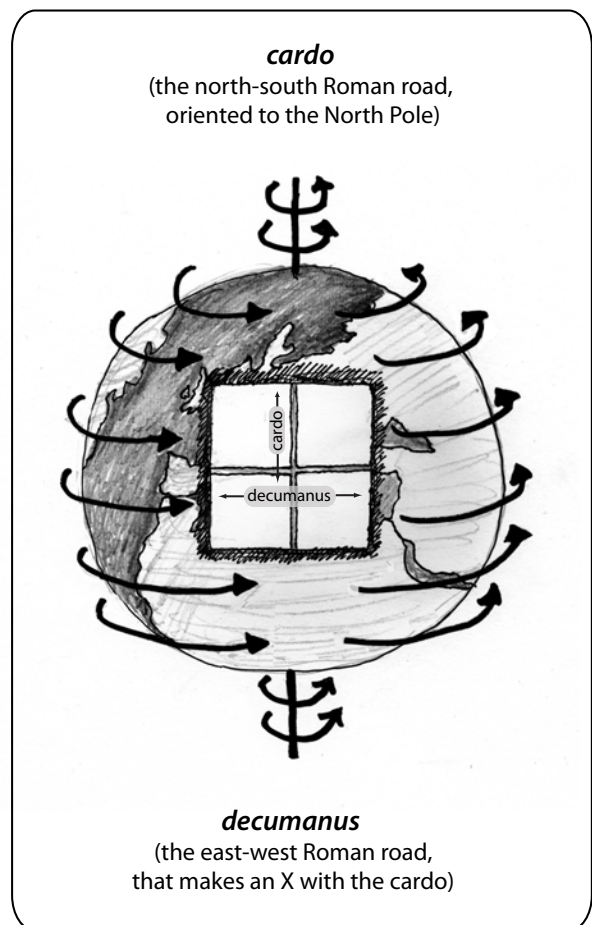
[From *cardo* we get “cardinal” points of the compass and Catholic “cardinals,” around whom church life “pivots.”]

Isidore of Seville continues:

“The *decumanus* is across it, from the east to the west.

Because it makes the shape of an X, it is called *decumanus*.

A field twice divided makes the shape of the tenth number.”



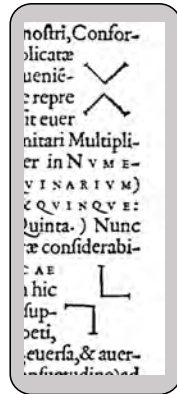
In Latin, *decumanus* (pronounced “dek-eu-manus”) or the more recognizable version of the word, *decimanus*, means “belonging to the tenth part,” or “ten-fold.” From *decumanus* we get the term “decimal,” as in the Base 10 system we use in mathematics.

$$\textit{decumanus} = \text{decimal} = 10 = \times = +$$

In Theorem 8 of his *Monas Hieroglyphica*, Dee expounds upon this very idea that the Cross = X = 10:

“It is not without reason that the Oldest Latin Philosophers decided to signify the number TEN [*DENARIUM*] by the Rectilinear CROSS [*CRUX*] made from 4 Straight lines...”

(Dee, *Monas*, Theorem 8, page 13)



In Theorem 16, Dee further divides the X (or 10) into two V's (or 5's), and also into two L's (or 50's.)

(Dee, *Monas*, pp. 15 verso and 16)

In short, Dee would have been well aware that *cardo limites* relate to “the North Pole” and *decumanus limites* derived from “X,” the Roman numeral for 10.

To navigator Dee,
cardo limites are essentially “longitude lines”
and *decumanus limites* are like “latitude lines.”

So, in a general sense, when Dee refers to Britain's “Ancient Bounds and Limits” or its “Sea Limits” he seems to be referring to what I call: **“the pathways through the seas to various destinations.”**

An even more specific meaning for the word “Limites”

But, wordsmith and geometer Dee seems to have had an **even more specific meaning** in mind for word that loaded term *Limites*.

The first English translation of Euclid's *Elements* is credited to Henry Billingsley. But John Dee wrote the lengthy *Preface* and provided many detailed “*Corollaries*” and “*Additions*” to Euclid's “*Propositions*.” Based on the content and style of writing, it's also apparent to me that Dee wrote the commentaries and clarifying remarks about Euclid's “*Definitions*.” In Definition 3 of the very first chapter of Book One, Dee uses the word “*limites*”:

“The endes or limites of a line are points.”

In the original Greek, Euclid had written:

Grammês de perats sêmeia,

This sentence literally translates:

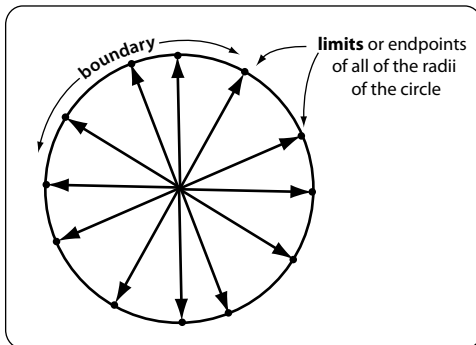
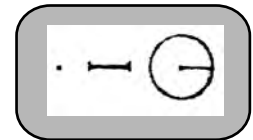
“Lines drawn” + “opposite ends”+ “mark or limit”

With this in mind, let's review the first two Theorems of Dee's *Monas Hieroglyphica*:

“The first representation of things in nature is made by means of a straight line and a circle.

But the circle cannot be made without the line and the line cannot be made without the point...”

(Dee, *Monas*, Theorems 1 and 2, my paraphrasing)



Strictly speaking, the
“circumference (boundary) of a circle”
 is the same thing as
“all the outer limits” (endpoints)
of all the radii of the circle.”

But there is a shade of difference between the “boundary” and the “limits” (as in Dee's expression, “Ancient Bounds and Limits”). “Boundary” means the edge. “Limits” means the endpoints of the lines that lead to the edge.

This may seem like splitting hairs. But think of the endpoints of the metal spokes of a bicycle wheel. They form a circle. Now think of the rubber wheel. The “spoke endpoints” and the “rubber wheel” both describe the same circle, but in slightly different ways.

Isidore of Seville also wrote:

**“Transverse lines are called by an old word, *limites*,
 for the ancients called all crosswise things *lima*.
 From this word the thresholds of doors,
 by which one goes in and out of are *limina*,
 and one goes into the fields through the *limites*.”**

So is Dee using the term “*Limites*” of the British Empire to indicate “transverse lines making a cross” or the “endpoints of those lines”?

He probably envisioned BOTH these definitions combined, in the sense that “**Sea limits**” are “**Sea Routes to a particular destination.**”

Let's explore how Dee might have envisioned "Sea Limits" on what he calls the "Diagram" or map-illustration that he drew which depicts the Queen on her throne the North Pacific Ocean area. Dee even informs the reader that he has included the words "*Imperij Brytanici Limites*" (Limits on the British Empire) on his map-illustration, as he begins Document 4 this way:

**"For as much as one parte of the title prefixed to the litle charte
(of geographij to be reformed) was Imperij Brytanici Limites,
which phrase, without farder advertisement, given unto your Majesty,
what is mente therby may seme either improperlie or to darkly annexed.**

**I thought it convenient therefore to add here a few * lynes
sufficient both to give light to the meaning of that phrase
and also to make somewhat manifest the veritie therof.**

***(the above said phrase of a few lines of a few lines
to be written hereof May seem undewly applied
yf your Majesty considere the great booke ensuinge,...)**

(MacMillan and Abeles, *The Limits of the British Empire*, p. 50)

Here is my modernization of the above introductory sentences:

**"Part of the title on the little chart given to your Majesty
(of geography to be reformed), was "Limits of the British Empire.**

**But this phrase, without further explanation about its meaning,
might seem too obscure or even improperly annexed.**

**So, I thought it helpful to add a few * lines to shed light
on the meaning of that phrase and also to make its truth more evident.**

*** (the above phrase of a few lines which follow
may seem insufficient if your Majesty considers the great book
on this subject that is still a work-in progress)."**

Note that Dee uses an asterisk to highlight the phrase "**a few lines**" and that he repeats the words "**a few lines**" in his elucidation of it in the footnote. Dee seems to be punning with the word *Limites*, which his geometrical mind sees as the "**endpoints of a line.**"

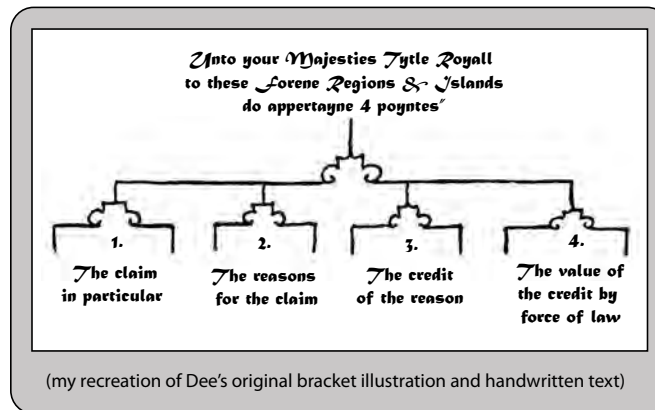
If you think I am stretching for a connection here,
consider Dee's title to Document 3:
**"Unto your Majesties Tytle Royall
to these Forene Regions & Islands
do appertayne 4 poyntes"**

Here is my modernization of that title:
**“There are 4 points that pertain
to your Majesty’s Royal Title to these
Foreign Regions and Islands.”**

Dee actually lists 4 points:

- 1 The claim in particular
- 2 The reasons for the claim
- 3 The credit of the reason
- 4 The value of the credit by force of law

(MacMillan and Abeles, *John Dee, The Limits of the British Empire*, pp.42-43)



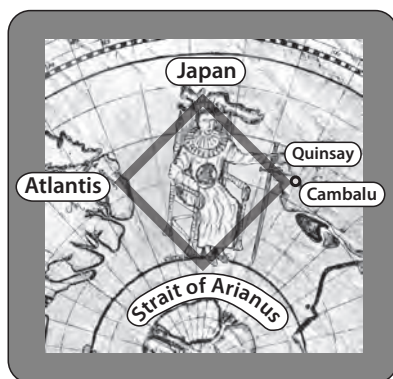
And Dee even graphically displays the “4 poyntes” with four brackets connecting to a single bracket.

I suggest that Dee is punning again. He is dropping a hint that the 4 “discussion points” in his legal argument might also be seen as the 4 “end-points” of the lines of a cross.

In Document 2, when Dee describes where the image of the “Queen Elizabeth on her throne” is situated on his map, he describes 4 different places:

**“And if those things are true which we have so far heard tell,
those four places which I have named
have their own geographical symmetry.”**

(MacMillan and Abeles, *John Dee, The Limits of the British Empire*, p. 41)

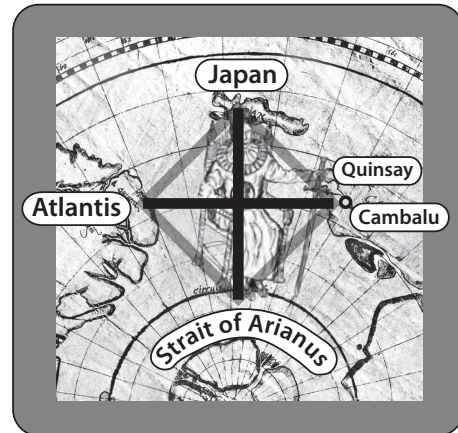


Dee’s “four places” are:

- 1 Cambalu (Hangzhou) and Quinsay (Beijing) in Cathaia (China)
- 2 Chryse (Japan)
- 3 West Coast of Atlantis (America)
- 4 Strait of Arianus (the whole area between England and what is now the Bering Sea)

Where does Dee want us to see these *Limites* (or lines that form a cross)?

Putting together all these ideas,
“*Limites* (lines in the form of a Cross),”
“a few * lines,”
“4 poyntes,”
and “4 places,”
it’s not hard to imagine a large cross
superimposed on the diamond-shaped
image of the Queen.



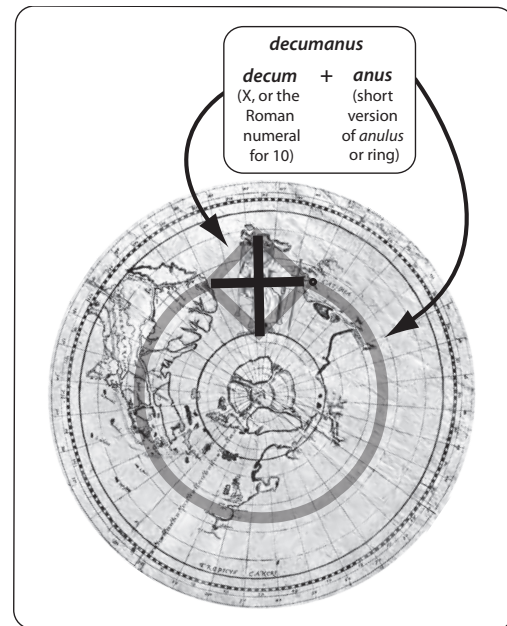
Remember that the combination of the “45° latitude circle” and the “square connecting the “four places,” makes what I call the “riddle of the diamond-shaped royal ring.”

This idea has another, deeper level of meaning. The X in the diamond-shape is like “*decum-*” (or tenness).

The circular ring, in Latin is *anulus*, which was often shortened to the word *anus*.

Together they make the word *decumanus*, which is exactly what the ring is! It’s a latitude line.

The *decumanus* would be horizontal if the map was a typical flattened projection. But on Dee’s circumpolar projection, the *decumanus* line forms a complete circle. (Dee knew that his clue would be cleverly disguised on his circumpolar projection.)



Aside from the obvious theological connotations of Jesus and the Cross, Dee felt number 10 was quite special. He writes in his *Letter to Maximilian* in the *Monas Hieroglyphica*:

**“Will he not be filled with the greatest admiration
by this most suitable, yet General Evaluating Rule: that
the strength and intrinsic VALUE of the ONE THING,
purported by others to be Chaos, is primarily
explained (beyond any Arithmetical Doubt)
by the number TEN?”**

(Dee, *Monas*, p.5 verso)

In addition to the cross superimposed upon the Queen., Dee appears to be hiding another cross in different location on his map. Dee has divided the lands around the North Pole into four distinct parts by making a (somewhat disguised) “cross” of passageways between them.

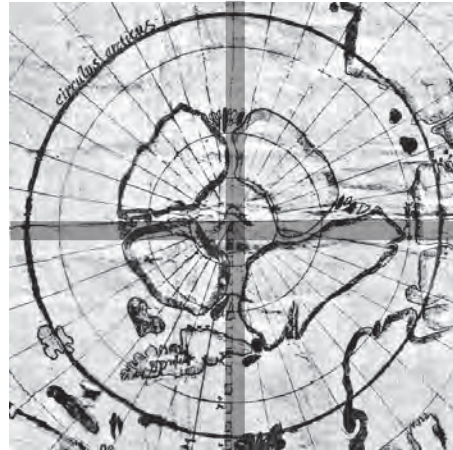
Obviously, Dee had no idea what the region around North Pole the really looked like, so this appears to have been his own creative interpretation. (Indeed, it’s odd that the all the water in the immediate vicinity of the pole is not frozen.)



Dee’s “somewhat disguised” pathways in the region of the North Pole are oriented towards 0° (the Prime Meridian), 90°, 180°, and 270°

Remember, in Latin, *cardo* means “the point about which something turns,” hence, “the North Pole.”

So Dee seems to be hinting at another cross: a cross centered on the North Pole of his circumpolar projection.



Close-up view of the “cross” of “pathways” in Dee’s depiction of the lands surrounding the North Pole

Extending those lines outward, they seem to align with Dee’s Prime Meridian (which goes through the Eastern Azores), 90°, 180°, and 270°.



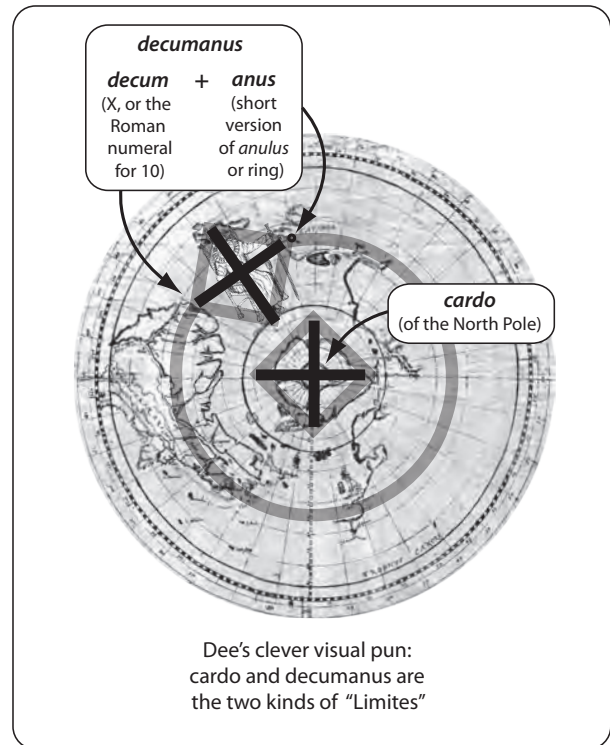
I suggest that Dee did this to provide another cryptic hint about the “Cross” or “*Limites*.” To reiterate some of Isidore of Seville’s definitions:

“Transverse lines are called by an old word, *limites*, for the ancients called all cross-wise things *lima*.”

“The two largest *limites* in the fields are the *cardo* and the *decumanus*.”

“The *cardo* is directed from the northern pole (*cardo*) of the sky...”

“The *decumanus* is across it, from the east to the west.”



Dee has made two interrelated puns about the two kinds of *Limites*.

First, he has made a visual pun out of “*decum-anus*” or the “Tenness-ring” or “X-ring.”

Second, he has made a visual pun by making a cross of four waterways centered on the North Pole which is the “*cardo*.”

Dee is having wordplay fun. (Queen Bess would have loved it.) But Dee is also discussing serious business about what the “*Limites* of the British Empire” are.

What are the actual “Sea Limits” that Dee seems to be talking about? There seem to be 4 of them.

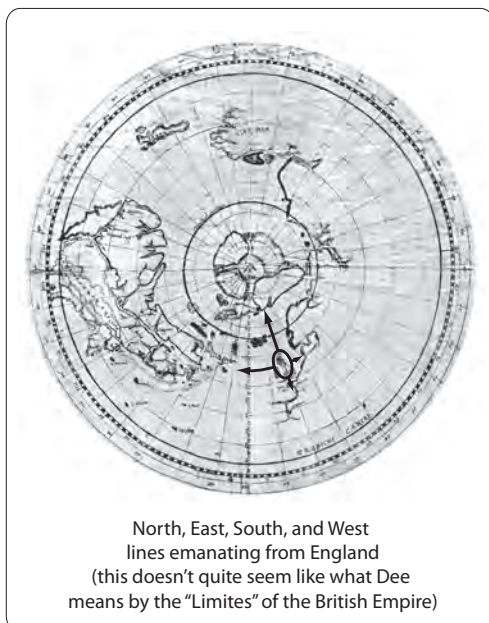
Does Dee want the reader to envision a “*cardo* and *decumanus* intersection” centered over England, where all British expeditions start from? Does he want us to see North, South, East, and West from London?

North: towards the North Pole.

South: to France

East: to Scandinavia

West: to lands across the Atlantic



This hardly seems him to be what Dee is getting at by the word “*Limites*” (of the British Empire, in the sense of “**Sea Limits to a particular destination.**”)

Some of these Limits are vague and others aren’t particularly distant. Remember, Dee has been encouraging the Queen to think globally.

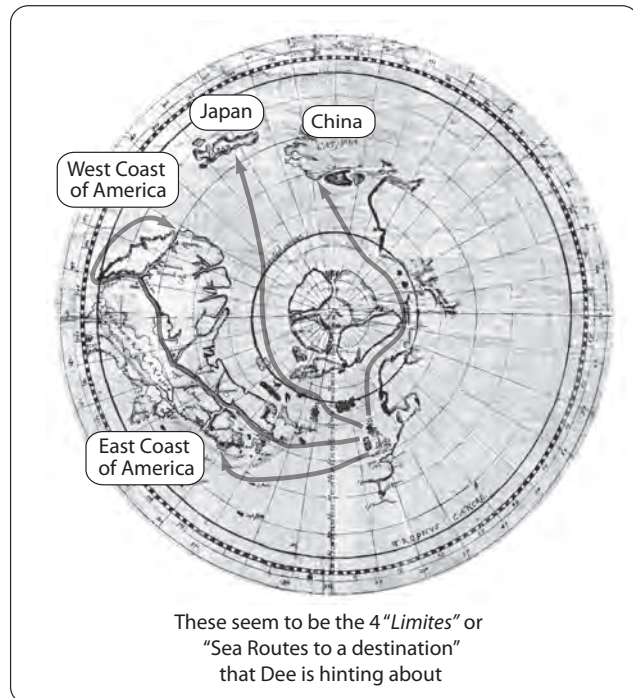
But I think the “Sea Limits” or “Sea Paths to a destination” that Dee seems to be hinting at are much simpler to see.

I see Dee’s whole map as a “children’s maze” with 4 “Sea Limits” or 4 “Main Sea Routes” (like Dee’s “4 poyntes”).

Two of them are really obvious: the **Northeast Passage** and **Northwest Passage**.

As for the third “Sea Limit,” even a kindergartener can see Dee has made a “maze route” along what he envisioned as a **waterway across North America**.

Dee has placed the city of Quivera near the West Coast of North America. This was the important trading center that the Spanish explorer Coronado unsuccessfully sought to find in his 1540-1542 journey north from Mexico.



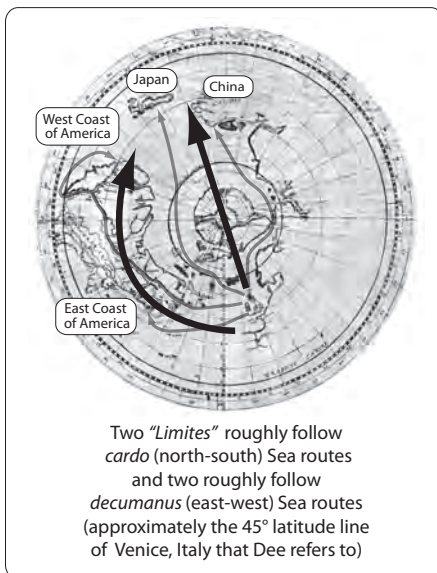
Dee illustrates and labels Claudia on his 1580 map of the Northern Hemisphere

This leaves one obvious place for the fourth Sea Limit: the East Coast of North America. And the one place Dee was most enthusiastic about was Verrazano’s “Refugio,” which Dee renamed the Dee River. On the Title page, Dee implores the Queen “Send forth a sailing expedition...to build a steadfast watch post.” to this site which he has selected.

On his map, Claudia is the **only** island from Newfoundland to Florida that Dee depicts and labels. (That’s about 1800 miles, and tiny Block Island is only about 15 miles tall by 4 miles wide.)

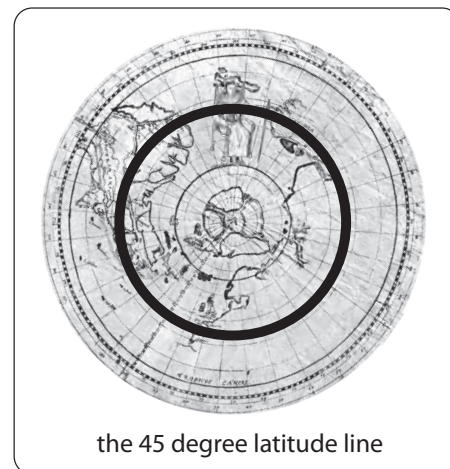
To summarize, Dee’s four “Sea Limits” limits seem to be:

- 1 Northeast Passage (to China)
- 2 Northwest Passage (to Japan)
- 3 West Coast of North America (via an inland waterway to Quivera)
- 4 East Coast of North America (specifically, Claudia and the Dee River)



While these 4 Sea "*Limites*" (or lines with endpoints) don't exactly form a Cross, two are basically north-south, (roughly following longitude lines) and two are basically east-west (roughly following latitude lines).

Both of Dee's east-west "Sea Limits" are quite near the important 45° latitude line that Dee emphasizes goes through Cambalu (Hangzhou), Quinsay (Beijing), and Venice, Italy. This is the band of what I refer to as the "Royal Diamond Ring" in the previously explained riddle.



To conclude, it's probably more appropriate to see Dee's title, "**Limits of the British Empire,**" as "**Sea Paths to special destinations of the new British Empire.**" Dee felt that travel to and from these special places would bring great wealth to the Queen and her island realm."

Visions can become realities

To an ordinary Elizabethan in 1577, Dee's grand vision of British Empire might have seemed wildly outrageous. But it's interesting that the British Empire actually did grow to four similar "Limits":

- 1 The 13 British Colonies on the East Coast of America (at least until 1776)
- 2 All of Canada, (including British Columbia, which is on the West Coast of America)
- 3 Well, not Japan, but New Zealand and Australia
- 4 And not China, but least Hong Kong(from 1842 to 1977), and most of India (from 1856 to 1947)

To summarize this busy chapter:

Historically, the word *Limites* means “in the form of a cross.”

On his map-illustration, Dee lists “4 places” surrounding Queen Elizabeth

He emphasizes “4 poyntes” or 4 rationales for the Queen’s
“Royal Title” to various “Foreign Regions”

Dee seems to be emphasizing 4 “Sea Limits” or
4 “endpoints” at important destinations
in Dee’s vision of the Empire.

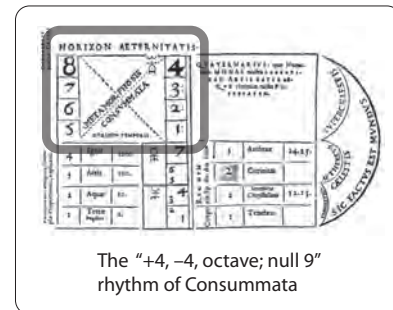
There are 4 works in Dee’s *The Limits of the British Empire*.

And there are 4 works in Dee’s “*General and Rare
Memorials pertaining to the Perfect Art of Navigation*.”

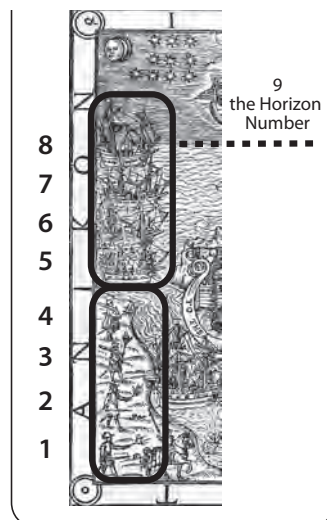
That makes an octave of books.

Dee loved the octave. He saw the octave of the number realm in what he calls CONSUMMATA in the *Monas Hieroglyphica* (or what Buckminster Fuller calls the “+4, –4, octave; null 9” rhythm of number).

Dee expresses this by his octave in his “Thus the World was Created” chart. (In the largest typeface on the chart, he writes 1, 2, 3, 4, then 5, 6, 7, 8, surmounted by 9, the Horizon number.)



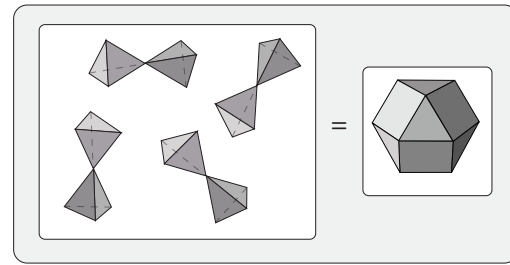
The “+4, –4, octave; null 9”
rhythm of Consummata



This same “+4, –4, octave; null 9” rhythm can be seen in the Title page illustration.

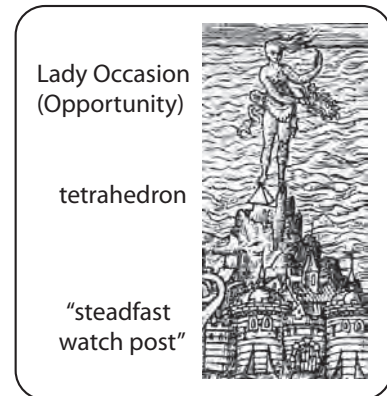
There are 4 “men brandishing fire” (fire is *pyr* in Greek, like a *pyramid*-shaped tetrahedron), which are visually related to the 4 “ships anchored off the coast” and a “null 9” Horizon line.

Dee saw the octave in geometry, in the four pairs of tetrahedra that combine to make a cuboctahedron (or Buckminster Fuller's vector equilibrium.)

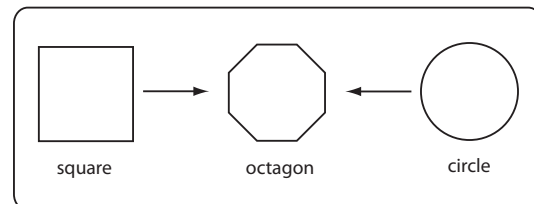


4 pairs of tip-to-tip tetrahedra assemble into a cuboctahedron

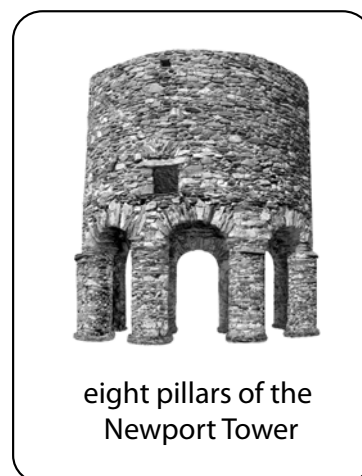
If you think I'm stretching it to suddenly involve a 3-D polygon in this discussion of the geography of the British Empire, look closely below the foot of Lady Occassion (Lady Opportunity) who stands proudly above the "steadfast watch post" on Dee's Title page. She is resting her foot on a tetrahedron, Nature's most basic shape, which connects "4 poyntes."



In 2-D geometry, eightness is best expressed by the octagon. Even the ancients saw the octagonals as a nice "middle ground" between the square and the circle. It is somewhat round, yet also has some characteristics of squareness.



And eightness is particularly evident if you walk around the Newport Tower, which morphs from "eight pillars that form an octagon," into "an upper cylinder that forms a circle."



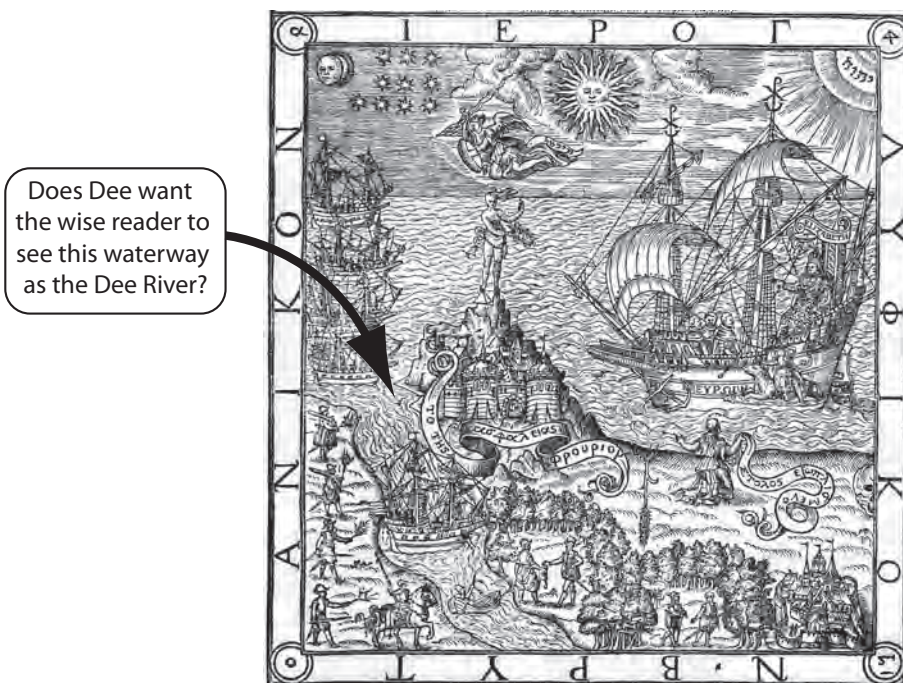
DID THE ENGLISH NAME FOR THE STATE OF “RHODE ISLAND” COME FROM THE MIND OF JOHN DEE?

Let me be more specific about this question:

Did Dee conceal a hidden reference to “Rhode Island” in the Title page illustration of his *General and Rare Memorials pertaining to the Perfect Art of Navigation*?

Was Dee depicting the entrance to the specific waterway that Verrazano called “Refugio,” Dee called the “Dee River” and that is now called “Narragansett Bay, Rhode Island”?

In short, was Dee’s drawing a stylized depiction of the place he is envisioned for the first Elizabethan colony?



On the right side of the drawing, the kneeling woman (representing the citizens of England) is imploring the Queen to “Send forth his sailing expedition...” And on the left-hand side of illustration Dee continues “...to make a steadfast watch post.”

Above that last part of the sentence, Dee depicts a well-fortified structure protecting a mountainous promontory. Just to its left is a flowing river in which one of the ships is moored. This appears to be one of the five ships in what appears to be the “sailing expedition” that Dee is encouraging the Queen to “Send forth.”



Beyond the defensive wall, on the summit of the craggy pinnacles, stands “Lady Occasion” (or Lady Opportunity, or Lady Luck). She is balanced precipitously with her left foot on a sharp peak and the other (strangely) on a tetrahedron.



In a footnote on page 64 of his text, Dee writes “*FRONTE Capillata, post, est Occasio, Calva.*” This translates: “**ON THE FORE-HEAD, Occasion has hair, but on the back part, she is bald.**”

Pag. 64.

** FRONTE
Capillata, post,
est Occasio, Cal-
va.*

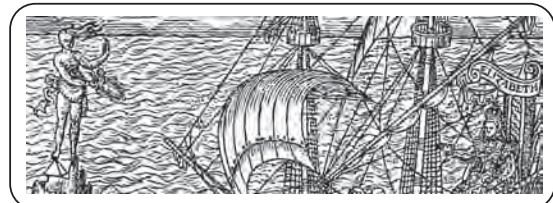
The Brytish

is more Discrete, and willing to Use the * Opportunity, of any exce-
ding great and Publik Benefit procuring to the same, than this Bry-
tish Monarchy, is, or May be: Our hope, then is, That, vpon
the Vniforme, Brotherly, Willing, and Frank Consent, of all States, of
Men and People, of this Incomparable Realme of England: to this God-
ly, Politik, and most Commendable Means: to “preferue Amity and
Peace, with all Foreign Princes: And to Garde this Same Publik in-b Co

The proverb, “Seize opportunity by the forelock” goes back to the Greek and Roman poets like Phaedrus, Ausonius, and Cicero (Lady Occasion is the Greek goddess *Tyche* or the Roman goddess *Fortuna*). In Dee’s era, Marlow and Shakespeare both used the “Lady Occasion’s forelock” metaphor.

In Dee’s drawing, Lady Occasion is partially bald, but has one flowing lock of hair. Dee even depicts her gesturing to her forelock as if she was saying to the Queen, “seize this opportunity and you will win the Crown of Victory.”

Lady Occasion’s other arm offers the Queen a “corolla” (a wreath worn as a crown). And the Queen, on her throne at the stern of the boat, seems to be gesturing back, reaching out towards the corolla.



All Lady Occasion is wearing is an apron secured at the waist by a belt strap that flows in the breeze behind her. **Curiously, the top of her head, the flowing locks, and the tip of her pointing finger, all coincide with the horizon line behind her.**

Hovering above her is the Archangel Michael, armed with sword and shield (Michael's name is written in Hebrew on his trailing robe). In the 72 Names of the Angels, Michael is Angel number 42.

To me, this was a clue that Dee was specifically depicting the Dee River. In the 1583 land grant from Sir Humphrey Gilbert to Sir George Peckham, the Dee River is described as being "about 42 degrees" latitude. And based on the style of writing, it appeared to me that this deed (from the *Elizabethan State Papers*) was written by John Dee.

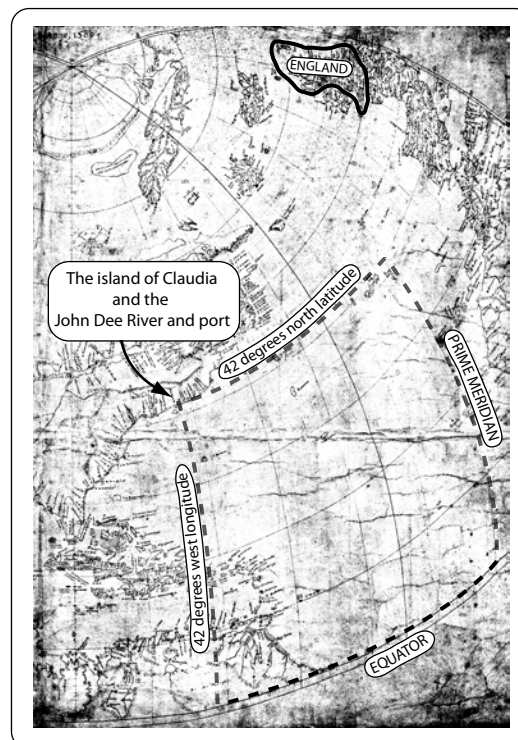
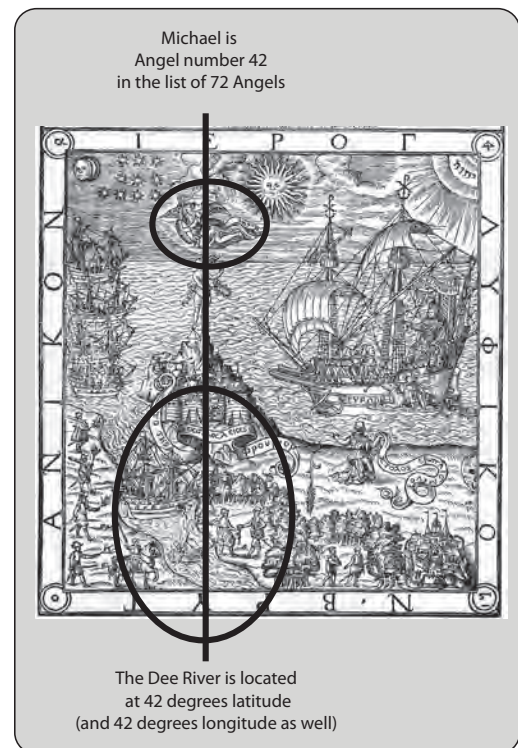
On Dee's 1580 map of North America, the Dee River appears to be at 42 degrees north latitude and also at 42 degrees west longitude (based on Dee's Prime Meridian, which goes through the Eastern Azores).

The "River opening to the Ocean" and the cryptic reference to "42 degrees" are good clues, but still, the "steadfast watch post" doesn't really resemble the Newport Tower. It has several well-fortified towers with crenellations (notches at the top of the wall) and a main doorway. Its sturdy facade contrasts visually with the graceful, feminine Lady Occasion perched above it.

Earlier in my studies, I had deduced that the anchor on Elizabeth's ship and the Chi-Rho anchor symbols atop the masts (and some cryptic letter-play) were Dee's way of concealing a clue about the "Anchor of Hope." This was the symbol and motto for Sir Humphrey Gilbert's expedition, and later became symbol and motto for the state of Rhode Island.

I had a gnawing suspicion that Dee was hiding more clues identifying the Dee River in his illustration. But there was another obvious problem. There was no "triangular island" in the ocean pointing to the entrance of the Dee River.

I think Dee probably considered putting in a triangular island. But he knew it would make the secteet site of the colony way too obvious. When such a juicy opportunity like this arose, Dee preferred to leave clues that were cunningly subtle ...and ingenious.



The island of Claudia and the John Dee River and port
at 42 degrees north latitude
and 42 degrees west longitude
on part of Dee's 1580 map of North America

In the 1583 land grant from Gilbert to Peckham, Dee uses over a half dozen descriptive details about the bay that come right from in Verrazano's report. But curiously, Dee he omits one key part of Verrazano's description: the fact that the bay is 15 leagues north of "the triangular island about the size of Rhodes."

**Agreement between Sir Humphrey
Gilbert and Sir George Peckham
February 28, 1583**

"... all that river or port called by Master John Dee, Dee River,
which River, by the description of Giovanni Verrazzano, a Florentine,

lies in the Northerly latitudes about 42 degrees,
and has its mouth lying open to the South,
half a league broad or thereabout,

and entering within the said Bay between the East and the North
increases its width and continues 12 leagues or thereabouts,

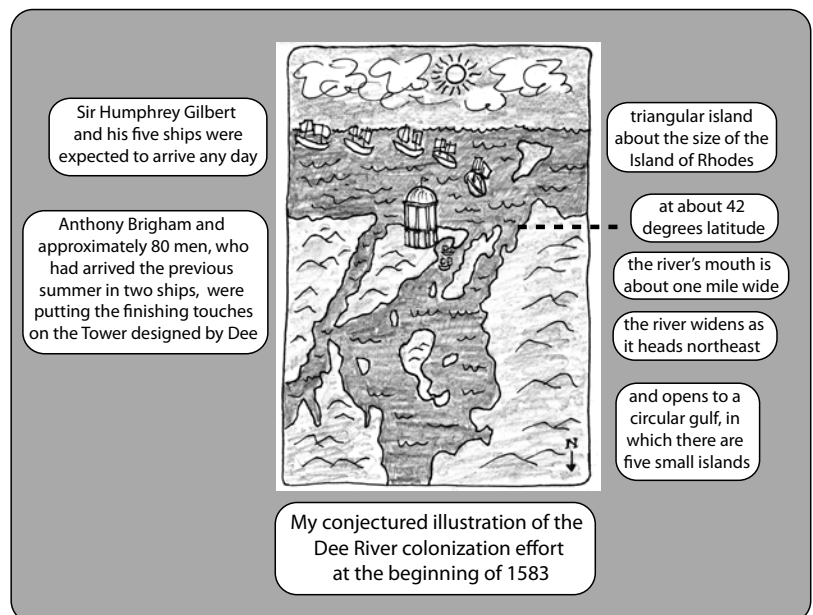
and then makes a gulf of 20 leagues in circumference or thereabouts,
and contains within it 5 small Islands, newly named the Cinque Isles."

In hindsight, we now know that the first Elizabethan colony at the Dee River failed to take root. But in 1577, Dee not only expected it to take fully root, but he anticipated that it would grow by leaps and bounds, eventually seeding colonies up and down the whole coast of the New World.

Dee expected that his Title page illustration would become a famous, iconic British image – not just the curious visual footnote in history it has become. To me, Dee's cover is the visual spark that ignited the British Empire, which, over the next few centuries, grew to be the largest empire the world has ever known.

But still, it wasn't obvious to me how Dee might be expressing "Rhodes."

[On the right is my depiction of what was **supposed** to happen. However, Sir Humphrey Gilbert and his 5 ships never actually made it this close to the Dee River.]



**John Dee:
wordsmith, punster, and riddler**

Remember, to understand Dee's clever visual puzzles, one must think like Dee. He delighted in making clever visual and word puns in his other texts. He coined (or was the first author to use) over 140 words in the English language.

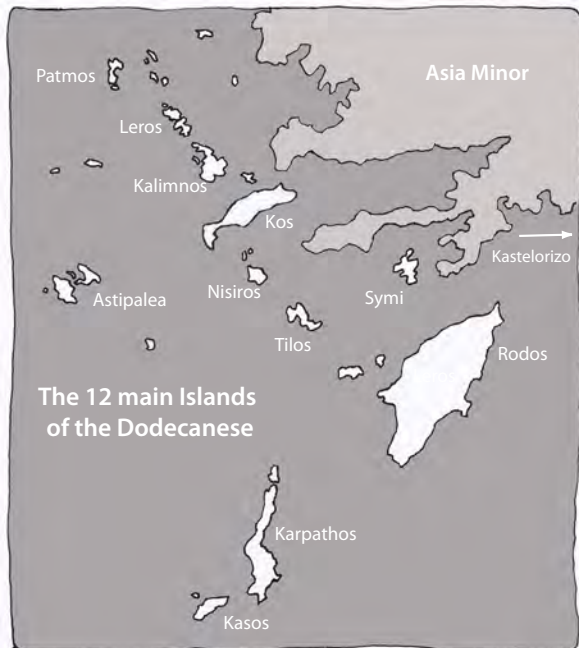
Also, remember that Dee had taught Greek at Trinity College in Cambridge. He was fully versed in ancient Greek culture, mythology, and literature. He refers to his favorite philosopher as "Divine Plato."

Dee also wanted to convey information publicly, but he only wanted only the "worthy" among his countrymen to know what he was expressing. His work was not written for the "vulgar," and especially not the Spanish spies who had infiltrated London. He could do this by using cryptic clues. With this in mind, let's take closer look at several of the clues in his illustration. But first, here's a little background information about the original Isle of Rhodes in the Aegean Sea.

**Rhodes and Patmos,
Two of the twelve islands of the Dodecanese**

I had already learned that Roger Williams wanted to name the island of Aquidneck "Patmos," but it seems as though Benedict Arnold had insisted that it be named "Rode Island" (an early spelling of Rhode Island). And I had already seen that that the Rhode Island state motto and emblem, the Anchor of Hope, seemed to have derived from Dee's *General and Rare Memorials*.

Could it be that the clever Dee himself was the person responsible for shifting the name "Rhode" from a description of Claudia (Block Island), to the name for Aquidneck? And Benedict was simply following Dee's lead?



I wanted to get a first hand understanding of what these Greek islands were all about, geographically and culturally. So, prior to a photo assignment I had in Barcelona, Spain, I took a side trip to Patmos and Rhodes.

The Dodecanese (which literally means "12 islands") is a group of 12 large islands and about 150 smaller islands in the Aegean Sea.

They are clustered together in the eastern Aegean, actually much closer to Asia Minor than to the mainland of Greece.

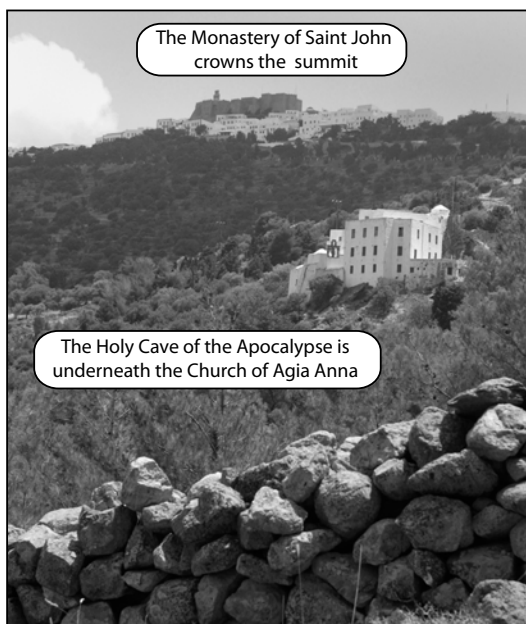
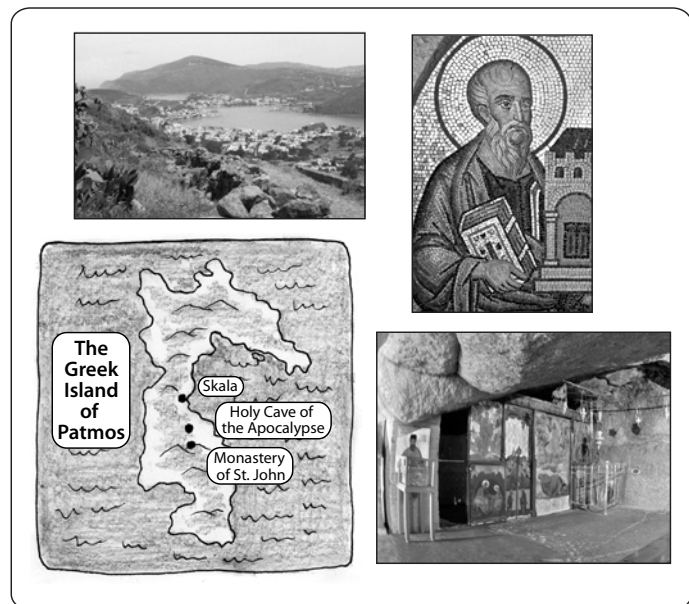
They are favorite destinations for vacationing Europeans, especially rock stars and actors who prefer the less-frequented Greek Islands for getaways.

The charming island of Patmos is the northernmost of the Dodecanese. From north to south it's only about 8 miles long, and from east to west is only about 2 miles wide. In ancient times it was called *Palmosa* because it was once covered by a lush forest of palm trees.

But thousands of Christians make pilgrimages annually to the tiny Patmos, as it is here where St. John wrote *Revelation*, the last book in the New Testament. St. John, had been who had been exiled by the Roman Emperor Domitian to this remote island, wrote to the seven Christian churches in Asia minor about two intense spiritual visions that he had experienced.

The ferry boat dropped me off in the main harbor town of Skala. A husky ex-fisherman cab driver in a tiny taxi took me southwards, up the winding road to the town of Chora, the highest point of the island. The view looking back north towards port of Skala and the bay was enchanting.

I walked through a maze of white narrow lanes to the Monastery of Saint John, built around 1100 to honor Saint John the Evangelist (who lived from around 1 AD to around 100AD).

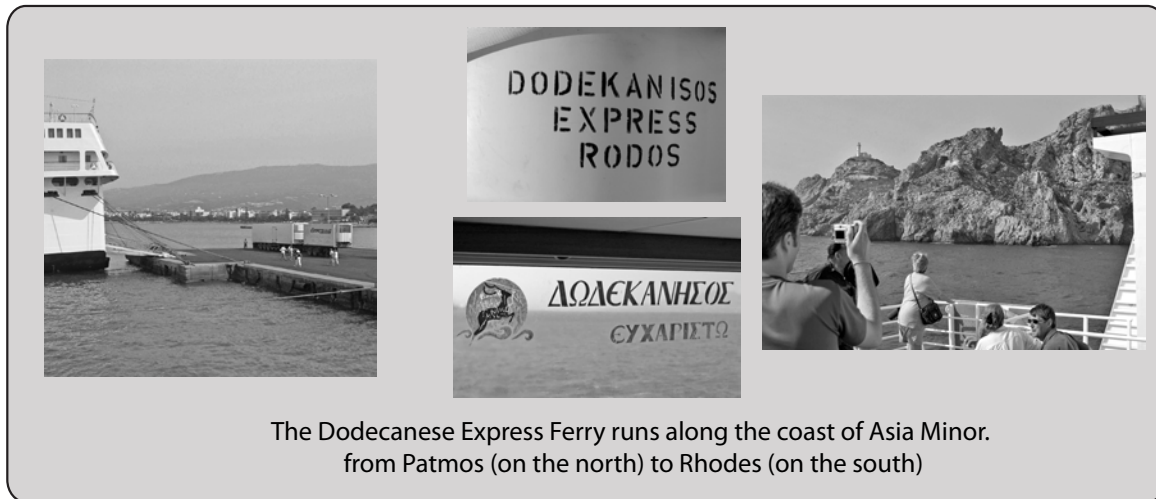


Devout pilgrims venture about a quarter of a mile down the hill towards Skala to the much smaller church of Agia Anna. This white church was built on top of the Holy Cave of the Apocalypse where St. John supposedly wrote the Book of Revelation.

It is said that Saint John heard the voice of God coming through a rock in the ceiling which is divided into three parts, symbolizing the Holy Trinity. The grotto is adorned with religious artifacts. A short bronze fence protects the indentation in the rock wall where Saint John supposedly rested his head. The original cave opening, now converted to a window, has a fine view looking north towards Skala. (I thought about how much Roger Williams would have loved this mystical cave.)

There are folk museums, convents, and pebbly beaches around the island, but the main attraction is still Saint John. Aside from tourism, the chief industry of the island is sponge fishing.

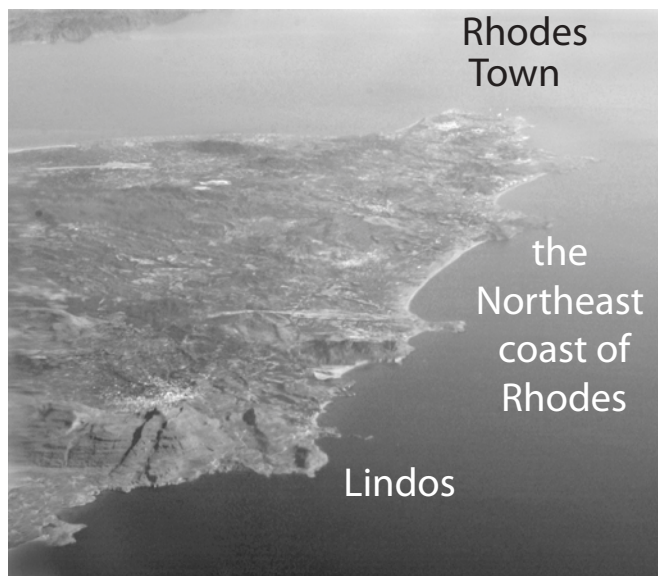
The ferry ride from Patmos to Rhodes follows the Asia Minor coastline, and makes short stops at several of the other *Dodekanisos* (ΔΩΔΕΚΑΝΗΣΟΣ)



*Do you know what the is the Isle of Rhodes
in the Aegean Sea is most famous for?*

(Hint: It's one of seven.)

Asia Minor



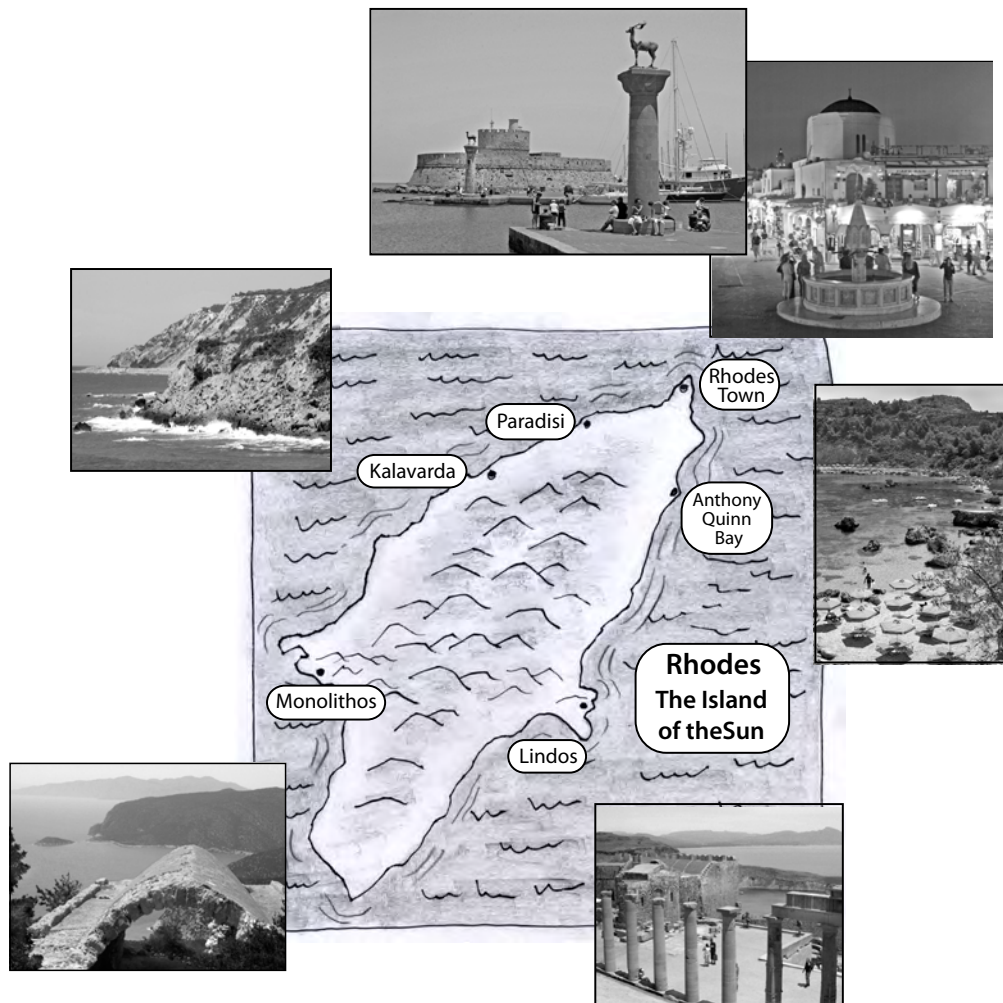
Rhodes is the largest of the Dodecanese, with a population of about 100,000.

About 50,000 people live in and around the capital city, which is also called Rhodes (or Rhodes Town), at the extreme northern tip of the somewhat diamond-shaped island. In Greek, Rhodes or RODOS (ΡΟΔΟΣ) means Rose.

After checking into a small pensione in the medieval Old City, I negotiated with the cab driver to take me on a circuit of the island, which is about 50 miles long and about 25 miles wide (at its widest part).

We went south along the east coast to “Anthony Quinn Bay.” The Rhodians loved Quinn for his starring role in *Zorba the Greek* (even though he was born in Mexico and was a US citizen).

Further south, in Lindos, you can take a donkey ride to the top of an ancient acropolis.



Then we headed west across the island to Monolithos, a castle perched dramatically on a 700-foot tall cliff overlooking a turquoise sea. Heading back north along the coast, we visited shoreline cliffs and white sandy beaches at Kalavarda and Paradisi.

Most of the island is quite rural. All the action is in the bustling main port or the “City of Rhodes, sometimes called “Rhodes Town.” Because of its prominent location in the northeastern Mediterranean, over the centuries Rhodes has been ruled by Greeks, Romans, Muslims, the Knights Hospitaller and the Turks.



The city of Rhodes is at the northernmost tip of the Island of Rhodes

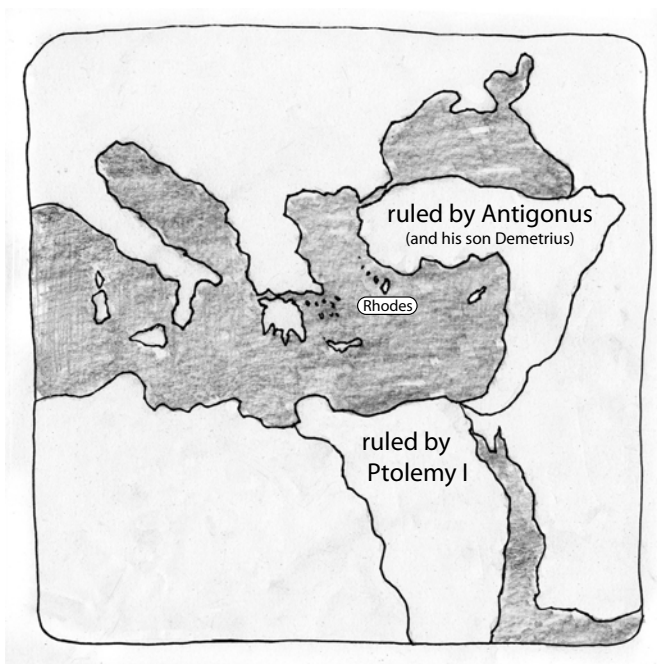
The Greeks have always called Rhodes the “Island of the Sun.” It was dedicated to the sun god Helios, who pulled the sun across the sky during the day with his chariot and at night travelled back to the east in a golden cup.

According to Greek mythology, Helios had fallen in love with a nymph named Rodos and when he shined his bright light on her, she became transformed into an island. Helios gifted the island with perpetual sunshine. (Indeed, it’s sunny over 300 days a year.)

Ancient Rhodes

Now, let’s step back in time, ...to 323 BC.

After conquering most of the ancient world, Alexander the Great died of a sudden illness. He was only 32 and he had failed to appoint a successor. After considerable infighting, four his generals divided up the great empire Alexander had amassed.



Antigonus ruled most of Asia Minor.
Ptolemy I ruled Egypt and most of northeast Africa.

Even though Rhodes was much closer to Asia Minor, the Rhodians formed an alliance with the Ptolemy I. Together they controlled trade in the eastern Mediterranean.

Antigonus was not pleased. In 305 BC, he sent his son, Demetrius Poliochres, armed with 40,000 men, to capture Rhodes. (Poliochres means the “besieger of cities.”)

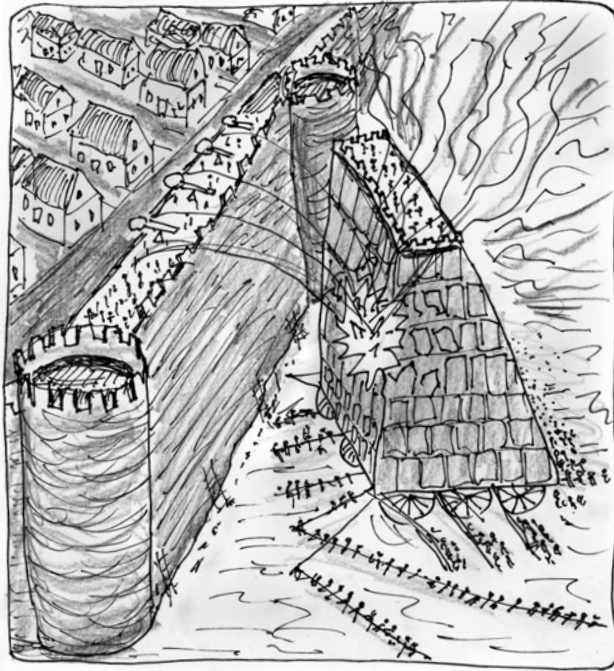
The city of Rhodes was well defended by huge city walls, so Demetrius ordered his men to build a tall, wooden siege tower called a *Helepolis* (which means a “taker of cities”). This massive structure was about 130 feet tall, about 65 feet square at its base, and rolled on eight 12-foot diameter wheels. The front and sides were covered with thick iron plates. Inside there were seven stories connected with two broad sets of stairs, one set for ascending and one for descending.

The defending Rhodians manage to blast a fiery hole in Demetrius' *Herepolis* (or moveable siege wall)

It took 3400 men to move the massive siege tower, which was well-stocked with weapons that could hurl projectiles. As the *Herepolis* approached the defensive wall, the Rhodians let loose with their own catapults.

The Rhodians managed to blast away a large section of the protective iron plates. Then they launched fireballs into the open holes.

Before it became totally engulfed in flames Demetrius immediately ordered his men to back the *Herepolis* away from the wall.



my depiction of
Colossus of Rhodes

Soon Ptolemy's reinforcements arrived to help the besieged Rhodians. Demetrius was forced to high-tail it back to Asia Minor, leaving the *Herepolis* and many armaments behind.

The Rhodians sold the siege equipment and used the profits to erect a giant statue of the sun god *Helios*. The renowned local sculptor, Chares of Lindos, was commissioned for the project.

His monumental work became known as the **Colossus of Rhodes**, one of the Seven Wonders of the Ancient World.

Although the exact method of construction is still unknown, it is thought that the Colossus was made from a framework of iron bars with bronze plates individually formed to fit the contour of the skin. To make it solid, the interior was filled with stone blocks. It took a year just to build about 8 feet of height. Huge dirt ramps were built to facilitate the transport of materials for the chest, arms, and head.



A scaled-down replica at the entrance to the Colossus Restaurant (in a suburb of Rhodes Town)

Ancient accounts indicate that the Colossus was naked, with one arm shading his eyes from the sun and the other holding a Greek robe. Some modern scholars suggest the robe draped all the way to the ground behind the sculpture to provide a triangular support.

It's also thought that the statue of Helios wore a "*corona radiata*" or a "radiant crown." Lucian describes such a crown as a "chaplet studded with sunbeams." (A chaplet is a wreath for the head.)

Some sources claimed the Colossus straddled the entrance to the harbor, but modern engineers claim this would be structurally impossible (never mind it being an unflattering pose for a god). It probably stood right next to the harbor, or atop a nearby hill overlooking the harbor.



Artist's conception of the Colossus of Rhodes (done around 1700, by Fischer von Erlach)

The Colossus was the pride of Rhodes. But a mere 56 years later, things weren't so rosy on Rhodes. The great earthquake of 226 BC shook the eastern Mediterranean. The giant sculpture rocked back and forth. It's head and arms probably broke off first and then it snapped at the waist or knees and tumbled to the ground.

The superstitious Rhodians felt they had somehow offended the god Helios, so they decided not to rebuild the statue.

The historian Strabo writes that the remains of the Colossus could be seen for the next 800 years. Pliny the Elder reports that the thumb on the fallen hand was so large, few men had arms long enough to go around it. Each finger was taller than a regular statue. Finally, in 654 AD, all the remaining metal was sold to a Syrian merchant for recycling.

When the Knights Hospitaller moved to Rhodes in the 1300's and 1400's, they built even taller city walls, moats, and eleven gates to the city. Flanked with distinctive tall towers, the gates of Rhodes were renowned throughout Europe. (They bear a striking resemblance to the gates on the "watch post" Dee illustrates on the Title page.)



The Gate of Eleftherias built by the Knights Hospitaller



Medieval Town of Rhodes World Heritage Site



cannonballs and catapult balls by the sturdy city wall



The Gate of Milon built by the Knights Hospitaller

A modern-day Mrs. Colossus

Now let's flash forward to the year 1886.

The people of France wanted to show their friendship to the United States by giving them a monument celebrating 100 years of freedom (from 1776 to 1886). Officially titled *Liberty Enlightening the World*, it has become known as the ***Statue of Liberty***.

This American icon is a depiction of the Roman goddess *Libertas*, who represents liberty and freedom. She is wearing a long stola (a long, pleated Roman dress). Around her head is a *corona radiata*, with its spikes of sunbeams. Beneath her sandals is a broken chain. Her raised right arm holds a torch and cradled in her left arm is a tablet inscribed July 4, 1776 (in Roman numerals.)

Standing proudly on Liberty Island in New York Harbor, she has welcomed millions of immigrants, visitors, as well as Americans returning to their homeland.

The inner framework of the tower is steel. The outer sheeting is copper, which has aged to a verdigris (bluish-green) patina.

The French sculptor Frederic Auguste Bartholdi clearly had the Colossus of Rhodes in mind when he designed the Statue of Liberty. They're both about the same size, approximately 110 feet from head to toe. But Bartholdi of Paris beat Chares of Lindos in the height competition by adding the upwards-reaching right arm holding the torch. Gustav Eiffel (who later designed the Eiffel Tower) engineered the skeletal framework.



my depiction of the
Statue of Liberty,
by Frederic Auguste
Bartholdi, in 1886

"The New Colossus" by Emma Lazarus

Not like the brazen giant of Greek fame,
With conquering limbs astride from land to land;
Here at our sea-washed, sunset gates shall stand
A mighty woman with a torch, whose flame
Is the imprisoned lightning, and her name
Mother of Exiles. From her beacon-hand
Glowes worldwide welcome; her mild eyes command
The air-bridged harbor that twin cities frame.
"Keep ancient lands, your storied pomp!" cries she
With silent lips. "Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tost to me,
I lift my lamp beside the golden door!"

In the entryway of the pedestal is
a bronze plaque with a sonnet entitled,
The New Colossus by Emma Lazarus, a
local poet from New York City.

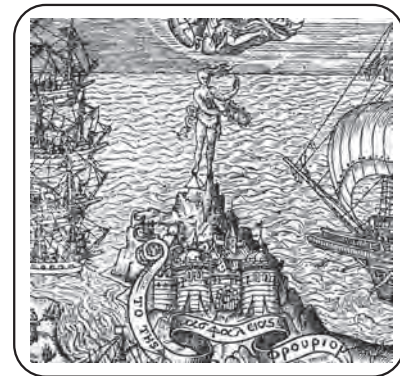
The first two lines make refer-
ence to the Colossus of Rhodes.

We've finished a brief trip to the island of Rhodes, heard the story behind the Colossus and its modern reflection, the Statue of Liberty, let's take a fresh look at Dee's Title page.

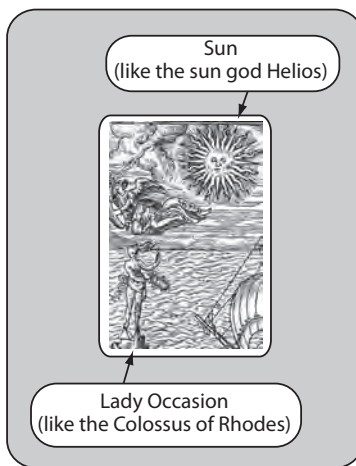
Near the center of all the activity in his busy illustration is Lady Occasion. Because she is a mythological figure, so feminine, so involved with her gesturing, so precariously positioned at the mountains apex, so dramatically silhouetted against the wavy sea, she seems ethereal, like a dream image.

But looking at her in another way, she is actually a giant statue. She is as tall as the solid walls of the "watch post" or as tall as the mast of the ships.

Then it struck me.



Lady Occasion is quite tall compared to the ships or the sturdy city walls

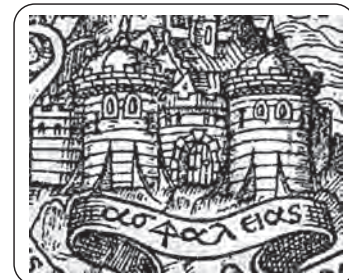


Lady Occasion is Dee's "Colossus of Rhodes" disguised in the female form!

It might seem odd to switch genders like this, but remember, Dee needed to be cryptic. And after all, in 1880, Bartholdi made a similar "gender switch" when he designed Mrs. Colossus (the Statue of Liberty).

The Colossus of Rhodes is a depiction of the Greek sun god Helios. And look what Dee has drawn above and to the right of Lady Occasion: the radiant Sun, anthropomorphized with a confident countenance!

Just as the Colossus once stood overlooking the harbor of Rhodes, Dee's Lady Occasion-Colossus stands overlooking the entrance to the Dee River. At her feet are the city walls that protected the Rhodians from Demetrius' siege tower on wheels. And just underneath the wall, Dee has cleverly positioned the word *ασφαλειας*, or *asphaleias*. And the city walls were indeed "steadfast."



my depiction
of John Dee's
Lady Occasion

(Other minor clues: Like the Colossus, Lady Occasion is naked, except for a small robe. Although Lady Occasion is not wearing a "corona radiata" on her head, she is holding a "chaplet" or "corona" in her right hand.)

By the way, these clues are typical of Dee's style of cryptography. He loves to put clues right in front of your eyes, yet they still can't be seen (without a little creative contemplation).

A RODE word-clue?

If Dee really was using the visual metaphors of “Lady Occasion represents the Colossus of Rhodes” and “steadfast watch post represents the strong walls of Rhodes,” it seemed likely to me that he would toss in a word-clue or letter-clue as well. Besides being a visual punster, Dee was a master wordsmith.

What spelling of “Rhodes” should we look for?

In 1524, Giovanni Verrazano spells it **“la insula di Rhodo.”**

In 1582, Richard Hakluyt spells it **“the Island of Rodes.”**

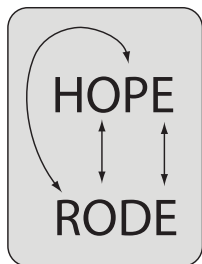
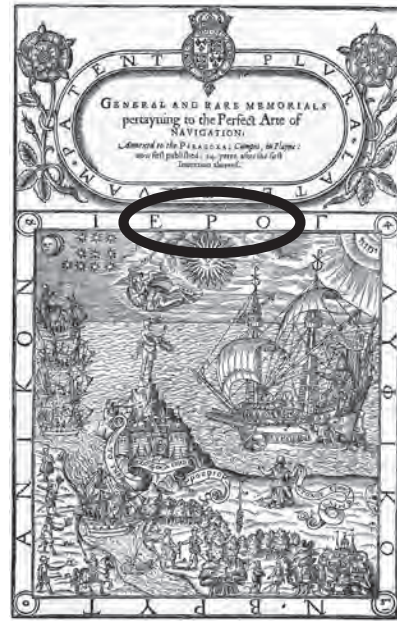
In 1637, Roger Williams spells it **“Rode Island.”**

If Dee was hiding the word RODE he might have written it in Greek, which would be: $\text{PO}\Delta\text{E}$.

(In Greek, the capital letter “P” (pronounced Rho) resembles the Latin letter P. And of course, the Greek capital letter Delta is a triangle, Δ).

And look! Centered symmetrically above the Sun (Helios) are three of those Greek letters, E, P, and O (or E, R, an O in English) as part of the spelling of the words IEROGLYPHIKON BRYTANIKON (or a BRITISH HIEROGLYPHIC).

I had already deduced that Dee used those letters IEPOΓ (or IEROG in Latin) to cryptically conceal the word HOPE. But Dee wasn’t afraid to get double-duty work out of a clue.



Dee made use of the fact that the word HOPE and the word RODE share three letters, the O, the E, and the “P and R” (if you consider that the Greek P, or Rho, is pronounced like the English R).

One way that I had previously found the word HOPE was to combine the “I” and the “Γ” (Gamma) to make the shape of an “H.” I thought Dee might also have been suggesting that the “I” and the “Γ” might also be combined to make a triangle Δ (Delta). But the ace geometer Dee knew that an equilateral triangle has three internal triangles of 60° each. And the Γ (Gamma) is really two lines at a 90° angle.

Where else might Dee be hiding the missing triangle?

I didn't have to look far.

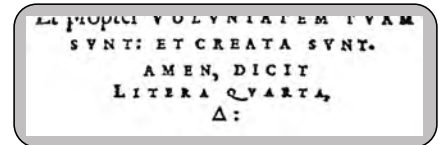
Lady Opportunity was standing on a tetrahedron, the most basic of 3-dimensional shapes. It is comprised of 4 equilateral triangles.

Any one of these four triangular sides might be the missing Δ needed to spell the word PO Δ E (RODE).

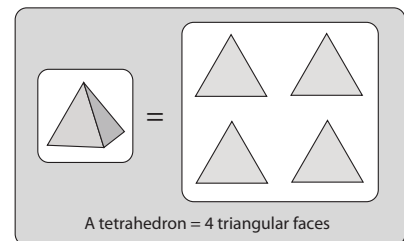
Furthermore, any of the triangle's other sides might be expressing the idea of the "triangular island" (which is the "size of Rhodes").

And further furthermore, any of the "triangular faces of the tetrahedron might be seen as Dee's personal symbol, the triangle. Dee uses the triangle as his personal symbol hundreds of times in his public and private writings. He seems to use it more frequently than he does his own initials, J. D.

(Could Dee be hiding a fourth "visual riddle" or "word clue" involving a triangle in order to make a "a "multifaceted clue" or a "tetrahedron of clues"? Is this why he Dee had Lady Occasion standing on a tetrahedron rather than simply a triangle?)



"AMEN, SAYS THE FOURTH LETTER"
(this is the last line of the
last Theorem of Dee's
Monas Hieroglyphica)



Dee's preliminary drawing
for the Title page of *General and Rare Memorials*

Incidentally, in his original sketch for the Title page Dee places the letters "IEPO" along the upper border of the illustration.

In the Title page artwork of the final book as it was printed, he changed it to "IEPOΓ."

He obviously put a great deal of thought about the most effective way to present his clues.

Dee hides a clue in his page numbering system

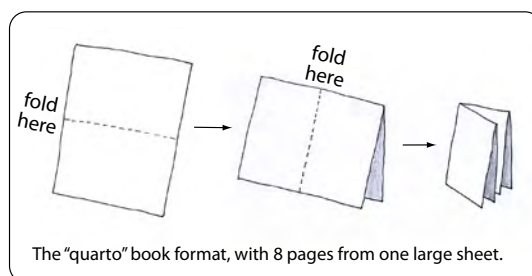
Dee leaves a cryptic clue about the triangle in the “numbering system” of the pages of *General and Rare Memorials*, which was printed and folded as a group of “quartos.”

In the “quarto” book format, 8 pages of text are printed on one large sheet, which is folded twice to make 4 leaves. The “front” of each leaf is a right-hand page, which is called a *recto* page.

The “back side” of each leaf is called a “*verso*” page. Thus, *verso* pages are always left-hand pages).

In most Elizabethan texts, *recto* pages have numbers and *verso* pages are left unnumbered.

The main section of text of Dee’s work is numbered in a commonly employed English manner: Simply using Alphabet letters followed by “i’s” (except for the final “i” which is replaced by a “j”).



page numbering system
in Dee’s main text

A.i.	B.i.	C.i.	D.i.	E.i.	F.i.	G.i.	H.i.	I.i.	K.i.
A.ij.	B.ij.	C.ij.	D.ij.	E.ij.	F.ij.	G.ij.	H.ij.	I.ij.	K.ij.
A.iiij.	B.iiij.	C.iiij.	D.iiij.	E.iiij.	F.iiij.	G.iiij.	H.iiij.	I.iiij.	K.iiij.

Preceding that main text, Dee has written a section entitled, *A necessary Advertisement* [or notice] by an unknown friend.

However, instead of using the alphabet letters, he uses the symbols Δ , s, and s*.

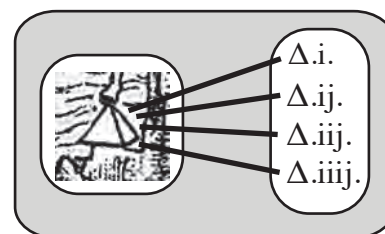
(That is: a Delta, a small Latin letter “s,” and “s with an asterisk.”)

page numbering system
in Dee’s “Advertisement,”
preceding his main text

implied page number Δ .i.	page number omitted	S.i.	S.*.i.	implied page number S.*.iiij.
	Δ .ij.	S.ij.	S.*.ij.	
	Δ .iiij.	S.iiij.	S.*.iiij.	
	Δ .iiij.	S.iiij.	page number omitted	

On the very first page of his *Advertisement* Dee has written what he calls a *Brief Note Scholastical*. This one leaf (comprised one recto and its verso) is not numbered, but it’s pretty obvious that its number would be “ Δ .i.”

Thus, the page-numbering of the first “quarto” of his book starts out with **4 triangles. That’s enough to make a tetrahedron!**



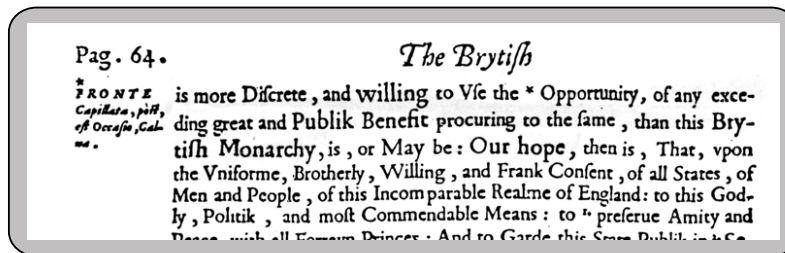
This seems to be a hidden reference to the tetrahedron under Lady Occasion’s foot, but instead of it being a full 3-D shape, it’s broken into its constituent sides, four triangles. This reinforces the idea that there is **another** clue involving a triangle (besides Dee’s name Δ , the triangular island Δ , and the missing Δ needed to spell PO Δ E or RODE).

Have you figured out what it is?

The fourth triangle seems to be used to spell “POΔE” (RODE) in yet another riddle involving Lady Occasion.

Recall that in a footnote of the text, Dee writes
“FRONTE Capillata, post, est Occasio, Calva.”

Which translates:
 “ON THE FOREHEAD, Occasion has hair,
 but on the back part, she is bald.”



Notice that Dee has only capitalized one word in this Latin sentence: “FRONTE.” Among the letters of this word we can find R, O, and E. Simply borrow one of those triangles (Δ) from the tetrahedron and the word ROΔE (RODE) can be made.

Thus, the four-sided tetrahedron is the clue to four separate riddles!!!!

Dee was a consummate riddler. If you’re on the right track, you’ll find that Dee is considerate enough to leave a confirming clue.

Notice that Lady Occasion is pointing towards her forelock. But she is not grasping it. It appears to be blowing in the wind **towards the right side** of the illustration.

Now look at the sails of the Queen’s ship. They are filled with wind, which seems to be blowing **towards the left side** of the illustration. This smells like a “Dee clue” involving Lady Occasion’s long hair.



Also, notice that Lady Occasion’s arm, which is pointing to her flowing hair, appears “rounded” instead of having a 90-degree angle at her elbow.

Her arm and the hair seem to be forming a letter “D,” which has been rotated so it’s resting on its rounded side. Indeed, Dee has even positioned the straight-horizon-line to coincide with Lady Occasion’s hair. Lady Occasion is acting out the letter “D” the way the Village People acted out the letters “YMCA.”



Was Dee really thinking all this?
 To confirm that indeed he was, he left another clue.
 It has to do with what Lady Occasion is standing on.



The Colossus was on a solid base.



The Statue of Liberty is on a solid base.



Why does Dee draw Lady Occasion so precariously balanced on a tetrahedron and a peak?

If Dee wanted Lady Occasion to seem like the Colossus, why didn't he put her on a solid base?

Chares put his Colossus of Rhodes on a 60-foot wide marble base.

Bartholdi put the Statue of Liberty on a foundation about 150 feet tall.

Then why does Dee draw Lady Occasion so precariously balanced on the sharp tip of a tetrahedron and the pointy pinnacle of a mountain?

The reason is: it's another riddle.

And it's a riddle that Dee's buddies in this Elizabethan exploration business would have gotten right away.

Here's a little background information:

In the 1560's, a group of London merchants called the Muscovy Company (Muscovy refers to Moscow) made several successful trading missions to Russia. They had no interest in heading "Northwest" when "Northeast" had become so profitable.

The independent Martin Frobisher had set his sights on finding the Northwest Passage, so he made an appeal directly to the Queen. At the Queen's request the powerful Muscovy Company acquiesced to Frobisher's expedition. On one condition. The Muscovy Company was to share in any profits, and to make sure everything was on the up and up, the Muscovy representative, Michael Lok, was to be the treasurer for the mission. Frobisher called venture the "Company of Cathay" and raised what would now amount to over a million dollars.

The Muscovy Company wanted to be assured of a successful mission, so who do they hire to "examine and instruct" the leaders of the expedition on "rules of Geometry and Cosmography"?

John Dee. In May of 1576, Dee brought his maps, charts, and instruments to Muscovy House and met with Michael Lok, Steven Borough, Sir Lionell Duckett, Martin Frobisher, and Christopher Hall (who had at earlier been one of Dee's students).

After Dee's intensive a 2-week cram course on mathematics and navigation, the mission set sail.

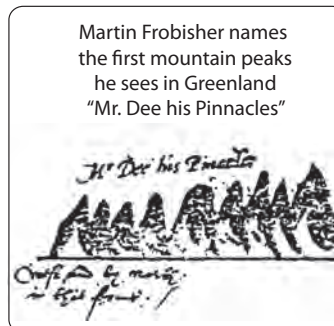
(Woolley, *The Queen's Conjurer*, p. 103)



Off the coast of Scotland, one of the ships started taking on water, so they went ashore for repair work. Christopher Hall had used Dee's navigational methods to calculate their latitude. Frobisher sent a letter with the accurate latitude measurement to "the worshipful and our approved good friend M. Dee," in which he writes, "we do remember you, and hold ourselves bound to you as your poor disciples." Clearly they respected Dee.

Underway again, they headed northwest and eventually came to the island that is now called Greenland.

As they approached the coast, they saw a group of huge snow-covered peaks, which Frobisher named, "Mr. Dee his Pinnacles." Frobisher even drew a sketch of the tall, pointed peaks.



Frobisher's 1576 mission went on to collect mineral samples from the shores of what was later named the Davis Strait. Upon their return, one black rock they collected seemed to have assayable quantities of gold in it.

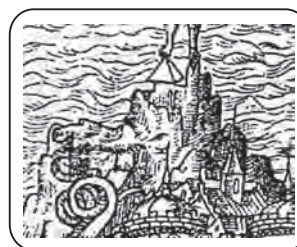
This sparked another mission in 1577, and another in 1578. These missions returned with boatloads of rocks. Unfortunately the rocks didn't contain any gold or valuable minerals. They were worthless and the Company of Cathay went bankrupt.

However, during 1577, when Dee was working on *General and Rare Memorials*, London was abuzz with the great news about Frobisher's first voyage. Frobisher had named other geographical features after other dignitaries, but Dee was undoubtedly quite flattered to have the first-landmark-sighted named in his honor.

Let's review what Lady Occasion is standing on: One foot is on the tetrahedron, (which is four "Δ's" or four "D's") and the other foot is on a pinnacle, which is surrounded by other pinnacles.

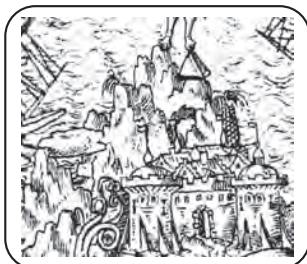
Combine these two clues of this rebus and it expresses the phrase, "**Dee's pinnacles.**"

Four "D's" ("or Δ's") + pinnacles =
"D's" pinnacles =
Dee's pinnacles



(in the final, printed
Title page illustration)

Four "D's" ("or Δ's") + pinnacles =
"D's" pinnacles =
Dee's pinnacles



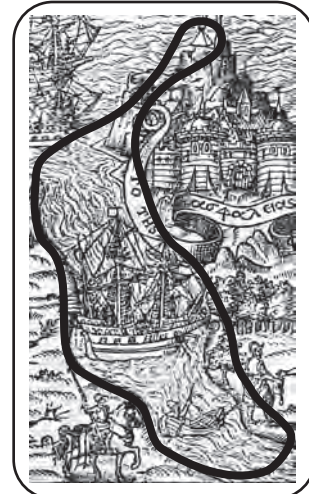
(in Dee's preliminary sketch
for the Title page illustration)

The pinnacles are actually more evident in Dee's preliminary sketch for the Title page. Notice that Dee switched the tetrahedron from under her left foot to under her right foot so it would "read" more clearly as "**D's pinnacles,**" instead of "**pinnacles D's.**"

(I don't think Dee suggesting that Lady Occasion is standing in Greenland. But remember that Greenland is part of the "New World," which is the main subject of Dee's proposal to the Queen.)

In short, Dee's rebus,
 "Δ's + pinnacles" or "Dee's Pinnacles"
 relates to the riddle that the tetrahedron
 is an assemblage of four D's (Δ's)
 or 4 separate clues:

1 The "Dee River"
 (near the triangular island Δ)



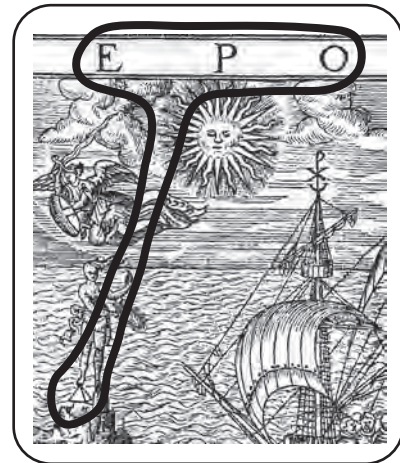
The Dee (Δ) River



Δ is Dee's
 personal symbol

2 Dee's personal symbol
 (the triangle Δ)

3 The Delta (Δ) plus the letters EPO (or ERO)
 from ΙΕΡΟΓΛΥΦΙΚΟΝ (or HIERIGLYPHIKON)
 can spell the word ΡΟΔΕ (RODE).



ΡΟΔΕ or RODE
 (Rode Island)



ΡΟΔΕ
 RODE

4 The Delta (Δ), plus the letters EPO (ERO)
 from FRONTE (FOREHEAD),
 can spell the word ΡΟΔΕ (RODE).

Another clue involving the idea that “RODE is Greek for ROSE”

Dee seems to be providing another “RODE” clue for us in the upper section of his Title page. On each side of the lozenge-shape of the title is a “Tudor rose,” the renowned symbol of all the Tudor kings and queens.

But in light of Dee’s other clues, it seems as though he chose include these large “Tudor roses” to make another cryptic reference to the “Isle of Roses”

When the Tudor Rose is used as a symbol of the Tudor reign, it is usually only a single five-sided flower that is portrayed. Here, Dee has added a stem with thorns, and branches with buds and leaves. And he depicts two roses. This suggests that Dee is implying more than just “Tudor Reign.”

I think he’s using them to cryptically express the two “Isle of Rhodes,” the ancient one in the Aegean and the soon-to-be colony on the Dee River in America.

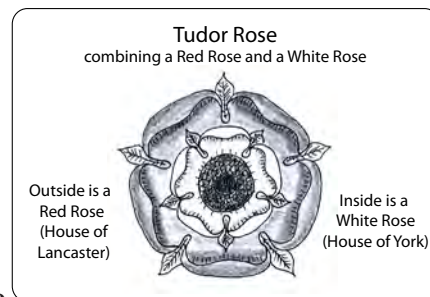


A very brief history of the Tudor Rose

The Wars of the Roses were a series of battles between two rival branches of the House of Plantagenet. England’s thirty-year internal conflict ended in 1485 when Henry Tudor defeated King Richard III of York at the Battle of Bosworth Field (about 100 miles northwest of London.) Richard was killed and Henry became the last English King to win the throne in a battle.

Henry Tudor, crowned as Henry VII, was from the **House of Lancaster**, whose badge was a **Red Rose**. To bring the two factions together, Henry married Elizabeth from the **House of York**, whose badge was the **White Rose**.

To symbolize the reunification of England, Henry combined both badges into a Tudor Rose, sometimes called a Union Rose. This “double rose” has five **red** petals on the outside and five **white** petals on the inside.



The rose is also an important symbol in alchemy. A white rose symbolizes the “albedo or pure white stage” and the red rose symbolizes the “rubedo or final, red stone which has the power to transmute all base metal into pure gold and earthly man into the illuminated philosopher.” Dee has placed (what appear to be) roses on the urns on the Title page of the *Monas Hieroglyphica*.

(Lindy Abraham, *A Dictionary of Alchemical Imagery*, Cambridge U., 1998, p.173)

Interestingly, Roger Williams makes a “Rhode-Rose” reference in a letter dated January 1, 1666, addressed, “To the Town of Warwick”:

**“Rode Island (in the Greeke language) is an Isle of Roses,
and so the Kings Matie [Majesty] was pleased to resent [represent] it.”**

Roger Williams is referring to the Royal Charter of 1663, granted 3 years earlier by King Charles II. Regardless of whether or not Roger Williams is making a cryptic reference to Tudor roses or alchemical roses, it’s clear he knew that “Rode” meant “Rose.”

(Quote from LaFantasie, Glenn W., *The Correspondence of Roger Williams*, Brown U. Press, 1988, Vol. 2, p. 538)

Three levels of meaning for Dee's Lady Occasion

On one level, Lady Occasion means “opportunity,” and the sturdy, city walls at her feet represent the “steadfast watch post” that Dee is encouraging Elizabeth to establish in the New World.

On a second level of meaning, Lady Occasion is the Colossus of RHODES and the sturdy city walls are the defensive walls of RHODES.

On a third level of meaning, Lady Occasion and the “sturdy city walls” represent the grand architectural-sculpture Dee designed for the first Elizabethan colony at the Dee River: what I call the “John Dee Tower of 1583.”

Like the “sturdy city walls,” the Tower is solidly built from stone and mortar.

And just as Lady Occasion was the focal point of Dee's illustration, the Tower was meant to be the focal point of the new colony.

There is a reason why the Colossus of Rhodes, the Statue of Liberty, the John Dee Tower, and even Lady Occasion are located at important ports that border on the sea.

They are all symbolic “greeters.”

3 levels of meaning for Dee's “Lady Occasion”



1 Lady OPPORTUNITY



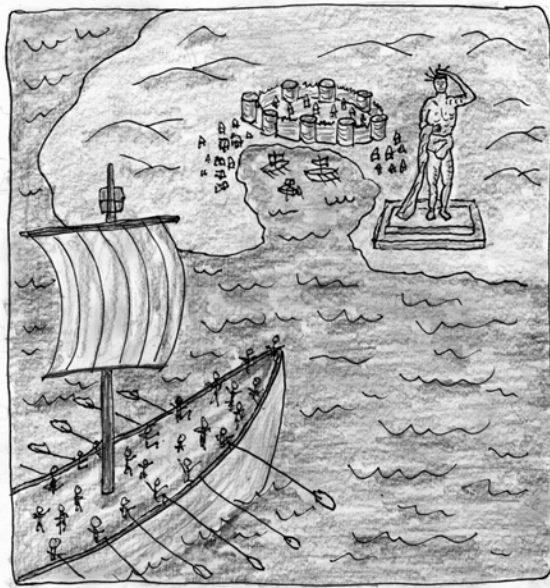
2 Colossus of RHODES



3 The MONUMENTAL
SCULPTURE
Dee designed
for the first
Elizabethan colony
at the Dee River

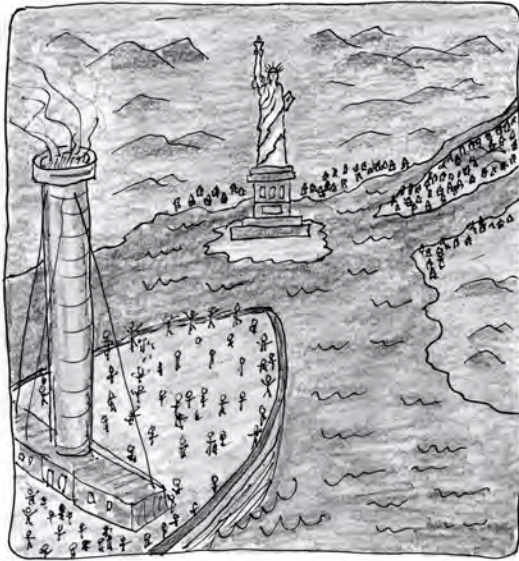


My stylized depictions of these 4 symbolic “greeters”



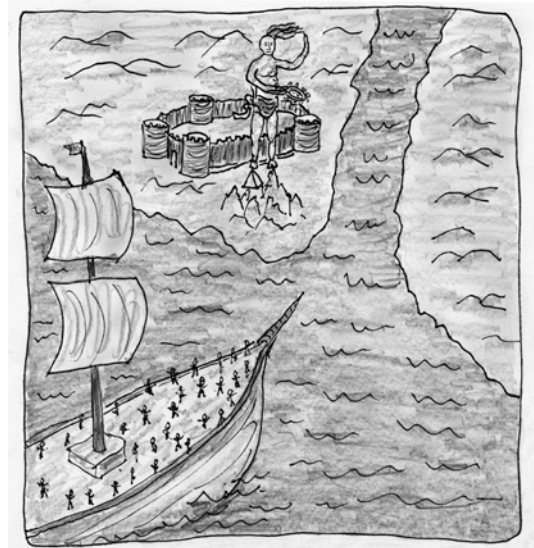
The Colossus of Rhodes greets merchant ships entering Rhodes Harbor around 300 BC.

In 300 BC, when sailors approached the harbor of Rhodes, Greece, they were greeted by the 110-foot tall colossal bronze statue of Helios.



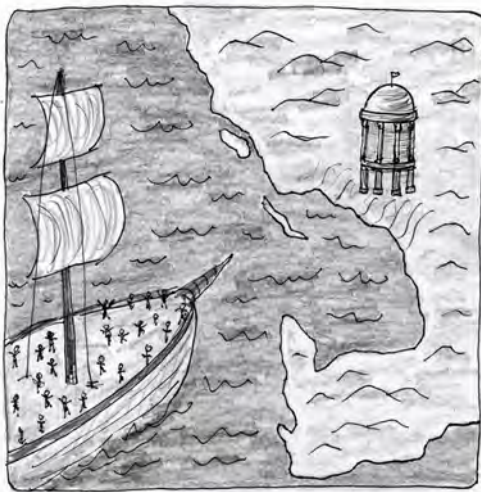
The Statue of Liberty greets immigrants and visitors entering New York Harbor (from 1886 to today)

When immigrants coming to America entered New York Harbor in the early 1900's, they were greeted by the 110-foot tall proud statue of freedom and liberty.



My stylized interpretation of the Title page of Dee's 1578 *General and Rare Memorials*: Lady Occasion greets one of the five ships destined for the Dee River.

As in Dee's illustration, when the sailing expedition of the "five ships" approach the Dee River, they are greeted by a tall statue of Lady Occasion.



What I call the John Dee Tower of 1583 was built not only to welcome Sir Humphrey Gilbert's expedition, but to also greet the thousands of Elizabethan colonists who were expected to follow.

If the Elizabethan colony had taken root, the thousands of anticipated new settlers would have been greeted by the harmoniously-proportioned, 48-foot tall, Vitruvian circular temple designed by John Dee.

The Tower would have been a source of inspiration and pride as the colony grew from small village, to major city, to (potentially) capital of the Virginia (the English name for the whole east coast of America.)

(Indeed, in the 1700's Newport actually became one of the five largest ports on the East Coast, along with Boston, New York, Philadelphia, and Charleston, South Carolina.)

Furthermore, it seems as though Dee intended the Tower to represent freedom and liberty of conscience, a rare commodity in Europe at the time.

Is there a “Dee triangle” (Δ) built into Dee’s stone-and-mortar Tower?

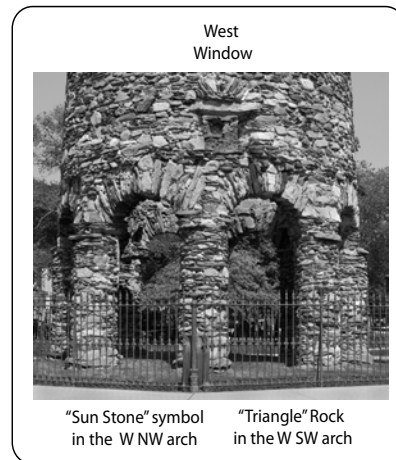
Dee used his personal symbol, (Δ), in all of his written works.

Dee drew the island of Claudia as a triangle, (Δ), in his maps of North America. Dee makes a “four-way” riddle, $\Delta\Delta\Delta\Delta$, by putting a tetrahedron on his Title page.

Is it too much to expect that Dee might have instructed the builders of the Tower to put a triangle, (Δ), in the Tower overlooking the mouth of the Dee (Δ) River?

The thousands of rocks used to construct the stone-and-mortar tower are primarily gray slate and tan granite fieldstones, both of which can be found locally.

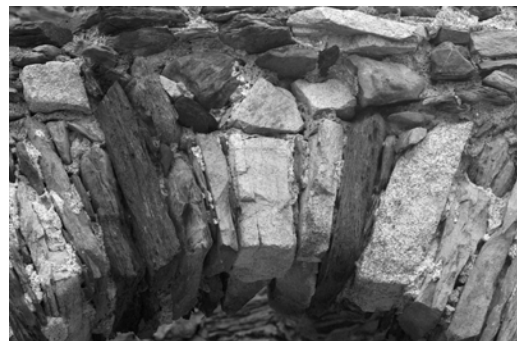
The stones are all different shapes and sizes. However, a few of them look as though they were specifically selected and placed to make a visual statement.



“Sun Stone” symbol in the W NW arch

For example, we’ve seen the circular “Sun Stone,” a round, reddish rock in the arch between the West pillar and the Northwest pillar.

And just below the Sun Stone is a tall rock with distinctive “shoulders” that appear to have been shaped by chisel. Together, these two rocks are clearly an intentional symbol. (I claim they represent Dee’s Monas symbol, the overall design plan of the Tower).



“Triangle” Rock in the W SW arch

In the neighboring arch, just to the south (the one between the West pillar and the Southwest pillar), there is a tall rectangular stone in the center of the arch. **And above it is a rock with a triangular face!**

The sides of the triangle are each about 7 inches long. The upper right edge appears slightly chipped. Given its prominent placement, and the fact that few other rocks in the tower have faces which are triangular in shape, this one seems special.

This triangular rock can be read in several ways. In one respect, it is the “architect’s signature”: Δ or Delta or “D” or “Dee.” But more significantly, the triangular rock faces or “points towards” the mouth of the Dee River.

This whole spectacular river-mouth waterway was once visible from Touro Park (before the houses were built on the west end of the park). And there would have been an even better view of the mouth of the Dee River high up in the 48 foot tall Tower. The view out the West window might have looked something like this:

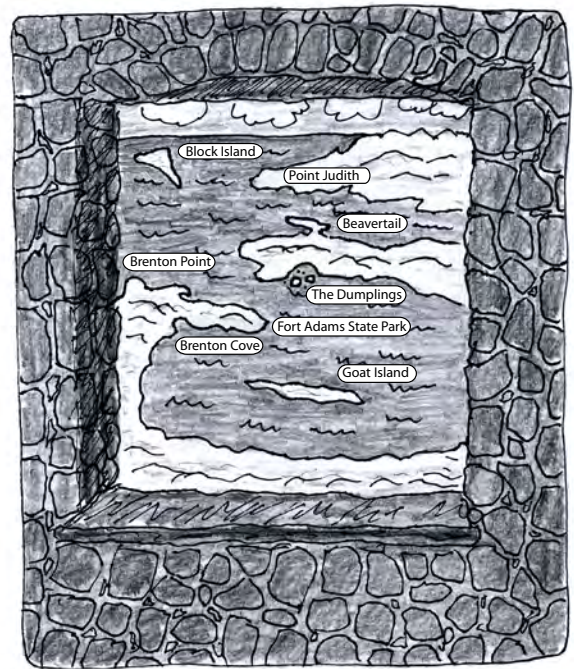
All these natural features would be visible:
(using modern place-names)

In Newport, Goat Island, Brenton Cove, Fort Adams State Park, Castle Hill, and Brenton Point.

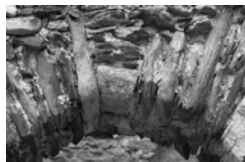
In Jamestown, the numerous rocky-islands called the Dumplings, Bull Point, and Fort Wetherill State Park.

(And these features would be in sharp silhouette by the sparkling waters of the river as the sun lowered to the west in the afternoon.)

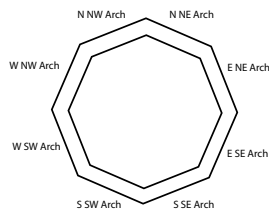
Looking out to sea, Block Island was probably visible on a clear day. As Verrazzano recognized, its upper tip points towards the mouth of the port he called “Refugio.”



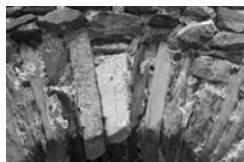
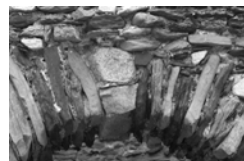
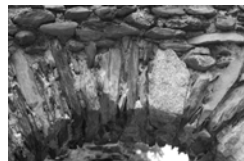
My stylized depiction of the view out the West Window looking west-southwest towards the entrance of the Dee River (using modern place-names)



“Sun Stone Symbol”



“Triangle” Rock



The centers of the eight arches
(on the exterior of the Tower)

I hesitate to refer to the the combined “Sun Stone and the Rock with shoulders” as a “key-stone,” because it is not exactly in the center of its arch.

In the neighboring arch, the “triangle rock” can’t really be considered part of a keystone either, as keystones taper downwards, not upwards.

The “keystone area” rocks in the other 6 arches don’t appear to have such distinctive shapes (except the east-southeast arch, which has a roughly square rock in the bottom part of its central area).

Each of the 8 “keystone areas” of the 8 arches is different from the rest. (This might be chalked off to casual construction technique, but it also might be concealing a clue).

To someone who is visiting the Tower for the first time, that triangular rock might appear to be just random rock among thousands.

But, to me, someone who has studied the Tower closely, explored Dee's his pivotal role in the Elizabethan colonization effort, who is well-versed in Dee's clever clue-making skills, and who has deciphered Dee's *General and Rare Memorials* Title page rebus, that triangular rock shines like a neon light.

Δ says John Dee.
 Δ says Dee River
 Δ says "triangular Island,
 the size of the Isle of Rhodes"

Sure, it's easy to be skeptical of this claim. There's no way I can definitively prove that this rock has any connection to Dee's signature or the Dee River.

If you take a "That can't be true" attitude, you'll never find any further clues. But if you take a "What if it's true" attitude, suddenly more clues may become visible.

And wouldn't it just like Dee to put a clue right in front of everyone's eyes, yet still have it invisible to most people!

My conclusion about who named Rhode Island:

Verrazano used the place-name **Rhode Island** in a metaphor about Block Island in 1524.

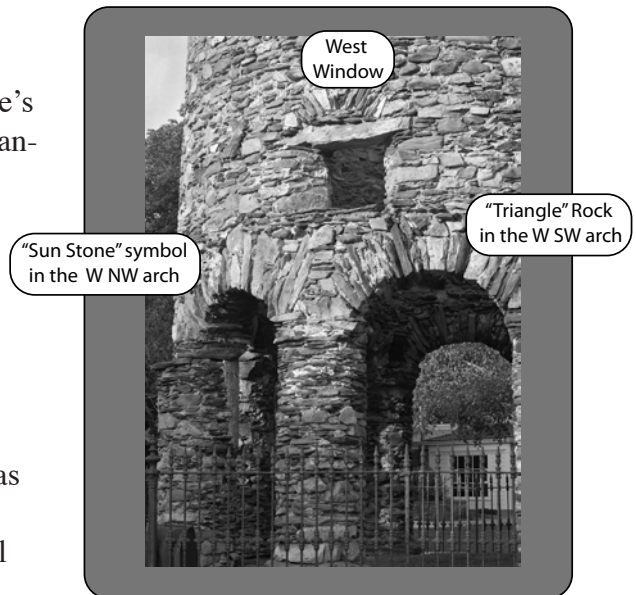
I suggest it was John Dee named gave **Rhode Island** its name, way back in 1577. (In other words, I believe Dee was the one responsible for transferring the name Rhode Island from a metaphorical description of to Block Island to the actual name of Aquidneck Island.)

Benedict Arnold followed Dee's lead and insisted Aquidneck be called **Rhode Island** in 1637, (even though Roger Williams wanted it named Patmos.)

The early Colonial leaders followed Benedict's lead, and made **Rhode Island** the official name of Aquidneck Island in 1644.

With well-deserved respect to Roger Williams for his untiring efforts in founding Providence Plantations, what is today the smallest state in the United States should be proud that it has the longest name:

State of Rhode Island and Providence Plantations

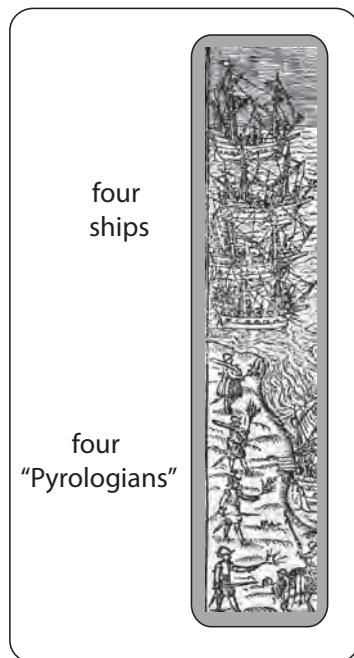


More fun.
Dee hid another riddle in the Title page:
his initials, I.D. (or J.D.)

Dee's tetrahedron relates to the "four men brandishing fire" in the lower left edge of the picture, which are echoed by the "four ships" above them. Dee seems to be hinting that these men are "pyrologians." (Dee also uses this "pyrologian" wordplay Aphorism 18 of his *Propaedeutica Aphoristica*).



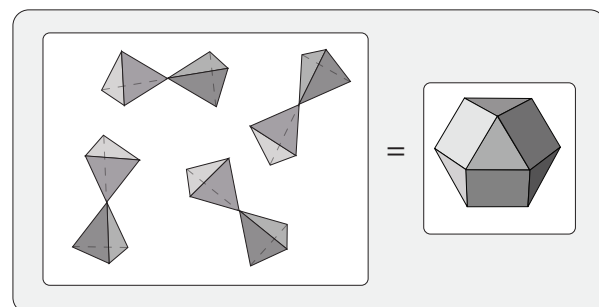
"Pyrologians" aren't people who set fires to houses. They are those who study the Element of Fire. Dee's favorite philosopher, Plato, associates the Element of Fire with the tetrahedron. So, by "pyrologians," Dee means someone who studies tetrahedra. (The first syllable of the words pyrologian and pyramid is *pyr*, the Greek word for fire.)



If the "pyrologians" represent 4 tetrahedra, and the 4 ships represent 4 more tetrahedra, this is an expression of the "+4, -4, octave" that Dee expresses in his "Thus the World was Created" chart.



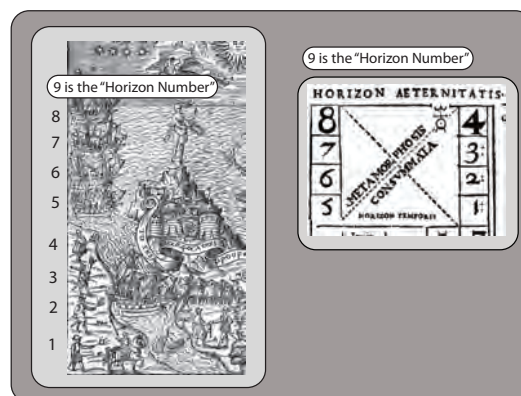
It is also an expression of the composition of the cuboctahedron, or Buckminster Fuller's "vector equilibrium," the shape that Dee and Fuller each saw as "Nature's Operating System."



4 pairs of tip-to-tip tetrahedra assemble into a cuboctahedron

John Dee, Buckminster Fuller, and Robert Marshall all saw that in number and geometry, the “+4, -4, octave” is followed by a “null 9.”

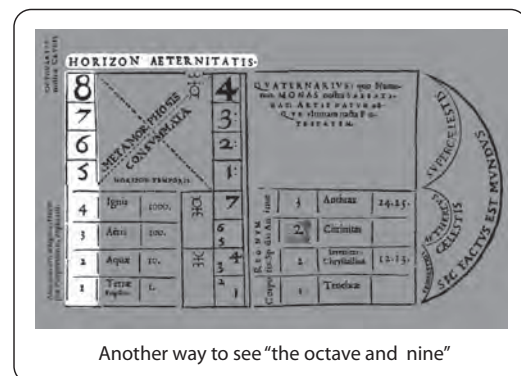
In Dee’s “Thus the World was Created” chart, the “Horizon of Eternity” represents the number 9. On the Title page, the horizon line of the ocean is similarly just above the “4 men and 4 ships” octave. Dee saw the horizon line in this picture as the number nine.



There is actually an alternative way to see the octave in Dee’s “Thus the World was Created” chart: with all the numbers running up the left edge. This is the exact same design Dee used with the men and the ships!

1	A	Z	23
2	B	Y	22
3	C	X	21
4	D	V	20
5	E	T	19
6	F	S	18
7	G	R	17
8	H	Q	16
9	I	P	15
10	K	O	14
11	L	N	13
	M		
12			

Throughout the *Monas Hieroglyphica* Dee displays his fascination with the sequence of the Latin alphabet. His “hidden alphabet/number code couldn’t get much simpler.



As the 9th letter of the Latin alphabet is “I,” Dee saw the horizon in his illustration as the letter “I.” We’ve also seen how Dee uses the horizon line, along with Lady Occasion’s gesturing arm, to make the letter D. Combine the “I” and the “D” and you have Dee’s initials, “I.D.”



$I + D = I.D. = \text{Ioannes Dee}$

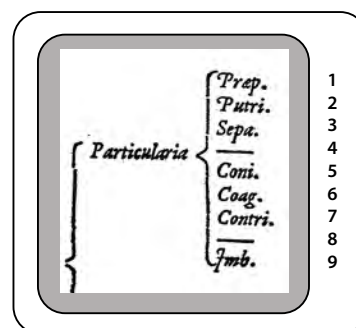
About 20 yers earlier, in 1558, Dee had proudly displayed his initials on the Title page of his *Propaedeumata Aphoristica*.

(As “I” and “J” were still the same letter in Dee’s era, the “horizon” and “Lady Occasion’s curved arm” might just as easily be seen as J.D. or Johannes Dee or John Dee instead of Ioannes Dee.)



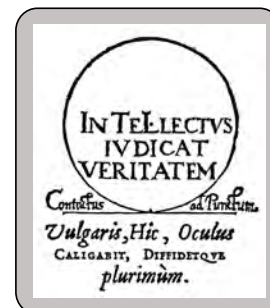
Dee put his initials, **I.D.**, on the Title page of his *Propaedeumata Aphoristica* (1558 edition)

My associating the ocean “horizon” with 9, and also with the letter I, may sound strange, but Dee uses this concept in several places in the *Monas Hieroglyphica*. In his Artificial Quaternary chart, Dee lists 9 alchemical processes. He leaves number 4 and number 8 blank, and he labels the ninth process *Imb.* (for Imbibition). It’s no accident that 9th process just happens to begin with the letter ‘I.’

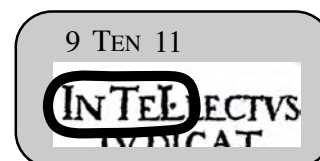


Dee also employs the I=9 trick in the emblem which follows Theorem 24. The I in the word “INTELLICTUS” represents “9,” the large L represents “11”, and the letters in between them spell the word “Ten.”

(The numbers 9, 10, and 11, are the “transpalindromizer,” the base number, and the “palindromizer,” respectively, in our Base Ten numbering system.)



As a hint, Dee emphasizes the letters I, T, and L by making them super-sized (in comparison to the other capitalized letters.) And the first 5 letters are somewhat isolated from the end of the word by a dot.



It’s interesting to note that Dee similarly isolated the first 5 letters of another long word starting with the letter I. That word is IEROGLYPHIKON, in the expression IEROGLYPHIKON BRITANIKON. In this instance, he isolated the first five letters by running “IEROG” horizontally and running “LYPHIKON” vertically.

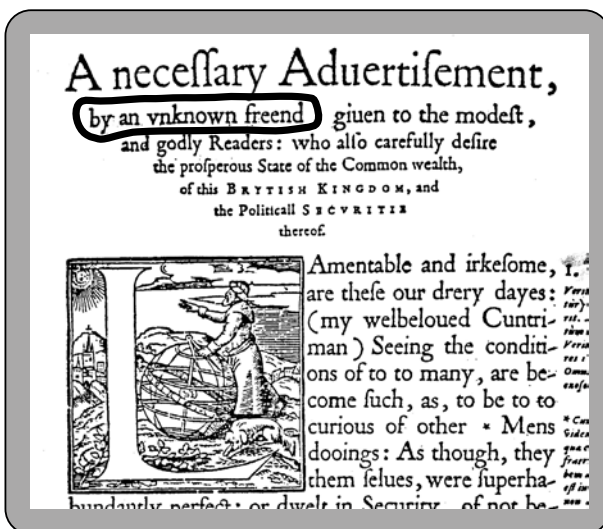
In my mind, finding “duplicated clue-hiding methods” helps validate the idea that they are both clues. And IEROG is an important clue, as it is part of the word game involving the key words RODE and HOPE.



Having devised this clever visual riddle using his initials, you can be certain that every time Dee looked at his illustration he saw his own name, loud and clear. He knew a clue this involved would be invisible to most eyes. But he knew it would serve as a confirming clue to anyone who understood that he was both math whiz and profound punster.

Why did Dee go to such great lengths to hide his initials? For one thing it serves as a confirming clue that Lady Occasion's arm is forming a "D-shape" and that the tetrahedron is "4 D's." (Which is echoed by the four "pyrologians" who study fire, which Plato relates to the tetrahedron)

But the bigger reason Dee hides his initials is because his whole text of *General and Rare Memorials* is written anonymously! Look at the front cover. It doesn't say anywhere who the author is. Nor is the author's name written anywhere in the text. (It certainly seems as though Dee's "hiding of his initials" is his cryptic way of signing his work.)

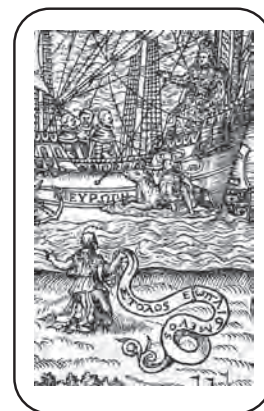


In both his "Brief Note" and his "A necessary Advertisement," Dee uses the rhetorical device of writing under the pen name of an "Unknown Friend." It would have been pretty obvious to prominent Elizabethans that Dee was the author of this work.

It's even obvious to modern-day historians. Given the sentence structure, language, grasp of subject matter, and the use of marginalia, this text was unquestionably penned by Dee.

But Dee uses this "anonymity" as a rhetorical device. (Also, he could deny authorship in a court of law if he somehow got in trouble for writing it.) By writing from the point of view of an "Unknown Friend," he portrayed himself an anonymous "voice of the people of England."

In this light, the "kneeling woman," imploring to the Queen to "Send forth a sailing expedition... to make a steadfast watch post," is not just the people of England. It's Dee, acting as a spokesperson for the people of England. The "kneeling woman" appears to be a visual representation of the "Unknown Friend."



Is the "kneeling woman" actually Dee, the "Unknown Friend," acting as a spokesperson for the people of England?

The faces of practically everyone in the illustration are visible (either face-on or in profile). Even the Sun and Moon have faces. But, we only see the back of the kneeling woman's head, not her face. And we could see her face – it would probably look like Dee.

In this very book, Dee supplies all the legal and economic reasons for the Queen to broaden her horizons and allow England prosper by spreading its influence to the New World. In short, Dee is the “kneeling woman.”

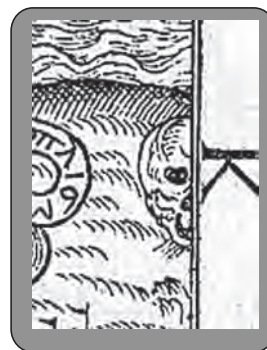
But, in another sense, Dee is also “Lady Occasion.” The Queen is lucky to have someone as forward thinking as Dee in her realm. Dee is Lady Luck.

The flip side of Lady Luck is Danger and even Death!

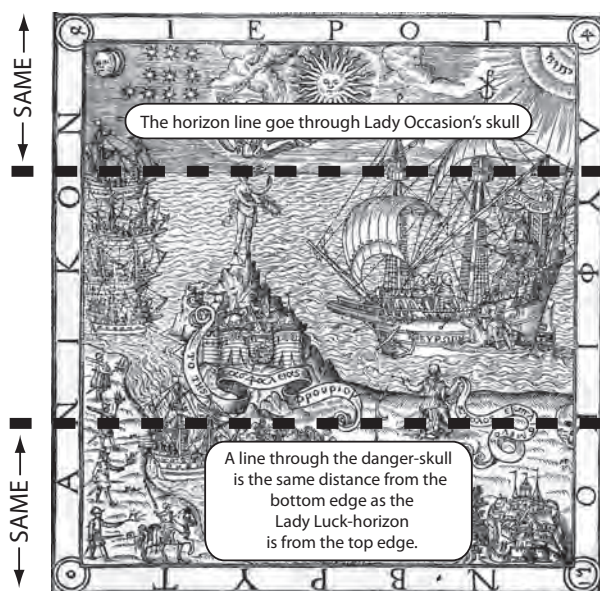
A huge theme in Dee's *Monas Hieroglyphica* is *coincidentia oppositorum*, the Union of Opposites (like Dee's Sun and Moon, or the transpalindromes 12 and 21, which multiply to Dee's Magistral number, 252.)

The “opposite” of Lady Occasion (or “Lady Luck”) is “bad luck.” And the ultimate of “bad luck” is death—whether it be the death of one's self, the death of a loved one, or even the death of a whole country (for example, if it's conquered by an enemy).

Without “bad luck” there would be no such thing as “good luck.” They are opposites, but they are similar, in the sense that they are both just aspects of fortune or fate. And sure enough, Dee portrays “bad luck” along the lower right-hand edge of the illustration as a skull.



Danger,
or even Death,
is always lurking



Note that his “symbol of death” is the same distance from the **bottom** of the page as the horizon, (which goes through Lady Occasion's head) is from the **top** of the page. This seems to make the lucky head and the unlucky head related.

And curiously, Dee doesn't show an entire skull. Using the edge of the illustration, he vertically chops the skull in half.

Well, just as Lady Occasion's arm (along with the horizon line) is gesturing the letter D, the outline of the half-skull also forms the shape of the letter D (though flipped left to right).

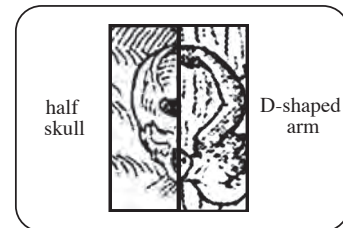
(And as sort of a confirming clue, the word Death starts with the letter D.)



Another "D-shape"

Geometrically speaking, the two "D's combine to form a circle with a vertical diameter in it.

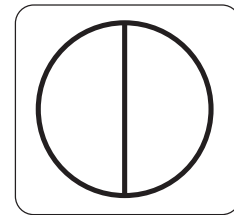
It might seem like I'm stretching a good clue to far, but this is a shape that Dee cryptically refers to (in several different ways) in the *Monas Hieroglyphica*. I call this shape the "double-D."



half skull

D-shaped arm

In Theorem 1, Dee writes that the "very First and most Simple Representation" of things in Nature "is made by means of a straight Line and a Circle."



In his *Letter to Maximilian*, Dee writes about the:
**"Oneness of the IOD itself;
 that Trinity being Formed from one straight line
 and two different parts of the circumference."**

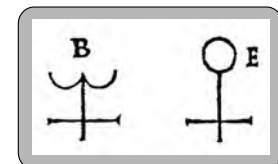
Even the very letters I, O, and D can be found in this "double-D" shape.

(Dee, *Monas*, p.5)



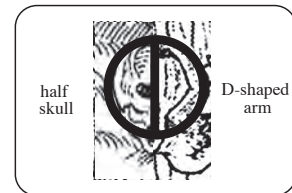
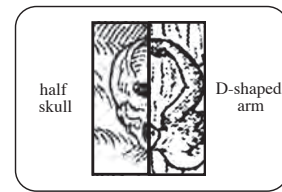
If the two D's are seen as just two half circles (without the vertical line between them), they are like the two half circles in the Aries symbol.

And in Theorem 21, Dee describes closing up the 2 half circles (as if hinged) to make a complete circle.



Two halves of the Aries symbol closing-up to make a circle

In short, the subliminal message here seems to be:
 Seize the lock of Lady Occasion's hair
 ("D's" or "Dee's" sage advice)
 or "the opposite" will result
 (bad luck or death).

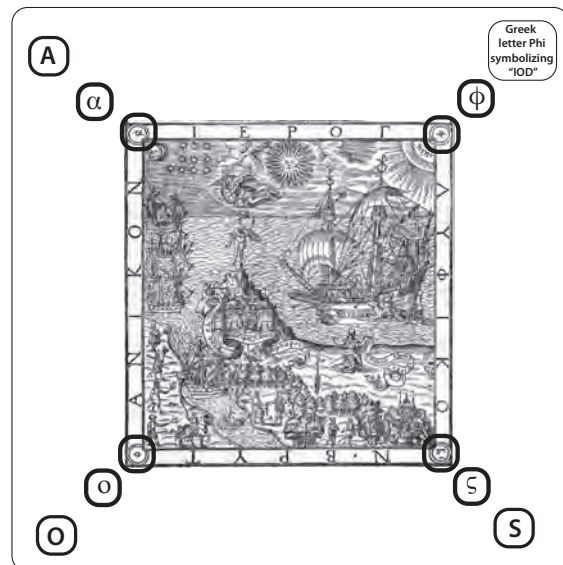


Another representation of IOD (or the Union of Opposites) on the Title Page

Dee hides another letter-clue about the IOD, or the Union of Opposites, in the 4 Greek letters in the 4 corners of his illustration.

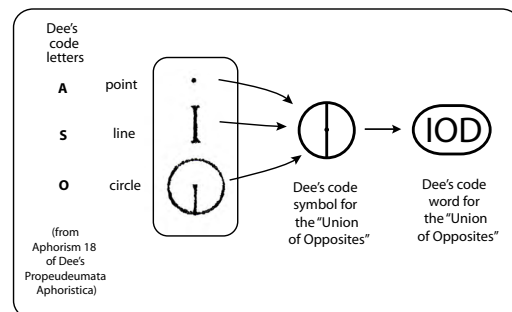
Three of the letters are the lowercase Greek letters "α, ζ, and ο," which are mor easily recognized as the Latin letters "A, S, and O."

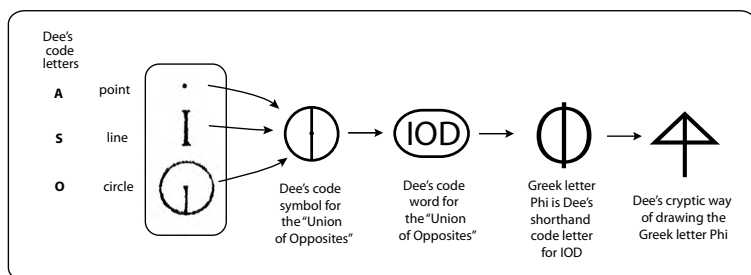
In Aphorism 18 of his *Propaedeumata Aphoristica*, Dee cryptically suggests that these letters represent point, line, and circle respectively. (The point is the "first thing" in nature, like A is the first letter; the S is a curvy line; the O is an obvious circle)



In the first two Theorems of the *Monas Hieroglyphica*, Dee discusses how "all things" derive from the point, the line, and the circle.

In his *Letter to Maximillian*, he combines them all in the word IOD, and cryptically describes a circle with a vertical diameter through. This is his code symbol for the Union of Opposites, like the Sun and the Moon combined.



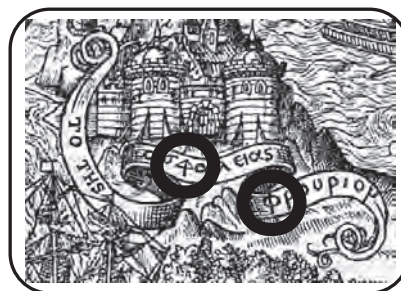


Here he represents the IOD with the Greek letter Phi, Φ , the only Greek or Latin letter that closely resembles his code-symbol.

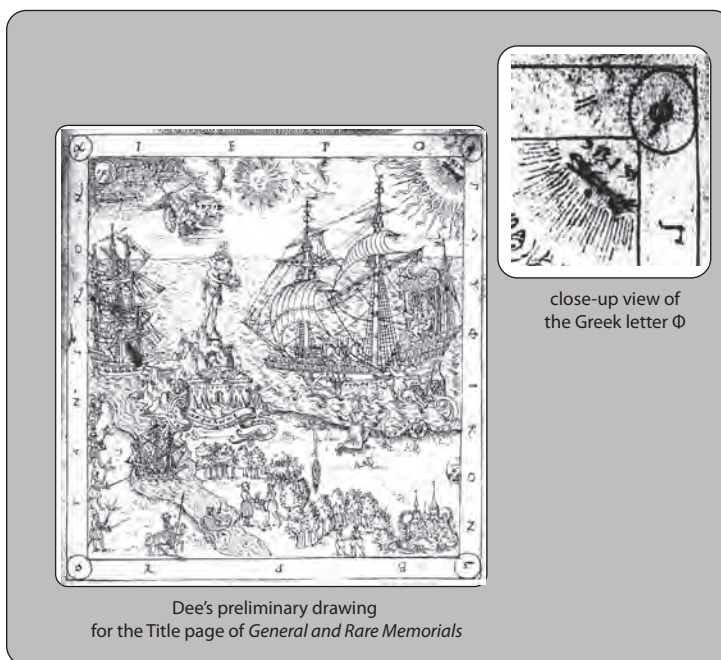
To further disguise the Phi, Dee makes it look like a "tree shape," a triangle with a vertical line.

He leaves a clue that this "tree shape" is a "Phi" in the word AS Φ ALEIAS (ASPHALEIAS or "steadfast").

As a confirming clue, Dee draws the Φ (Phi) in the word Φ ROURION (PHROURION or "watch post") correctly, as a Greek letter Φ should look.



Further proof of this can be seen in Dee's preliminary sketch for the Title page (drawn by Dee's own hand) where he actually uses the letter Φ (Phi) in the upper right-hand corner.



To summarize, "A, S, and O" or "point, line, and circle" combined make a Φ (Phi), Dee's code symbol for the Union of Opposites (or "coincidentia oppositorum" or "retrocity").

This explanation might seem like a sidetrack, but as we will shortly see, Dee's Union of Opposites theme will be seen uniting an important male and an important female: John Dee and Queen Elizabeth!

***Strangely enough,
most Elizabethans did not use the word “road”
in the sense of a “path, way, or street.”***

In Medieval times, the word “road” (generally spelled *rode* or *rood*) meant the “act of riding on horseback.” Shakespeare was the first author to use the word “road” in the sense of “path, way, or street.” In his 1598 play, *Henry IV*, the great bard refers to “London road.” Most Elizabethans used the words “way, highway, trail, track, trace, and street,” but not the word “road.” You won’t even find the word *road* (meaning path or street) anywhere in the King James version of the Bible (which was translated from 1604 to 1611).

In Elizabethan times, the word “road” meant “a sheltered piece of water near the shore where vessels may lie at anchor in safety.” (*OED*, *road*)

In 1518, Alexander Barclay writes, “Lyke wise as shyppes, be docked in a **rode**.”

In his 1617 *Itinerary*, Fynes Moryson writes, “the town the Town Gravesend is a known **Road**.” Situated at the mouth of the River Thames, Gravesend is a well-protected natural harbor.

In his 1720 *Piracies of the Famous Captain Singleton*, Daniel Defoe writes “the ship continued a fortnight in the **roads**, repairing some damage which had been done her in the late storm.” (*World Book Dictionary*, *rode*)

In 1824 *Tales of a Traveler*, Washington Irving writes “the tide contrary, the vessel anchored far off in the **road**.”

And “sheltered harbor” is still one of the meanings of road today.

The *Random House Dictionary* defines this nautical meaning of *rode* as, “a partly sheltered area of water near shore in which vessels may ride at anchor.”

In 1996, U.S. Army Corps of Engineers correspondent N. D. Mulherin writes, “There are also anchorage areas... at the inner **roads**... The outer **roads** are exposed to winds.” This “sheltered harbor” meaning is still in the dictionaries, even though in modern usage it is decidedly overshadowed by the “path or street” meaning.

***A ship “at road” is “at anchor”
in a safe harbor***



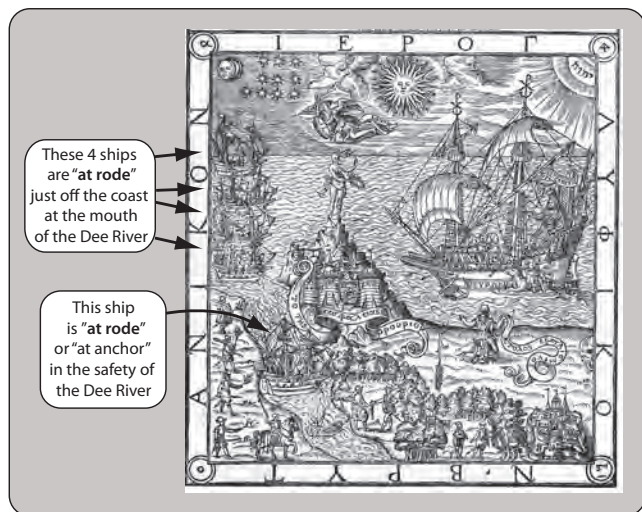
A ship “at rode” or “at anchor”
in a sheltered harbor

The phrase “at road” refers to a vessel that is “in a road” or “safe in a sheltered waterway.” The phrase is synonymous with the phrase “at anchor.” This expression goes way back to Medieval days as well.

Henry VI’s *Rolls the Parliament for 1440* read “Yn defaute of cables and anchres for here seid shippes and vessels, where as they be **at rode**.”

Henry VII’s 1495 *Naval Inventories* read, “The seid ship lying **at Rode** in the Kynges haven.”

In 1596, the Elizabethan writer Robert Southwell writes in *Triumphs Over Death*, “God...casteth your anchor where your thoughts should lie **at rhode**.” (*OED*, *road*, phrases; emphasis mine)



The purpose of this in-depth etymological explanation is to help you to envision the Title page of Dee's *General and Rare Memorials* with Elizabethan eyes.

Safely at anchor in the protected waterway is a ship "at rode." Four more ships lie "at rode" lined up just off the coastline. The sails of these 5 anchored ships have been furled, and for contrast, Dee has depicted the Queen's ship unfurled and under full sail.

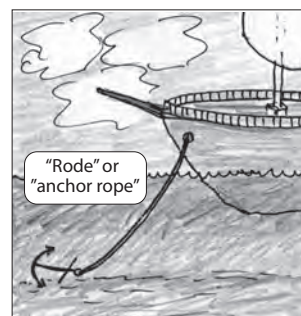
Dee is making another visual-pun reference to the word "Rode," what I call the code-name for the first Elizabethan colony at the Dee River.

In the 1600's, a "rode" also meant an "anchor rope"

In the 1600's, the strong rope used to stay "at rode" or "at anchor" came to be called a "rode."

The *Boston Records of 1679* make a reference to "A **roade** taken out of his boat in the time of ye fire & made use of to pull down houses."

The 1883 *Fisheries Exhibition Catalog* refers to "12 Manilla Trawl **Rhode**, a large yarn."

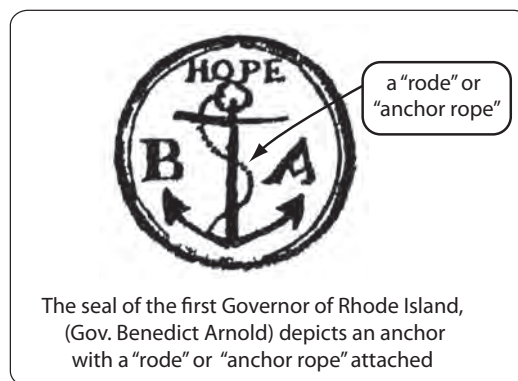


This meaning is still in use today. In her 1950 *Candlemas Bay*, Ruth Moore writes, "His anchor and **rode** were stowed down under the stern." (OED, rode, n2; emphasis mine)

However, as this "cable or rope" meaning came about in the 1600's, the ropes securing the five ships in Dee's illustration should not be seen as another cryptic representation of the word "Rode."

But, when the early colonial leaders of Rhode Island adopted the "fouled anchor" as the symbol of the state in the mid-1600s, I think they included a small piece of the anchor rope because that rope actually expressed the name of the state.

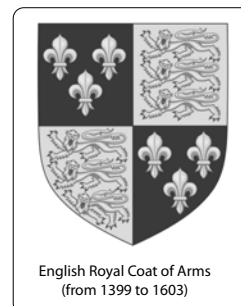
The state symbol of Rhode Island, the Anchor of Hope, has an "anchor rope" attached. Thus, this "rode" or "anchor rope" visually expresses the word "Rhode," as in the name Rhode Island.



*Yet another cryptic representation
of the word “Rode” on the Title page:
ER + DO= RODE*

Queen Elizabeth rules the Title page.
Her hand on the rudder guiding the Ship of
State through what Dee considered to be
Elizabeth’s Oceans of the North Atlantic to
the first Elizabethan colony at the Dee River.

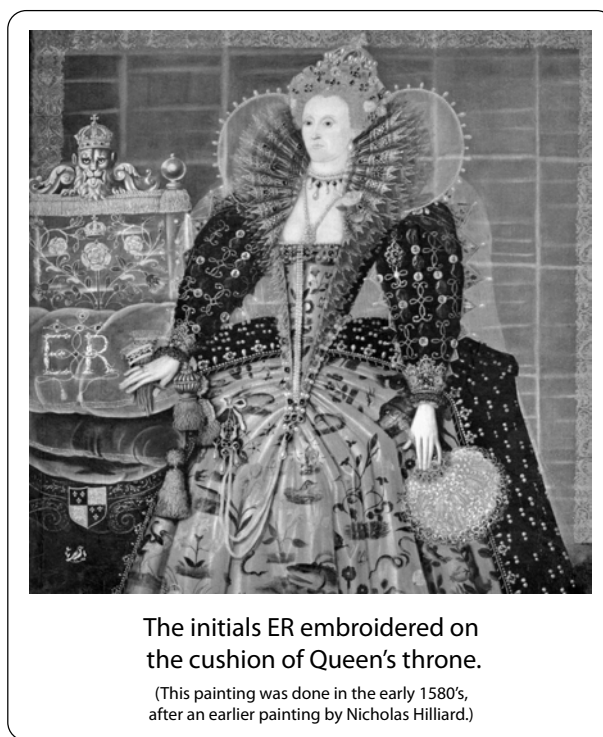
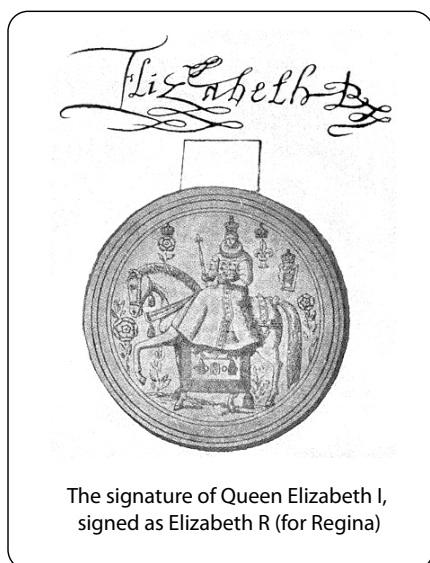
On the canopy above her head is her
name, ELIZABETH. On the rudder is the
English Royal Coat of Arms.



The Queen’s Initials are “ER”

Queen Elizabeth I’s real name
is Elizabeth Tudor, but she didn’t use
either the initials QE or ET.

She used the initials ER,
which stand for Elizabetha Regina,
the Latin term for Elizabeth Queen, or
Queen Elizabeth.



The initials ER can be found on many
coins, engravings, and portraits of the Queen.
She even signed her name Elizabeth R.





Queen Elizabeth I as
ROSA ELECTA
(The Choice Rose),
surrounded by
flowing roses.

Above her is written
FLOREAT, IN AETERNUM
(Flourish Forever)

On the top left and right
are her initials, ER.

(Engraving done
by William Rogers
in the early 1590's)

In this 1590's engraving by William Rogers, Queen Elizabeth I is surrounded by roses. She is the "Rosa Electa" or "The Choice Rose," who will "Flourish Forever." Above her are the initials ER, which are first two letters in **R**osa **E**lecta. Elizabethans loved wordplay and symbolism.



Queen Elizabeth II

Four centuries later, her namesake,
Queen Elizabeth II, also uses the initials ER,
(along with a II, just to keep things clear.) This
modern Queen Elizabeth also signs her name
Elizabeth R.



The signature of Queen Elizabeth II,
notice the R at the end, for Elizabeth Regina

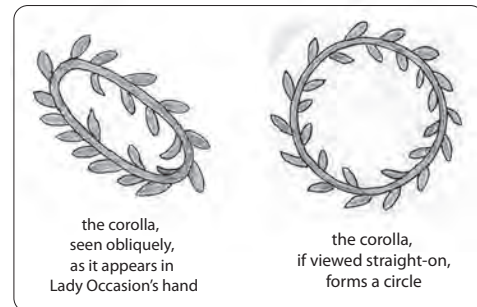
So even though Dee has not identified the Queen with these initials, they are such a common symbol for her, let's assume for a moment that they are implied.

Notice that the letters ER are two of the letters in the word RODE, which is cryptically referred to in so many ways. To spell the word "RODE," all that is needed is find an "O" and a "D."

We've already seen that Lady Occasion's arm forms a D-shape with her hair and the horizon.

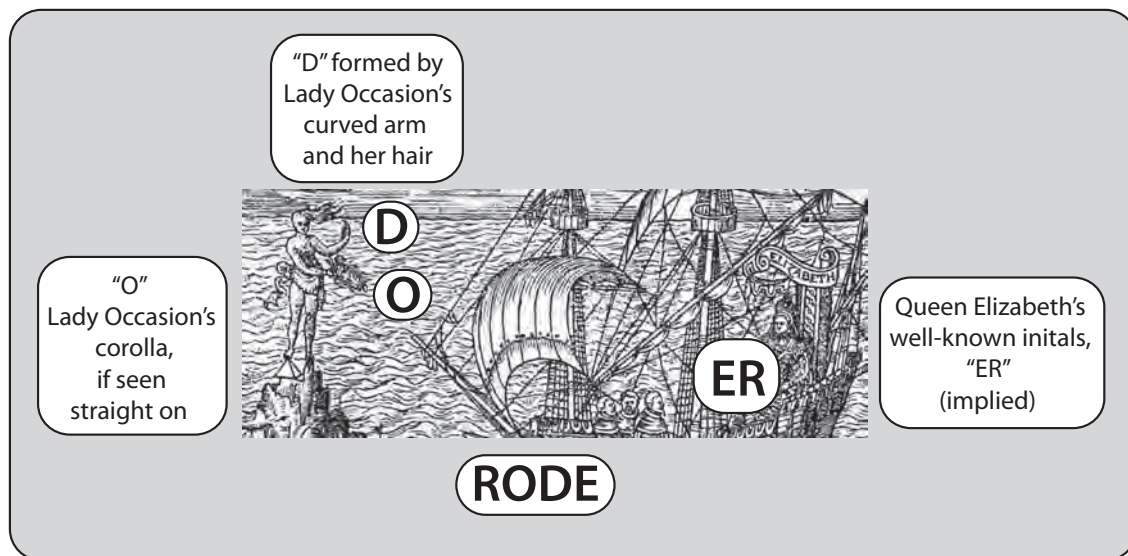
With this in mind, it's not hard to locate the other missing letter, the O. Lady Occasion is holding a corolla or a crown of victory in her other hand.

Seen obliquely (as it has been drawn) it looks like in an ellipse or egg-shape. But this is because of "perspectiva" or point of view. A corolla is actually a perfect circle. It's the missing "O."



Just as Lady Occasion is gesturing (with the corolla) towards the Queen, the Queen is gesturing back, as if reaching out for the crown of victory.

To me, these gestures connect that "D" and "O" of Lady Occasion's gestures to the Queen, who might be identified as ER. Another cryptic RODE!



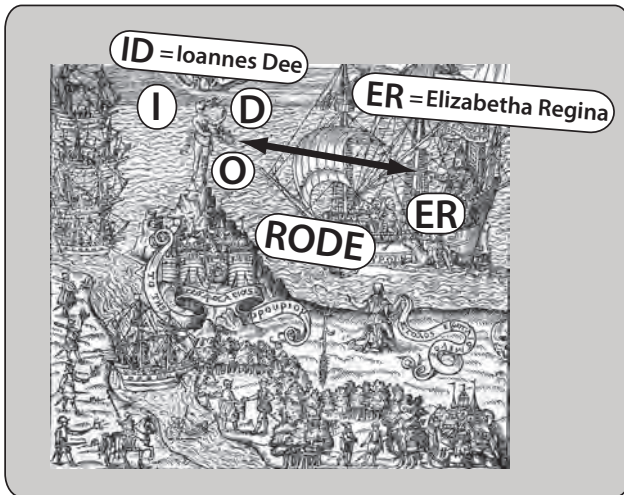
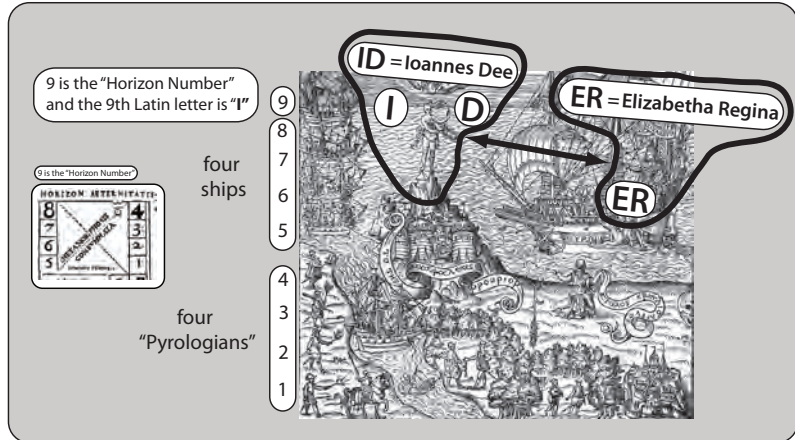
As the letters E and R do not actually appear on Elizabeth, or on her pennant or on her rudder, I will admit that this cryptic RODE is an imaginative solution. But if Dee had drawn the initials ER in big letters, it would have confused all the other word-puzzles on the Title page.

Being familiar with Dee's subtle clue-hiding techniques, I think he intended this "RODE" to be seen. It is Dee's way of dramatizing his personal connection with the Queen. One of the things that Dee was most proud of in life was that the Queen referred to him as "my Philosopher." And here's how I think Dee expresses this connection visually on the Title page:

The Union of Opposites: Ioannes Dee and Elizabetha Regina

As we've seen, John Dee expresses the initials of his Latin name, Ioannes Dee with the horizon line (I = ninth letter) and D-shaped arm of Lady Occasion. The Queen's Latin name is Elizabetha Regina.

Dee (ID) portrays himself as Lady Occasion, gesturing towards the Queen. And the Queen (ER) is gesturing back.



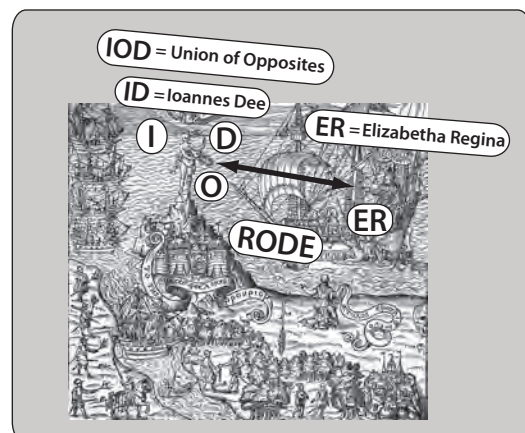
Along with the Corolla (O), Dee and the Queen together spell out that secret-code-word RODE, that perfect location Dee chose for the birthplace of the British Empire.

John Dee conceived the whole plan of action. The Queen had the power to authorize it and make it happen. Dee saw himself and the Queen as a unified team, connected like the Sun and Moon.

Dee was full of hope. Dee was an inveterate optimist. He expected this seed colony at RODE to fully blossom, bringing unimaginable riches to the Queen, and of course to himself. This first spark of the British Empire at RODE would be their bonding connection. In a sense it was to be their child. Dee was the father and Elizabeth was the mother about to give birth to a child that would one day grow to be quite powerful.

Dee cleverly concealed his idea of himself and the Queen as the Union of Opposites. The letters he expresses through Lady Occasion are I, O, and D, which spell IOD, his word for the Union of Opposites.

Could Dee have really constructed this web of interrelated clues? Yes. His other works demonstrate that he had the mind of a master puzzlemaker.



Dee's Title page is an Elizabethan Nike ad: "JUST DO IT"

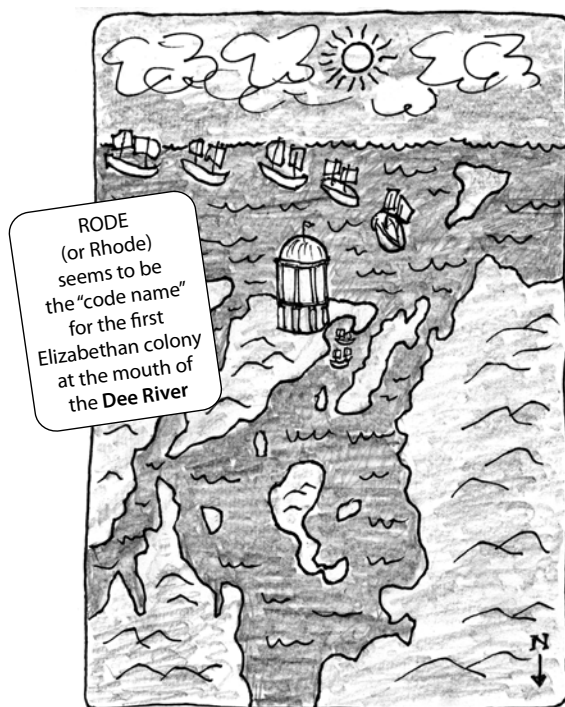
In short, Dee is pleading to the Queen: "Make it or break it!" or "Go for it, before it's too late!" On bended knees, Dee is imploring the Queen to take this "Opportunity" to "Send forth a sailing expedition to make a steadfast watch post," or else it might be the "death" of England.

That's a pretty strong statement to make to the Queen. Encoding this dire warning in a fun-illustration at least makes it a bit more palatable. And once understood, it perhaps made the message more memorable. With this "Do this or Die" message, it's also a little more understandable why Dee would have written this text "anonymously," as if it was advice from a "Unknown Friend."

Dee's language might be strong, but he was right. Unless an organization, state, or person is proactive, changing, exploring and evolving, it risks becoming obsolete. This is why Constitutions have Amendments, why corporations have Research and Development departments, why people take continuing education classes.

It's strange how it seems like I'm hearing these stories from Dee's mouth 450 years after he wrote them down. Dee was well-aware that what he was expressing was important to England. Dee was a visual thinker. He knew that one symbolic image could be more telling than 1000 words.

Even if this bold colonization scheme went awry, Dee knew that in future days, people would be wise enough catch his drift. That's why he wrote it all down. He knew he was writing for posterity and that he was planting seeds that might take years to sprout.



RODE
(or Rhode)
seems to be
the "code name"
for the first
Elizabethan colony
at the mouth of
the Dee River

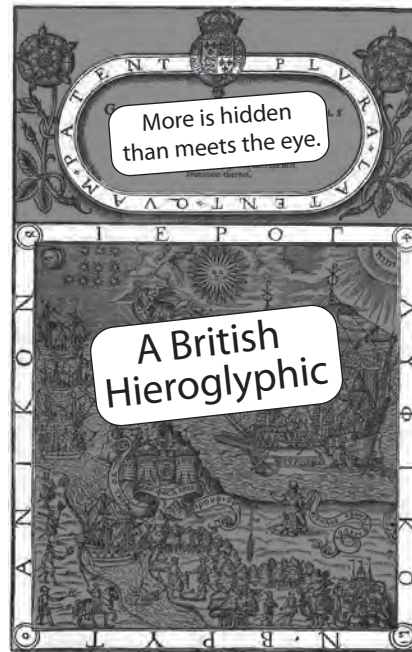
To summarize, Dee, the Queen, the Privy council members, and the courtiers involved probably used the word RODE (or Rhode) as a code name for the settlement at the mouth of the Dee River.

Even if the Spanish ambassador got his hands on a copy of Dee's report, decoders in Madrid would be unable figure out the planned location of the first Elizabethan colony.

A brief visual summary

Dee's Title page is a panoply of visual puzzles and word riddles involving the the term "RODE," what I call the code-name for the first Elizabethan colony in the New World. There are so many clues that they can get confusing. Here is a brief summary:

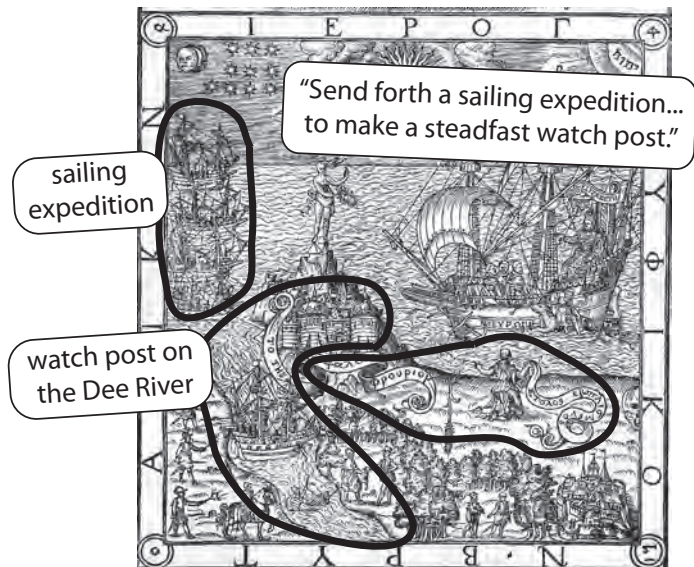
First of all, Dee tells us right up front that he is hiding clues.



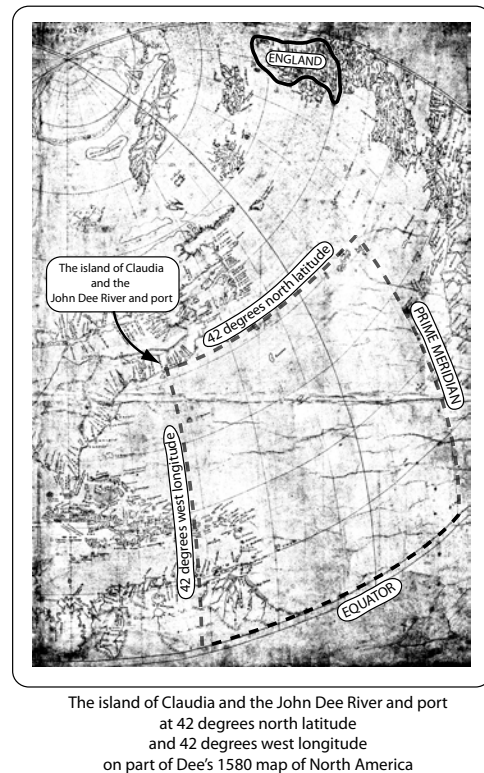
What Dee writes in Greek on his Elizabethan "word balloon" (or his "flowing ribbon of words") is exactly what he depicts in his illustration: a sailing expedition and a watch post on the Dee River.

To express it in modern-day lingo, Dee is selling a product, (a sailing expedition and a watch post on the Dee River.)

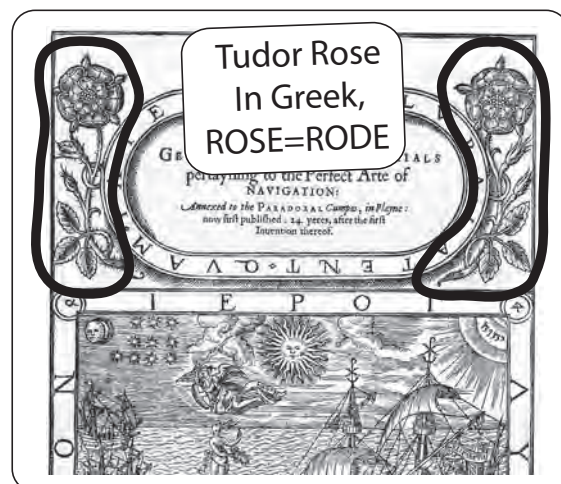
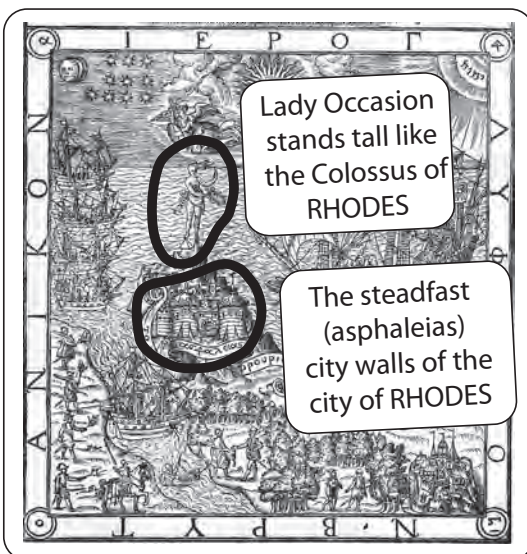
And in good advertising form, Dee made the product the "hero" of the ad.



Dee's use of the archangel Michael helps confirm that he is depicting the Dee River.



Dee makes several strong (yet cryptic) visual references to the word RODE.

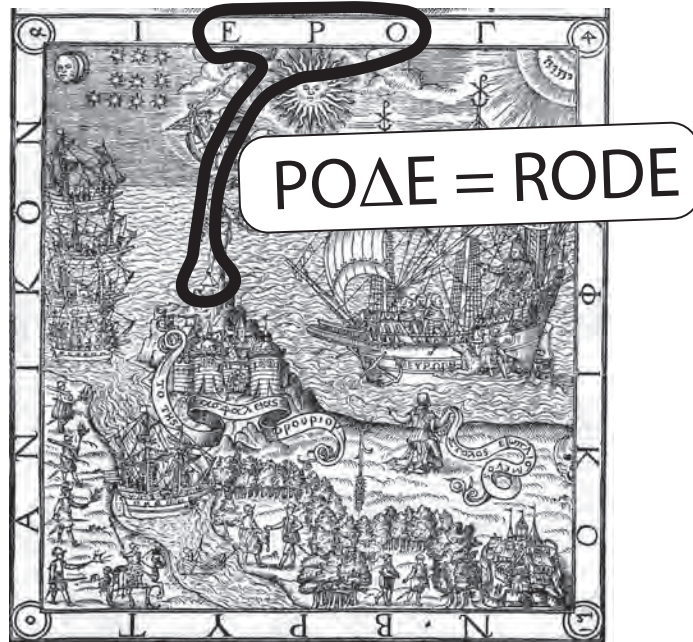


A summary of the “4 clues-in-1”



Dee's tetrahedron is “4-clues-in-1,”
each clue involving a triangle

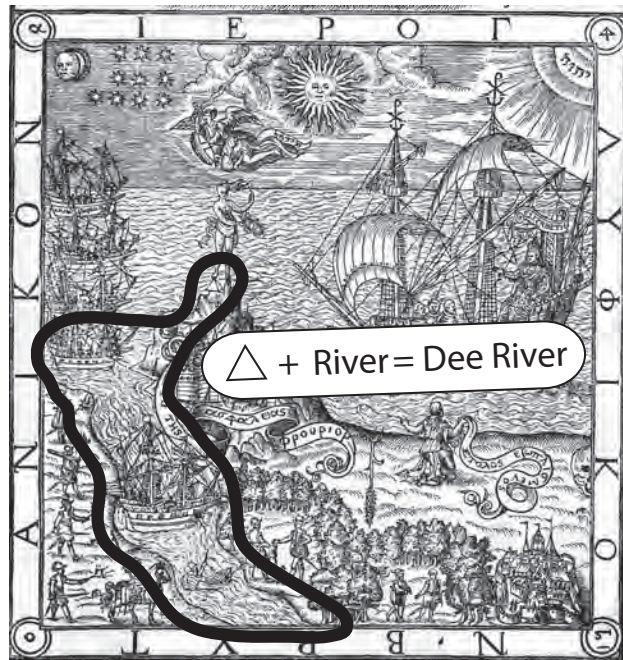
1. One triangle, plus the letters OPE, spells POΔE, or RODE (as in Rhode Island.)



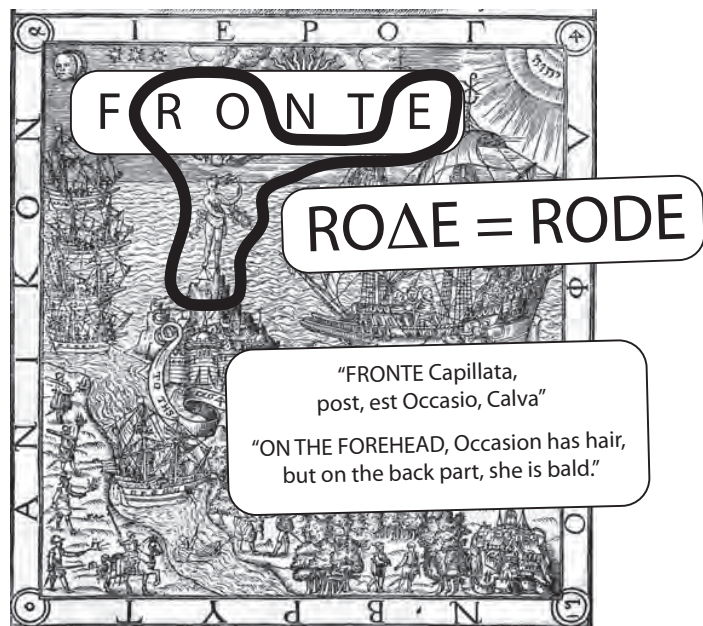
2. With another triangle, the author Dee is signing his work with his pen name (or rather, “pen symbol.”)



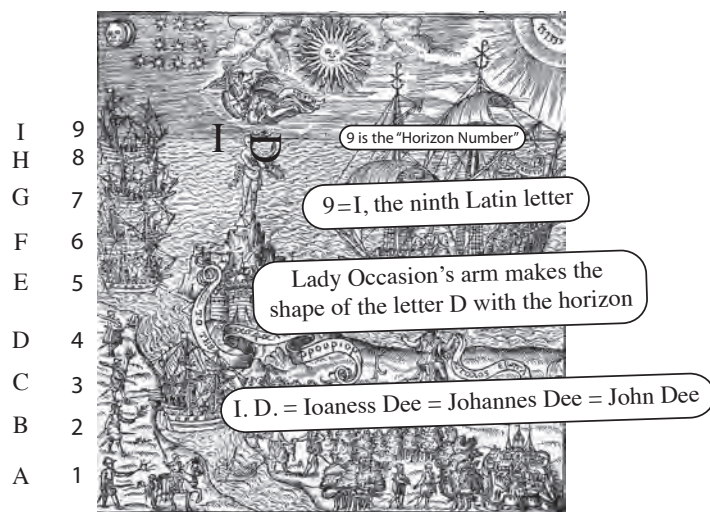
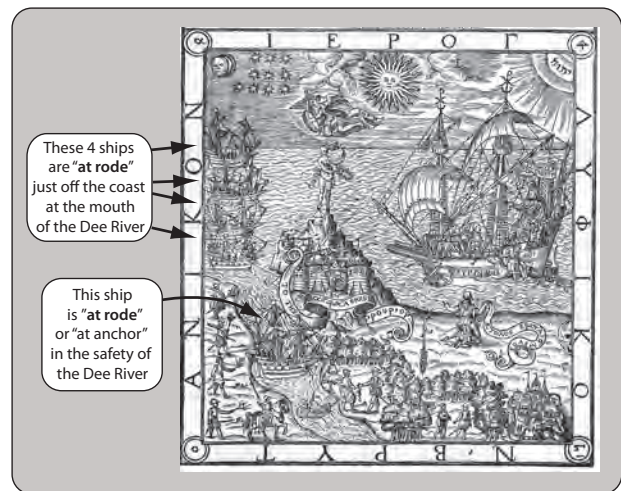
3. Another triangle identifies the name of the river that John Dee named after himself.



4. The final triangle, along with the letters ROE from the Latin word FRONTE spell RODE (as in Rhode Island).

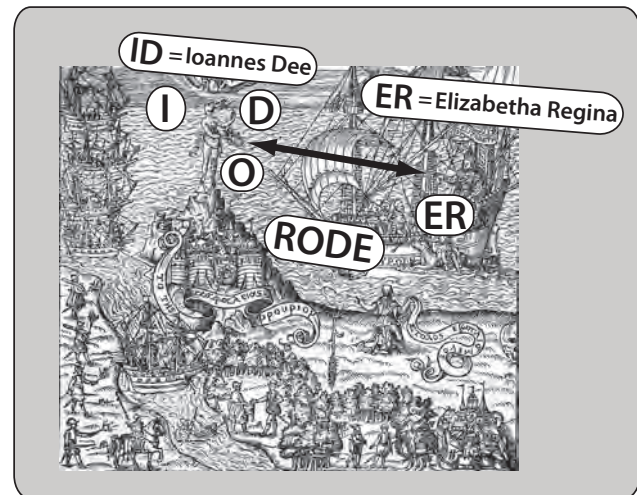


Cleverly, one of the 5 ships are “at rode” (at anchor) in the safety of the Dee River. And 4 more ships are “at rode” near the coast, at the river’s mouth.



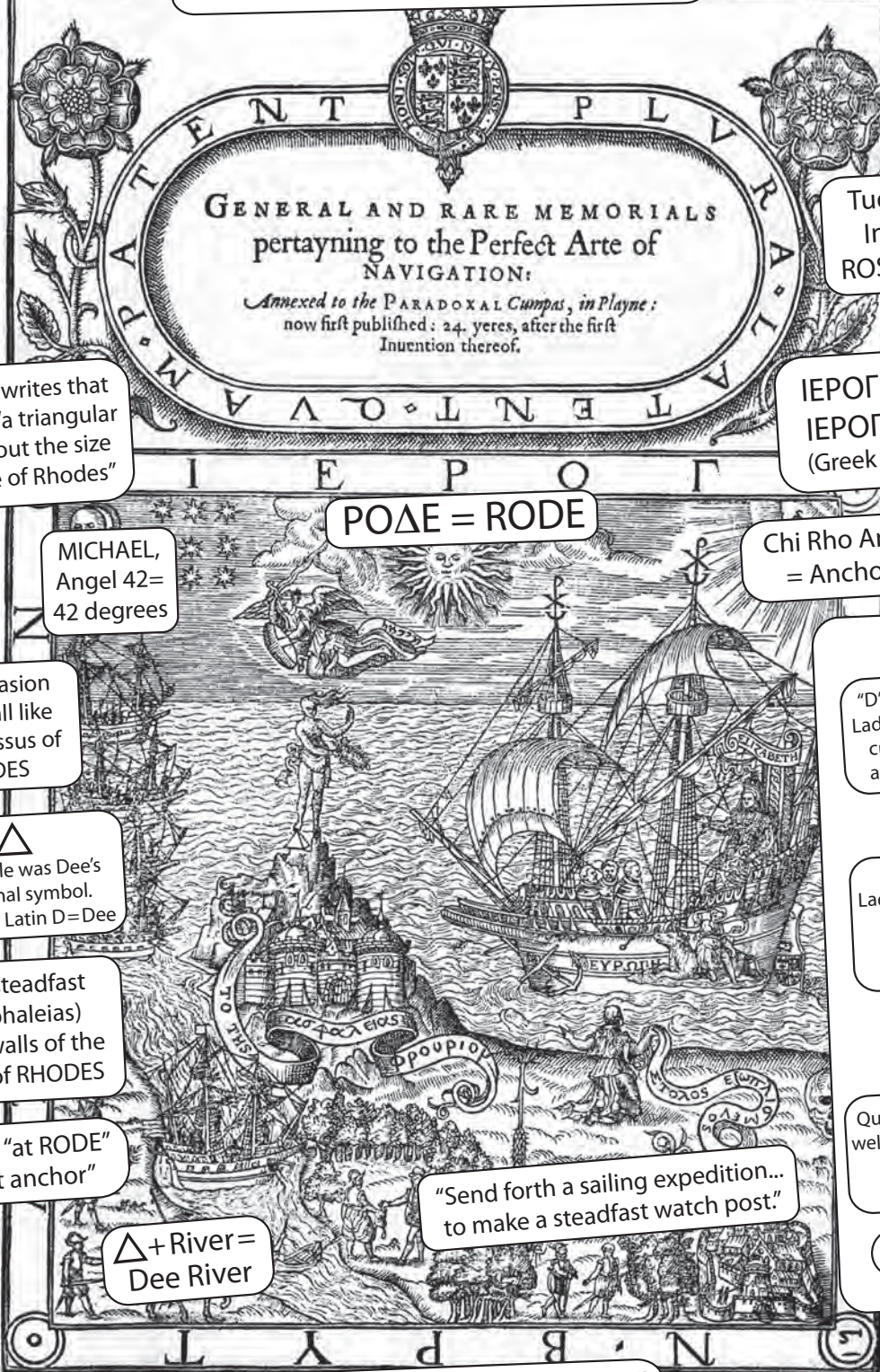
If you understand Dee’s “CONSUMMATA,” or the “+4, –4, octave; null 9” rhythm found in geometry and number, you can see another way the author John Dee has signed his work.

When the circular corona, with which Lady Occasion gestures to the Queen, (O), is added to the mix of the Latin initials ID and ER, the word RODE can be spelled once again.



Even the preceding summary can sound confusing, so here are Dee’s main clues related to RODE, all on one page:

"More is hidden than meets the eye."



Tudor Rose
In Greek,
ROSE=RODE

ΙΕΡΟΓ = HOPE
ΙΕΡΟΓ = ELPO
(Greek for HOPE)

Verrazano writes that
Claudia is "a triangular
island about the size
of the Isle of Rhodes"

ΡΟΔΕ = RODE

Chi Rho Anchor Cross
= Anchor of Hope

MICHAEL,
Angel 42=
42 degrees

Lady Occasion
stands tall like
the Colossus of
RHODES

△
A triangle was Dee's
personal symbol.
Delta Δ = Latin D = Dee

The steadfast
(asphaleias)
city walls of the
city of RHODES

5 ships "at RODE"
or "at anchor"

△ + River =
Dee River

"Send forth a sailing expedition...
to make a steadfast watch post."

D

"D" formed by
Lady Occasion's
curved arm
and her hair

O

"O"
Lady Occasion's
corona,
if seen
straight on

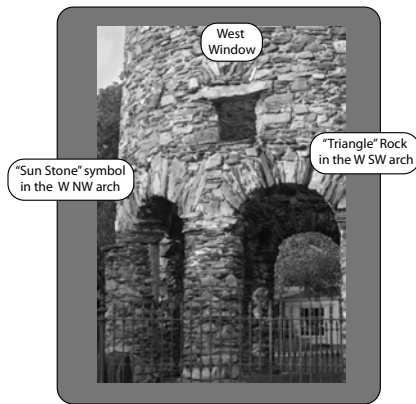
ER

Queen Elizabeth's
well-known initials,
"ER"
(implied)

RODE

"A British Hieroglyphic"

A summary of how this all relates to the Tower?



There are recognizable symbols in the “keystone areas” of west-facing arches in the Tower.

The triangular rock (Δ) or (Dee) is oriented towards, (or “points” towards) the mouth of the Dee River.



“Triangle” Rock in the W SW arch

These rocks in the “keystone area” suggest another hidden clue in the Tower.
Do you know what I’m referring to?

Thus, I believe the state name for Rhode Island originated in the mind of John Dee.

It was John Dee who took part of Verrazano’s “size-metaphor” about Block Island and applied it to the name of Aquidneck Island (the site of the Tower and the intended Elizabethan colony).

Benedict Arnold and the early Colonial leaders followed suit.

And today,
“RODE” is still a part of the state name:
“State of Rhode Island and Providence Plantations.”



Historians have always been puzzled by how the name “Rhode” got “shifted” from one island (Block Island) to another island (Aquidneck Island) that was over 15 miles away. That seems like a long jump.

But from the point of view of John Dee, devising plans for the first Elizabethan colony sitting in his London library, Block Island, the Dee River, and Aquidneck Island are virtually all the same place.

DID JOHN DEE HAVE THE WORD “RODE” CRYPTICALLY CONCEALED IN THE STONE-AND-MORTAR FABRIC OF THE TOWER?

When America schoolchildren are taught the names of the 50 states, they learn that Rhode Island is the smallest state and that it is not really just an island.

It's a small state because when it was formed it was kind of “boxed- in” between the Massachusetts Bay Colony, the Connecticut Colony and the Atlantic Ocean.



If students learn the state's full name “Rhode Island and Providence Plantations,” it would be a little clearer that the “Rhode Island” part refers to a large island that is within the state's boundaries.

A really knowledgeable teacher might also inform the students that it's most likely that the name derived from Giovanni Verrazano's 1525 navigational report describing Block Island as being, “about the size of the Isle of Rhodes.”

But even historians have been unable to explain why the name “Rhode Island” jumped north about 13 miles across the water to become the name for Aquidneck Island.

Roger Williams wanted to call Aquidneck Island “Patmos,” after the island in the Aegean Sea where Saint John wrote the book of Revelation. But Williams also says that “others” insisted it be named “Rode Island”(as Roger Williams spelled it in a letter dated May, 1637)

I suggest, in the Colonial time period, it was Benedict Arnold who wanted Aquidneck named “Rode Island.” But I think this island “name jump” was first actually made about 60 years earlier! And it was made in the mind of John Dee. Here are the clues upon which my assertion is based.

About one fifth of the world speaks English. Most people in the United States speak what is called “American English.” But even American English has many dialects.

In the Northeast, many speak with a “New England accent.” And as distinct from other New Englanders, many people from Rhode Island speak with a “Rhode Island accent.” Local comedians joke that we pronounce our state name “Roe Dyelan” or even “Vho Dilan’.”

Despite this local accent, most people pronounce the single word “Rhode” the same way they would pronounce “road” or even “rode.”

“Joe **rode** his horse
down a dirt **road**
in **Rhode** Island.”

Even Roger Williams dispensed with that “silent h,” spelling “RHODE” as “RODE.” (But it’s not known how he pronounced the word.)

The pronunciation of RODE in Greek is quite different than it is in American English. In Greek it’s much more musical. Where we pronounce RODE with one syllable, the Greeks pronounce it with two syllables “RO” and “DE,” with the accent on the final syllable, “DE.”

Furthermore, where Americans see the final letter E as silent, in Greek it is pronounced it as a “long E.” In other words, our word “rode” is pronounced “ro-DEE” in Greek. But even this is an oversimplification. Each of the letters in RODE is actually pronounced slightly differently from the way you probably just pronounced “ro-DEE.”

We’ll review each letter, one at a time, but first let’s look at how RODE is spelled in Greek.

‘ΡΟΔῆ

You’re probably saying, “This looks Greek to me.” Fear not. Don’t be concerned that this looks too weird to be pronounced RODE.

Even after having learned the correct Greek pronunciation, it still looks to me like “apostrophe P, O, triangle, and H with a squiggly worm on top.” But in several minutes you’ll be pronouncing it as well as Aristotle did in 350 BC.

It helps to convert the Greek letter into English letters equivalents. Seeing the Greek capital letter “P” (Rho) as an “R,” and the “Δ” as a “D” sure makes it easier to look at.

‘ΡΟΔῆ
‘R O D Ḑ

P

Let's take it one letter at a time. In Greek, the R is trilled, or pronounced with a little tongue vibration. Pretend you're a Scotsman rrrrolling his arrrrs: "Rround the rugged rock the ragged rrascal rran." Or as a Mexican declaring, "Carrrlos Santana rocks."

Rrr

‘P

Next let's deal with that apostrophe in front of the R. This diacritical mark (distinguishing mark) indicates that an H sound should be pronounced in front of the R. Thus, it sounds like "hRrr."

hRrr

Technically speaking, this "apostrophe" or "single quotation mark" is called a *dasy pneuma* (in Greek), or a *spiritus asper* (in Latin), both of which mean "rough breathing." (From the Latin word *asper* we get our word "aspirate" which means "to begin with a breathing sound.")

This "apostrophe indicating an H sound" can be used with any of the Greek vowels (‘A, ‘E, ‘H, ‘I, ‘O, ‘Y, ‘Ω). For example, the name of the great poet ‘Omer is pronounced *Homer*. This "H sound" is only used with one of the consonants. And that happens to be the ‘P (or ‘Rho), the very letter we are concerned with here.

Incidentally, a "reversed apostrophe" in front of any of the vowels (‘A, ‘E, ‘H, ‘I, ‘O, ‘Ω or ‘P (or ‘Rho), indicates what is called *psilon pneuma* (in Greek) or *spiritus lenis* (in Latin), both of which translate to "mild or smooth breathing." In other words, this "reversed apostrophe" indicates that there is "no H sound" preceding the letter. (From the Latin word *lenis*, get our word "lenient," meaning "mild or tolerant punishment.")

This idea of the "pronounced H" versus "un-pronounced H" is found in modern American English.

In front of a "pronounced H," we use the indefinite article "an":
an hour, an honor, an heir.

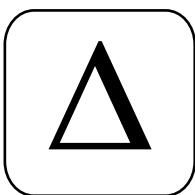
But in front of an "un-pronounced H," we use the indefinite article "a":
a history, a heaven, a hair.

O

Next, the "O" sound should be pronounced more like the "O" in the word Ought (or gOt), rather than the O in Owe (or OhO).

With your best British accent, pretend you are Professor Henry Higgins, thrilled about Eliza Doolittle's new upper-class way of speaking: "Aye thenk she's gOt it!" (Open your lips really tall with that "oh" in gOt.)

(g)O(t)



Next, the “D sound” in Greek is much different than the American English “D sound.” It’s more of a “Dh” sound, like the way Zsa Zsa Gabor would say “Thank you, Dharling.” Or an Indian guru would pronounce “Dharma.”



But the “dh” sound should actually have a hint of the “th” sound in it, so “Dharma” should sound more like “THarma.” To get the right mix, pronounce it “DTHarma.” In other words, the triangle, Δ, is pronounced “Dth.”

Then, the final letter, H, (the Greek letter Eta, pronounced ‘ita or eeta) should be pronounced more like an English “E” than an English “H.”



The Greek letter E (or Epsilon) is a “short E,” like the E in “bet”. But the Greek letter H (Eta) is more like a “long E,” as in “meet.”



But when the H (Eta) has a **tilde** (that squiggly worm) on top of it, the “EE sound” is much more melodious!

First, there is a **rise** in pitch,
which is immediately followed by a **fall** in pitch.

It’s like the Doppler effect of a train
passing by while blowing its horn.

Say this out loud:

eeeEEEEeeee.

Only the train is going really fast:

eeEEeeee

Now, even faster, still with
a rise and a fall in pitch:

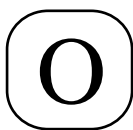
eEee.

Now let’s practice each letter separately:

(Pronounce the h)

(O like “ought”)

(EEEE has a rise in pitch,
then a fall in pitch)



(Roll the Rrr)

(Dh is more like Dth)

Next, flow all the
sounds together:

hRrr O – Dth eEee

Now,
a little faster:

hRrO–DEe

This time, remember
to accentuate the
second syllable:
“DEe.”

hRrO–**DEe**

Now, repeat that pronunciation
while looking at Greek symbols
which looked so strange before.

‘Ρ Ο Δ ῥ

hRrO–**DEe**

And of course, the pronunciation is the same
in lowercase Greek letters, so say it again:

‘ρ ο δ ρ

hrrO–**dEe**

I think you’ve got it!

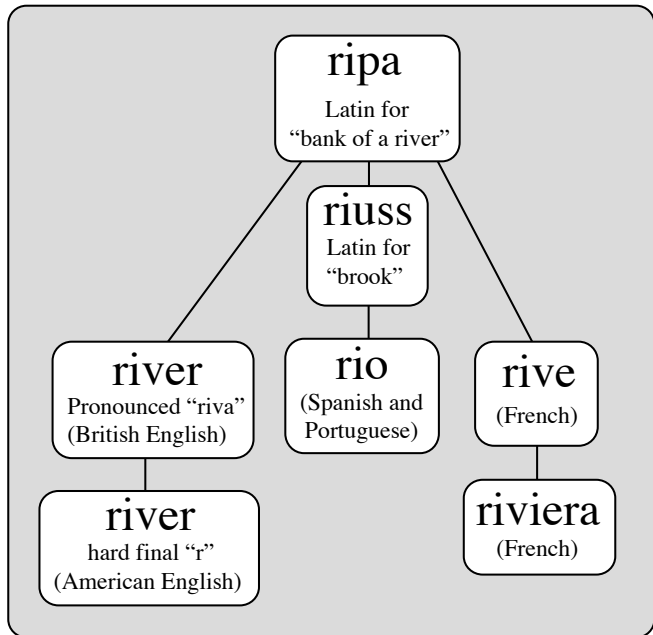
A brief history of the word “river” (as in the “Dee River”)

The word “river” comes in the Latin word *ripa*, “meaning the “bank of a river.” Trade goods coming from around the Mediterranean up the Tiber to Rome unloaded at the *Ripa Grande* (or the Great Embankment). Trade goods coming from inland Italy, traveling down the Tiber to Rome, were unloaded at the *Ripetta* (or the Small Bank).

In American English, the final letter “r,” is generally pronounced as a hard R, (like river**r**). But in British English (or with a Boston accent) the “r” is generally not pronounced. The River Thames is pronounced the “Riva Temmes” (or near Hahvard Yahd, the Charles River is pronounced Charles Rivah.)

From the Latin word *ripa* comes the word *riuss*, meaning “a brook.” In both Spanish and Portuguese, *riuss* became *rio*, as in the Rio Grande or Rio de Janeiro.

In French, *ripa* became *rive*, as in the Rive Gauche, the Left Bank of the Seine in Paris. The coast (or sea bank) of Southern France is called the Riviera.



Why does he call it the Dee River and not the River of Dee?

The 1583 land grant from Sir Humphrey Gilbert to Sir George Peckham describes, “all that ryver or porte called by Master John Dee, Dee Ryver...” The spelling of Ryver, might seem odd, but Elizabethans were flexible when it came to spelling.

However, there’s something else that’s unusual. When the British speak of rivers, they generally put the word river **first**, not **second**:

the River Thames,
the River Severn,
the River Exe,
the River Trent,
and even the River Dee
(which is on the border between England and northern Wales.)

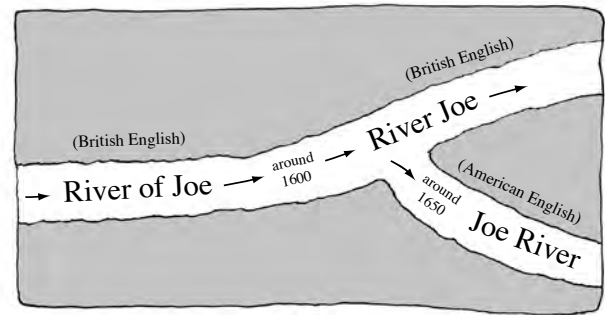
However, way back in Elizabethan times, the word “of” was used in the middle:

the Ryver of Thamys,
the Ryver of Severn,
the Ryver of Exe,
the Ryver of Trent,
the Ryver of Dee

In the late 1600's, the word "of" was dropped. For example, the River of Thames was commonly called just the River Thames.

Around 1650, the style of putting the proper noun **before** the word "river" became the predominant style in North America.

There are some exceptions, but this is the general metamorphosis of the way the British named rivers. To demonstrate, this flow chart, uses the fictitious example of the "River Joe":



in this noble Riuer of Thames

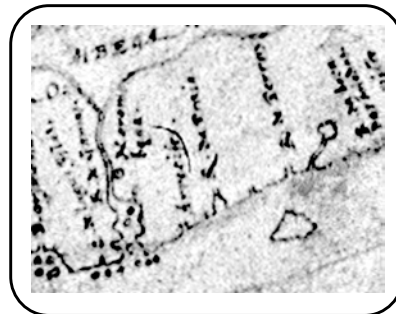
in this Incomparable Riuer of Thames

John Smith's 1614 map of New England lists "the River Charles." William Woods's 1634 map of New England calls the same river the "Charles River."

John Dee lived in the 1500's, when most rivers still had the "of" in their names. In Dee's 1577 *General and Rare Memorials*, he refers to "this noble River of Thames" and "in this Incomparable River of Thames."

Dee's 1580 map of North America lists over 50 rivers along the East Coast.

For space considerations, Dee abbreviates most of them in the style of "R. Joe." So it's unclear if he means to include the word all "of." In several Portuguese or Spanish-sounding names, he uses the style of "R. de José" where the "de" means "of."



Then why does the 1583 land grant from Sir Humphrey Gilbert to Sir George Peckham refer to the "Dee River" with the word "River" **after** the proper name "Dee"? (... all that ryver or porte called by Master John Dee, Dee Ryver...)

Is Dee kind trying to hide a clue? In Dee's era, the more common expression would be "River of Dee." Spoken with a slight slur, "River of Dee" sounds an awful lot like "RODE" or "hRr-O-DEe." Saying it in Spanish helps you to hear the interconnection. Simply leave off the "Janeiro" part of "Rio de Janeiro."

This homophone (similarity of pronunciation) would certainly not go unnoticed by the master-wordsmith, multiple-language-speaker, and clever-clue-concealer John Dee.

I think he made the "River of Dee" to "Dee River" switcheroo to hide all the clever clues about [what I call] the "code name" for the first Elizabethan colony, RODE (or Rhode or hRrO-DEe).

River of Dee=
RODE =
"hRr-O-DEe"

Dee River	<i>Dee's name for the river in the 1583 land grant</i>
River of Dee	<i>the more common Elizabethan way to express it</i>
R(iver) O(f) Dee	<i>slightly slurred</i>
R.ODee	<i>slurred some more</i>
hRrO-DEe	<i>sounds like</i>
RODE	<i>the Greek word for Rose and [what I call] the "code name"</i>
‘POΔĤ	<i>for the first Elizabethan colony in the New World, on the Dee River</i>

The deed from Gilbert to Peckham was most likely filed safely away in the Elizabethan State Papers, far from the prying eyes of Spanish spies (like the sneaky Spanish Ambassador to London, Bernadino de Mendoza). But I think it's likely that all the members of the Privy Council were aware of name "Dee River."

If the the name of the Dee River did somehow became publicly known, and Spanish decoders got hold of the Title page of *General and Rare Memorials*, they would still never figure out that it depicts the location of the Dee River, at 42 degrees latitude and 42 degrees longitude.

You don't have to be a classical linguist to see that that the accentuated syllable of 'POΔE or "hRro-DEe" is pronounced is like Dee' last name.

While pondering Dee's homophone game, something else rang a bell! I remembered another place where I had seen those two middle letters, O and Δ, side-by-side, in the same sequence. Do you know where?

Greek letters on the Tower

One of the “keystone areas” of the Tower’s arches in has a **circular** rock in it.

And the arch just to the right of it has a **triangular** rock in it.

These are the middle two letters of ‘POΔH.

P (Rho)

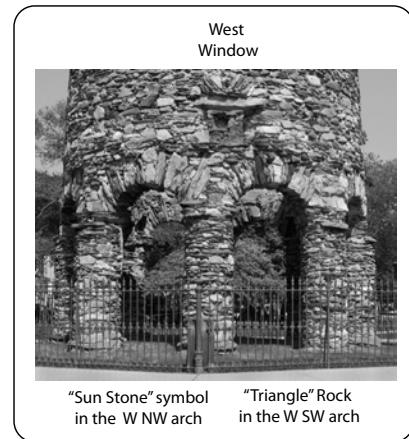


N NW Arch

I raced to the Tower. The arch just to the left of the “O and Δ arches” had two rocks that somewhat resembled a P (Rho) shape.

However, the rock forming the vertical line of the P was not exactly vertical. And the rock that formed the circular part of the P was not exactly circular. Still, it was pretty close to looking like a P (Rho).

That accounted for three of the four letters.



P



N NW Arch

O



W NW Arch

Δ



W SW Arch

I zipped around to the other side of the tower. Unfortunately, the arch just to the right of the “O and Δ arches” did **not** look like an H (Eta).

This arch had a pair of adjacent granite rocks in the “keystone area.” The rock on the left was taller. The one on the right had several small horizontal flat rocks mortared on top of it.

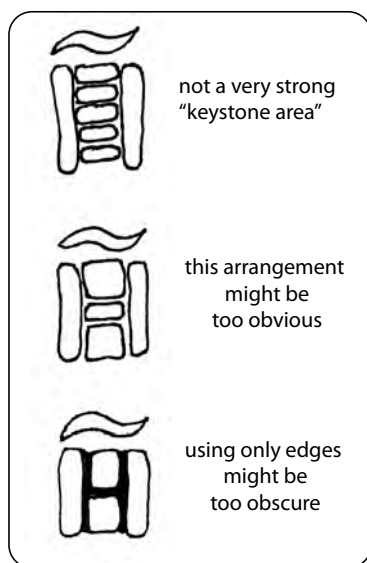
At first I thought the small rocks might be forming the letter E. But ‘POΔH ends in an H (Eta or long e) not an E (Epsilon or short e).

It seemed unlikely (though not out of the question) that Dee would have used 3 Greek letters followed by 1 English letter.

This “keystone area ”
didn’t look like an
uppercase Greek H (Eta)



S SW Arch



So I thought about this problem from the point of view of Dee and the master mason who was given the responsibility of actually shaping these rock-letters. The P, O, and Δ were simple to make, compared to making an H.

An H-shaped arrangement of rocks might be either too obvious or too obscure. If he was to put a “crossbar-rock” between two vertical rocks, how would he fill the remaining spaces?

If he filled them with similarly-shaped horizontal rocks, that wouldn’t make for a very sturdy “keystone area.”

If he filled the space with two square rocks, the H might be too apparent.

If he just used the “edges of rocks, the letter might be too well-concealed.

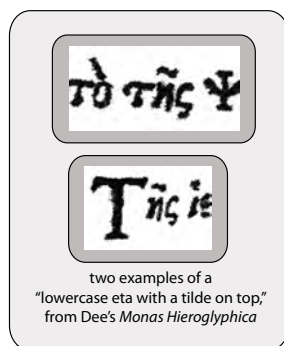
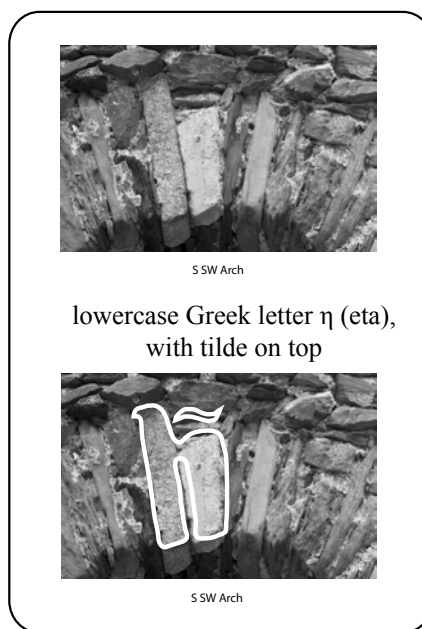
(Not to mention that it would be hard to find a rock that bends in two different directions to make a long “squiggly-worm” tilde mark on top.)

But as I stared at the arch occurred to me that Dee might have used a lower case η (eta) instead of an upper case H (Eta).

While the “keystone area” didn’t look like an uppercase H (Eta) with a tilde, it did look like a lowercase η (eta) with a tilde.

The two large vertical keystone rocks might be forming this lowercase Greek letter η

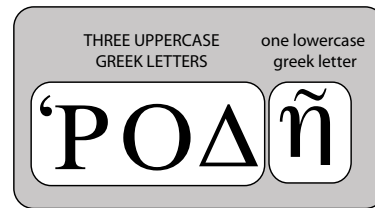
The upper part of the left peice of granite was like the serif of the η shape. Now the “squiggly-worm” tilde doesn’t have to “squiggle” as much. It can be smaller and can fit into the “nest” formed on top of the letter.



In modern Greek typefaces, the right leg of the η (eta) is longer than the left, but this was not the style in Dee’s time.

In the *Monas Hieroglyphica*, there are several examples of Dee’s use of a “lowercase eta” surmounted with a tilde. Because the letters are so small, the tilde goes over the whole letter.

Would Dee have mixed uppercase and lowercase letters in the same word?

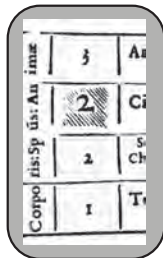


I recalled that Dee had “mixed his cases” on the Title page of *General and Rare Memorials*.

His Greek word *exoplisMenos* (meaning to “send forth”), Dee had put an uppercase *M* in the midst of lowercase letters. (An uppercase Greek Mu is written a “M,” but the lowercase mu is written as “μ.”)



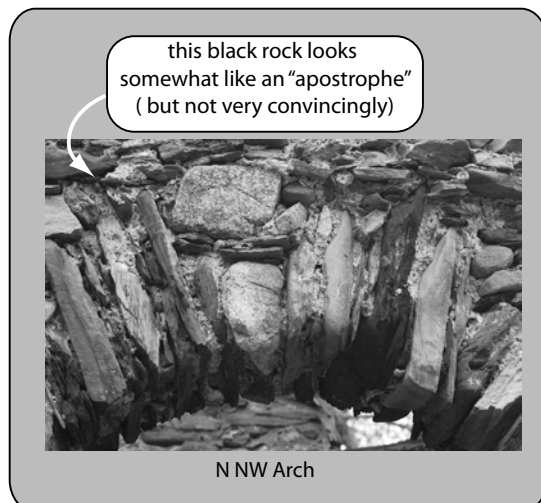
And in his Greek phrase *TO TES asphaleias phrouriom* (meaning “to build a steadfast watch post”), two of the words are in uppercase and two are in lowercase.



Dee used this same clue-technique of grouping three similar items with one “oddball” item in his “Thus the World Was Created” chart. Three of the numbers in his Artificial Quaternary are printed using letterpress type, and one is printed by an engraved plate (and even cross-hatched to make it seem like a printer’s error.)

Meanwhile ... back at the Tower

If Dee was using this “squiggly worm” diacritical mark above the lower case eta (η) in this arch, perhaps he was using an “apostrophe” in front of the P (Rho) in the other arch.



I raced back to the other side of the Tower. There was a small black rock that looked somewhat like an “apostrophe,” but it wasn’t totally convincing.

The masons had used small rocks like this as “filler” between larger rocks all over the Tower.

I suspected there was more to the story of Greek pronunciation, so I researched the history of Greek diacritical marks. I found that the “apostrophe indicating an h-sound” and the “reverse apostrophe for no h-sound” marks were used from about 300 BC to about 300 AD, during the Hellenistic period.

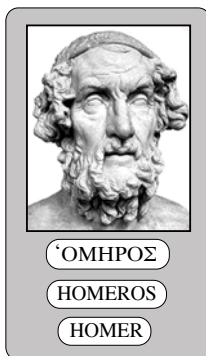
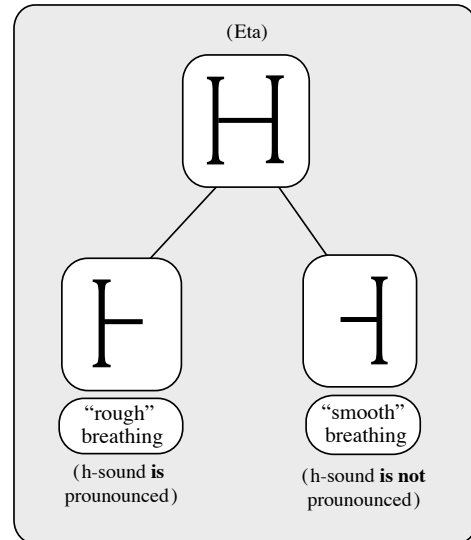
But earlier, from around 500 BC to 300 BC, during the Classical period, the Ancient Greeks sliced the letter H in half vertically to distinguish between the two types of “breathing.”

The left vertical line and most of the horizontal line on the H indicated “rough breathing” or the **presence** of an “h-sound” (or *spiritus asper*).

The right vertical line and most of the horizontal line of an H indicated “smooth breathing” or the **absence** of an “h-sound” (or *spiritus lenis*).

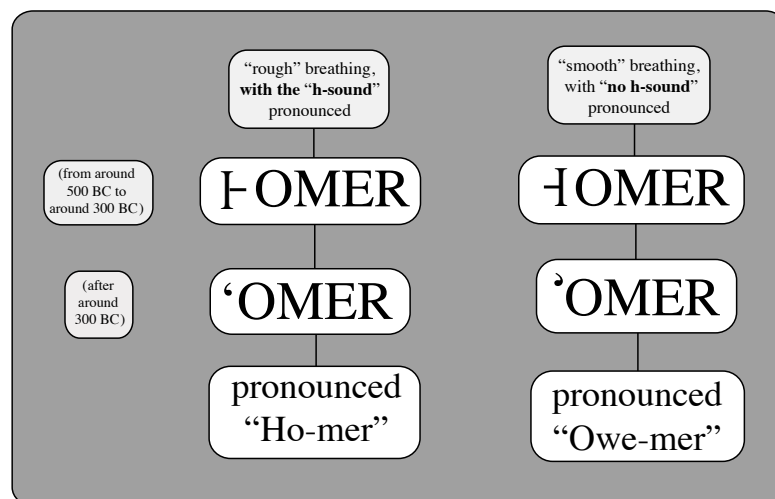
These marks are sometimes referred to as the “tack-like” breathing marks because they look like side views of a thumb tack.

(Liddell and Scott, *Greek-English Lexicon*: Eta)



As an example of “rough” breathing and “smooth” breathing, let’s take the name of that great epic poet traditionally credited with being the author of the *Iliad* and the *Odyssey*: Homer.

The Ancient Greeks actually referred to him HOMEROS, but to simplify, let’s call him HOMER and convert the final letter “P” (Rho) to an English “R.”



(Incidentally, in order to make Modern Greek easier to write and type, these “rough breathing and smooth breathing apostrophes” were officially abolished by a presidential decree in 1982)

Back at the Tower, I reinspected the arch with the P (Rho) in the “keystone area. “There didn’t appear to be a “right-facing thumb tack shape” to the left of the rocks forming the P-shape, so I slid over one arch to the left.

Sure enough, there was a prominent vertical granite rock with horizontal rock at its midsection, which was pointing to the right.

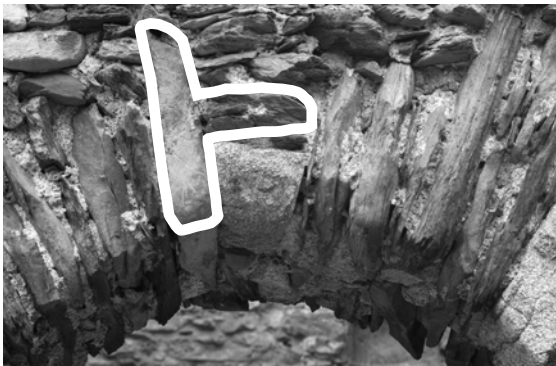


N NE Arch



N NW Arch

“rough breathing” mark,
indicating the presence of the h-sound

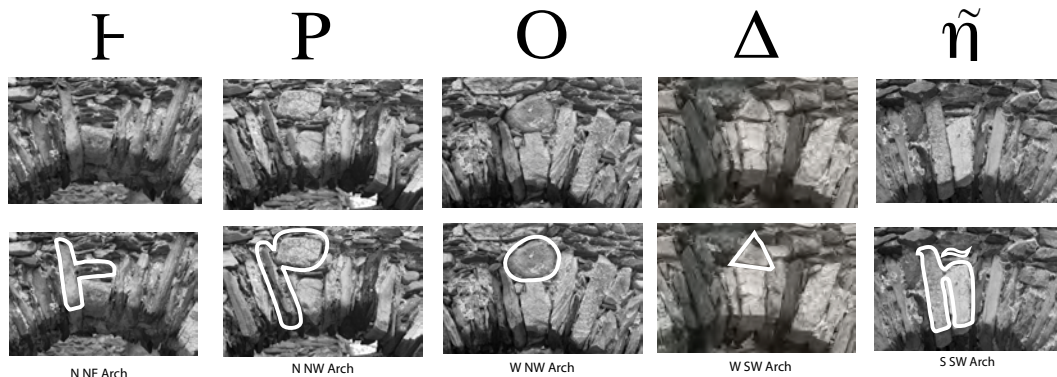


N NE Arch

It certainly wasn’t perfect looking. The horizontal rock was somewhat weathered because it’s a piece of slate.

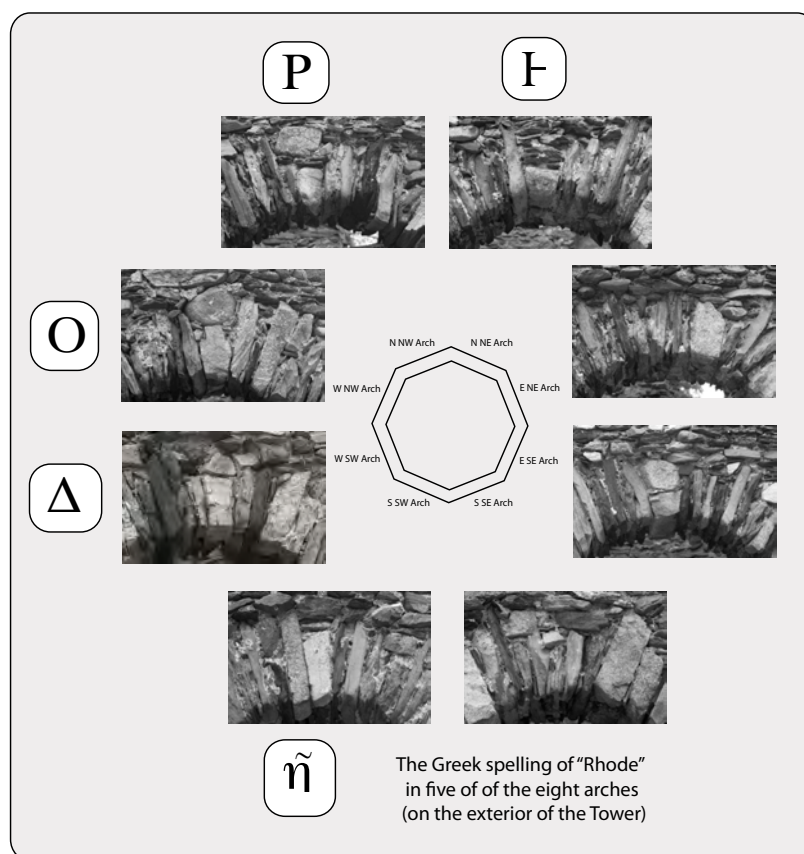
But it certainly seemed odd that the master mason would use a horizontal rock in such a structurally important “keystone area.” Slate has a high compressive strength when squeezed from top to bottom but when squeezed from side to side, it’s more likely to fracture along the plate lines.

Below is a summary chart of the 5 letters. (No wonder Benedict Arnold insisted Aquidneck Island be called “Rode Island.” The word “Rode” itself is an integral part of the Tower!)



(pronounced “hRrO-DEe”)

This bird's-eye view shows the various orientations of the 5 letters Greek letters:



To Dee, ‘POΔῑ̃ and FPOΔῑ̃ would be pronounced differently

The final letter ῑ̃ is pronounced “eEe” in Modern Greek and also in Ancient Greek, but there were several centuries when it was pronounced “AYEe” like the way the Fonz on the old TV sitcom Happy Days would say the word Hey!, that is, like “AYEeeee!” But not exactly. Pronounce it shorter, not as drawn out. More like: “AYEe” (The AY is the rise in pitch, and the Ee is the fall in pitch.)

This is called the Erasmian pronunciation, after the humanist Erasmus (1466-1536) who (with others, around the year 1500) was trying to make Ancient Greek sound more like Latin.

In England, Sir John Cheke (1514-1577), a teacher at St. John’s College in Cambridge, was a big fan of the Erasmian pronunciation and even wrote a book about it entitled, *The Right Way Speaking Latin and Greek: A Dialogue*.

John Dee was a student of Sir John Cheke. After graduating, Dee taught Greek at Trinity College, so he was well-aware of the Erasmian pronunciation. So if Dee saw the word ‘RODῑ̃, he would pronounce it in the Erasmian manner: “hRrO-**DAYEe**”

But, as you can hear, that pronunciation loses the “Dee” sound at the end of the word. This is why Dee, on the Tower, used the ancient diacritical mark (F), instead of the more modern “apostrophe”.

Because the stone-made letters on the arches of the Tower have the Ancient Greek mark that precedes the first letter, Dee is implying that the word-in-stone should be pronounced in the **Ancient Greek manner**: “hRrO-DEe”

And cleverly, this Ancient pronunciation, “hRrO-DEee” ends with his name: “**Dee**”

Roman and Renaissance grammarians considered H to be an oddball among the letters. Geofroy Tory, in *Champs Fleury*, his 1529 book about the letters of the Latin alphabet writes “The aspirate [H] is not a letter; nonetheless, it is by poetic licence given the place of a letter.” Tory quotes the Roman grammarian Priscian: “H is the symbol of the breathing, and has nothing else pertaining to a letter save the figure of one and [the fact] that by custom it is written among the other letters.” (Geofroy Tory, *Champs Fleury*, p.108; This is a book which Dee owned)

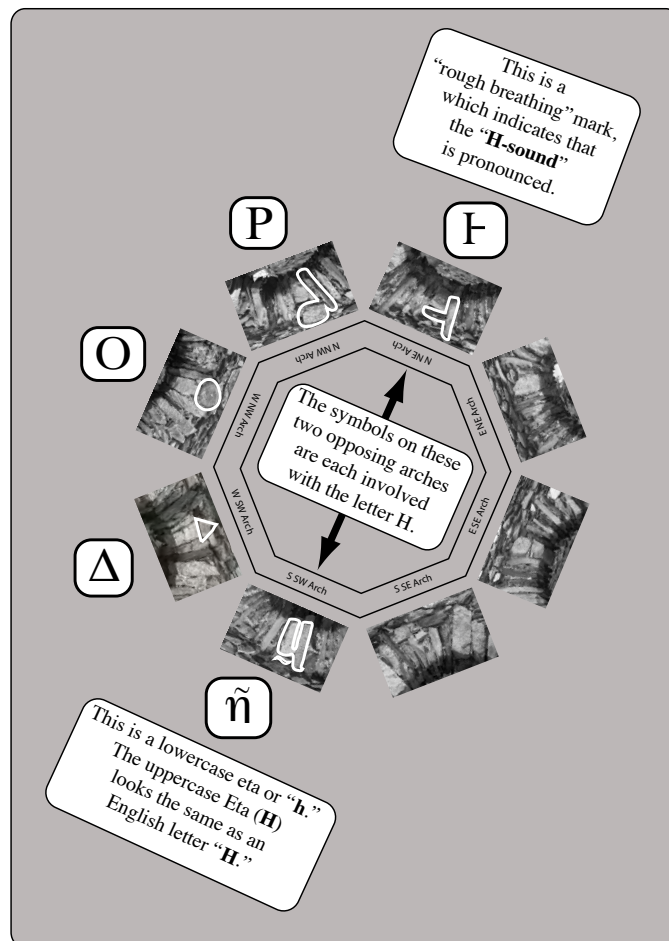
Dee’s switching the “final letter” from uppercase H (Eta) to lowercase h (eta) brings attention to the “letter Eta.” This is the **exact same letter** that is “sliced in half” to make the “rough breathing diacritical mark” indicating “an aspirated sound of an H” at the beginning of the word RODE.

In other words, **the first and last rock-letters are related**. They are both variations of the letter *Eta*. (And in the Tower, they are exactly 180 degrees apart, exactly opposite each other.)

To me, Dee’s use of the lowercase η, alongside the uppercase letters POΔ, is actually a confirming clue.

He’s cryptically saying, “Pay attention to the letter Eta. The Ancient Greek diacritical mark, (Ɑ), at the beginning of this word indicates **it should be pronounced in the Ancient manner**: hRrO-DEe”

For a letter that doesn’t count much Dee certainly gets a lot of clue-mileage out of H. Dee also plays with it in the word “IEROGLYPH-IKON,” where it is implied before the beginning letter “I.” And the word “HIEROGLYPHIKON” itself even means an “enigmatic symbol.”



[Dee also plays with the “letter H clue” idea in his prayer on page 64 of *General and Rare Memorials*, where he spells Jerusalem as Hierusalem. In this instance, the H indicates that the vowel “i” has rough breathing, making it sound like a J. (Jer-u-salem, not Ire-u-salem)]

*Dee used the same riddle in the Tower's stone-letters
that he used in the Title page!*

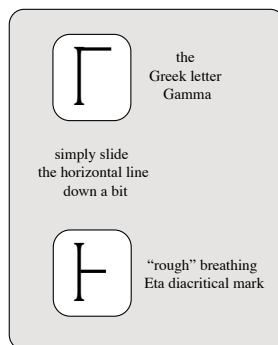
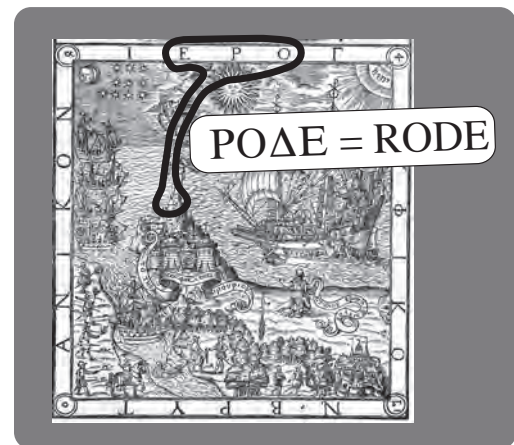
I'll admit that finding hidden Greek letters in the rocks of the centuries-old building sounds a bit far-fetched. But remember, we're dealing with Dee here.

He creatively designed the astronomically-oriented windows and the mathematically harmonious proportions of the Tower.

He was an expert in the Greek language, having taught it at Trinity College.

He had incorporated Greek word clues in the Title page of *General and Rare Memorials*.

In fact, one of the clues he hid involved the very same letters in the word RODE.

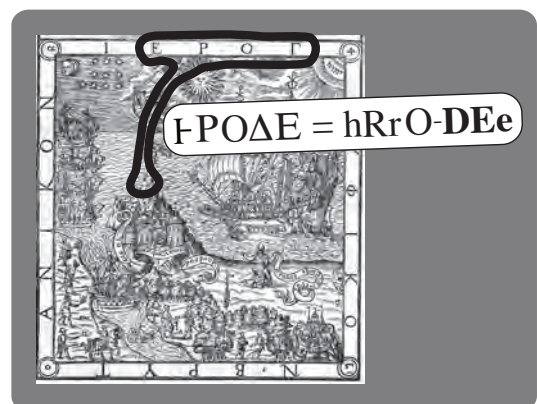
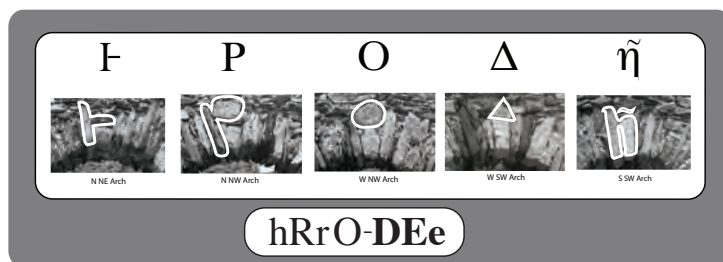


Indeed, the Greek letter Gamma, (Γ), which is used in the ΙΕΡΟΓ part of Dee's Greek word ΙΕΡΟΓΛΥΦΙΚΟΝ (IERO-GLYPHIKON), closely resembles the “rough-breathing, right-pointed thumb-tack symbol.”

Just slide the short middle line down a little bit.

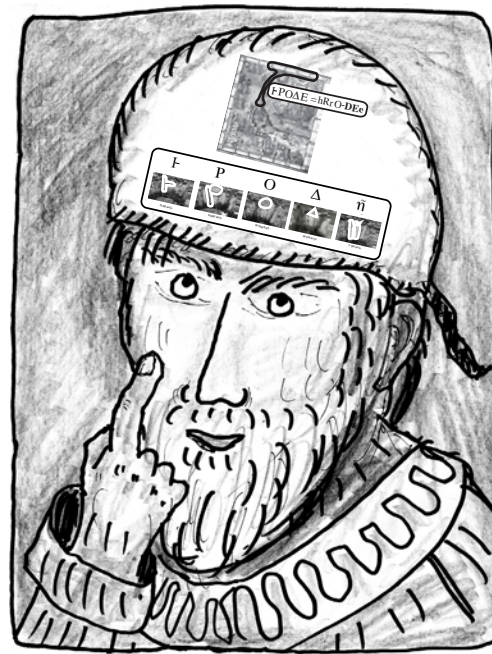
(Alternatively, an “H” can be made by combining the I and the Γ. Or an “H” might be implied by the word IEROGHYPH-IKON, which might also be written as HIEROGLYPHIKON.)

Now we have all of the 5 symbols or sounds that are on the 5 arches of the Tower! (It's interesting how, some four centuries later, a weathered 1583 stone Tower can provide a clue to interpreting a 1577 illustration-riddle.)



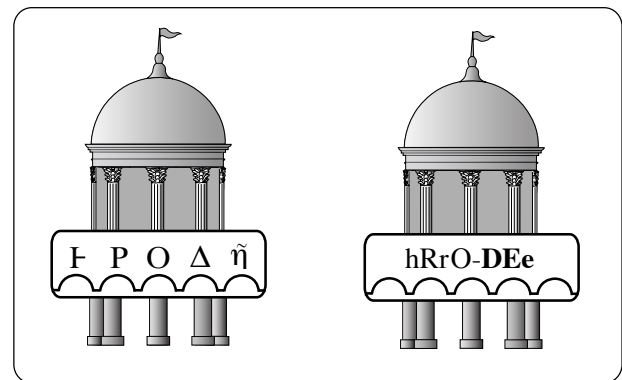
Finding in the same letter-riddle in the arches of the Tower and in the Title page illustration helps confirm that this is what Dee had in mind.

You can sense Dee's mind spinning with possibilities about how to express his RODE letter-riddle game. One method had to work using ink and paper, the other had to be created from fieldstones.



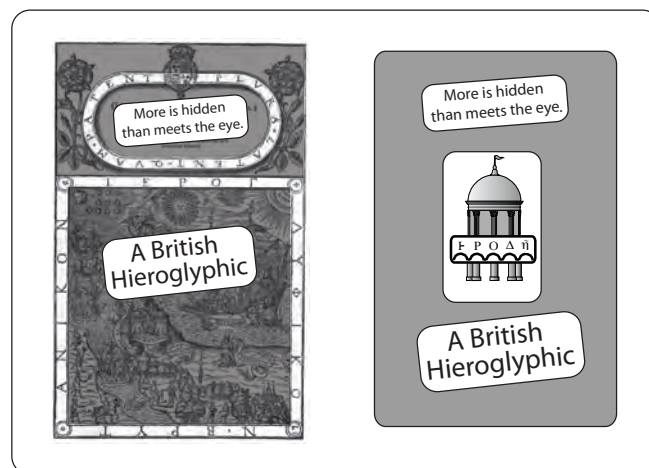
These hidden rock-letters are in keeping with Dee's style of clue making: Right front of your eyes, yet invisible, unless you are on his wavelength. (Indeed, thousands of eyes have looked at the Tower over the years and not seen these Greek letters.)

I suggest that Dee probably sketched out the size and shape of the stones he wanted used in making the letters and included the drawing among the blueprints of the Tower. Far from being far-fetched, to me these rock help prove John Dee designed the Tower.

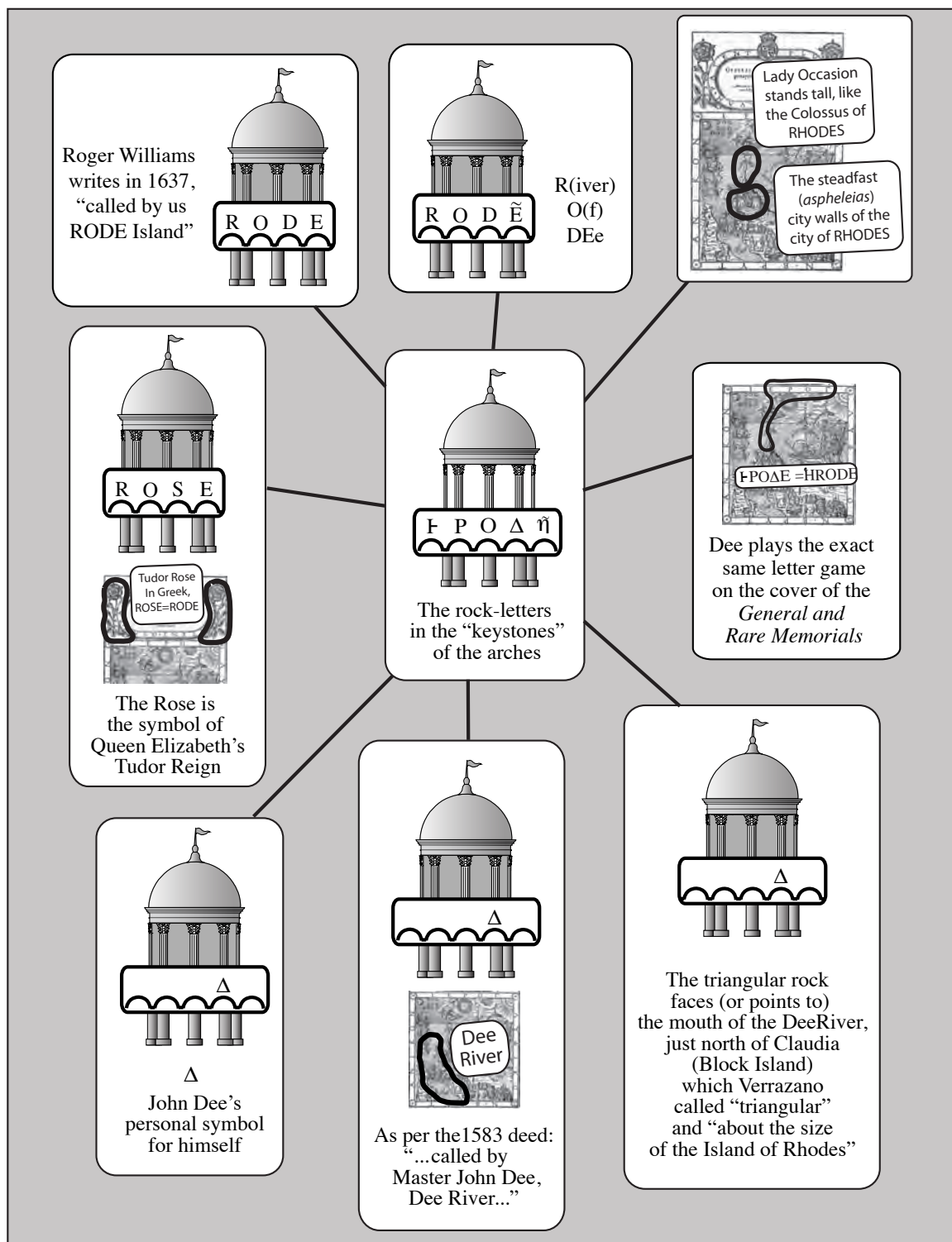


Summary

Just like his Title page to *General and Rare Memorials*, the John Dee Tower is designed to be a "British Hieroglyphic," in which "More is hidden than meets the eye."



Dee's superb orchestration of clues is evident when they are all assembled in one chart:



All these "little riddles" are part of one "grand riddle."
 The "code name" for the first Elizabethan colony
 in the New World was RODE ("hRrO-DEe").
 The same name we use today.

A DEEPER CLUE ABOUT THE SYMBOLS IN THE ARCHES OF THE TOWER: IN ANCIENT GREECE, THE LOWERCASE ETA MEANT EIGHT

Ancient Greek Numerals

The lowercase *eta* relates to the Tower and to Dee's mathematical cosmology in a very important way. In Ancient Greece, **the lowercase *eta* meant the number “eight”** (and I don't mean *eta* sounds like “eighta.”) Here's a little background.

Around 350 BC, the Ancient Greeks adopted a system of representing numbers using Greek letters. These numerals were called alphabetic numerals, Ionian numerals, or the Milesian numerals. (They were invented by the Greeks who lived in the town of Miletus in Ionia, the eastern part of Greece that was actually in Asia Minor.)

The digits 1 through 9 were
each assigned a separate letter.

The multiples of 10
(10, 20, 30... 90)
were different letters.

The multiples of 100
(100, 200, 300 ... 900)
were different letters.

1 = α	10 = ι	100 = ρ
2 = β	20 = κ	200 = σ
3 = γ	30 = λ	300 = τ
4 = δ	40 = μ	400 = υ
5 = ε	50 = ν	500 = φ
6 = Ϝ	60 = ξ	600 = χ
7 = ζ	70 = ο	700 = ψ
8 = η	80 = π	800 = ω
9 = θ	90 = Ϟ	900 = Ϡ

This system requires 27 letters.
But as the Greeks only had 24 letters in their
alphabet, three new symbols were adopted:

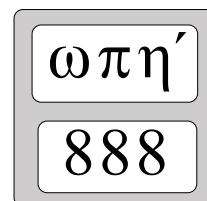
The *digamma* represented the number 6.

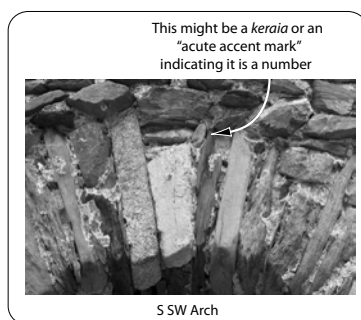
The *quoppa* represented the number 90

The *sampi* represented the number 900.

Three additional symbols were needed		
6 Ϝ digamma	90 Ϟ quoppa	900 Ϡ sampi

So that numerals wouldn't be read as letters, the
Greeks put an accent mark following a group of letters
that was meant to be a number. This *kerasia* (Greek for
“a hornlike projection”) looked like an “acute accent”
mark. The number 888 would be written like this:





Eta is the actually seventh letter of the Greek alphabet. But because the *digamma* was used to represent 6, that pushed the "eta" up one spot so that it represented 8.

To the right of the stone "eta" letter in the Tower, there is a small vertical rock. But there are so many small stones on the face of the Tower, its hard to say definitively that this stone was intended to be a *keraia* or accent mark.

1 = α	10 = ι	100 = ρ
2 = β	20 = κ	200 = σ
3 = γ	30 = λ	300 = τ
4 = δ	40 = μ	400 = υ
5 = ε	50 = ν	500 = φ
6 = ζ	60 = ξ	600 = χ
7 = Ϝ	70 = ο	700 = ψ
8 = η	80 = π	800 = ω
9 = θ	90 = ϣ	900 = Ϡ

The Greeks expressed the number 8 with the lowercase letter eta (η)

[Why the Greeks used a new mark for numeral 6 instead of 9 (like 90 and 900) is not known. The Greek Eta (H) derived from the Phoenician letter Heta which was the eighth letter of the Phoenician alphabet. Curiously, the Phoenician Heta looks like a "square 8-shape" (𐤇). However, not much should be read into this because the Phoenicians used groups of slashes for numbers and our modern figure-8 derived from Arabic numerical symbols. The Etruscans also used this "square 8-shape" for their letter Heta.].

Of course, the modern Greeks use Arabic numerals like we do. But for ordinal numbers (numbers which order things) modern Greeks use the ancient letter-number system. The only difference is that they use uppercase letters instead. For example in modern Greek, "Philip the 8th" would look like this:

Φίλιππος Η'

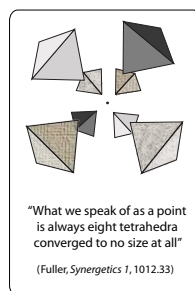
Philippos the 8th

But remember, the Ancient Greeks made their numbers from **lowercase letters**. To me, this is another reason why John Dee used the lowercase letter *eta* instead of an uppercase *Eta* in the arch of the Tower. The lowercase *eta* says "eight."

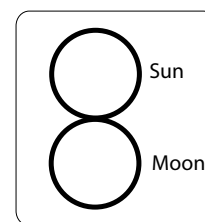
And Dee loved the octave. It was at the heart of his mathematical cosmology.



It's the octave in the "octave, null nine" rhythm of Consummata.



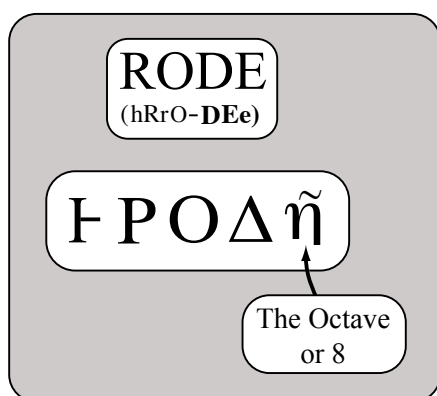
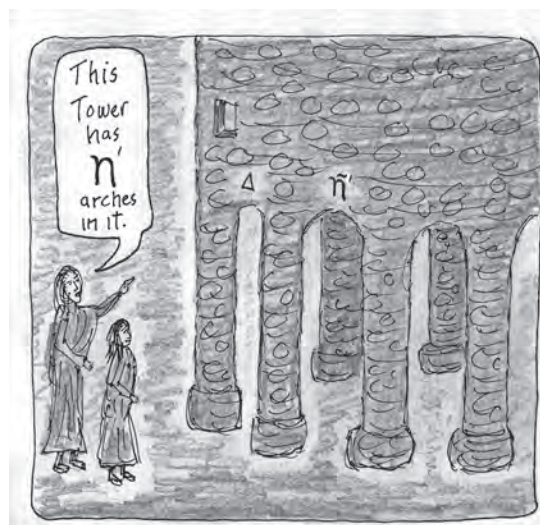
It's the 8 tetrahedra that make a cuboctahedron.



In Arabic numerals, the 8 is made from two tangent circles, like the "Sun and Moon," a main theme of Dee's *Monas Hieroglyphica*.

The octave is pretty obvious to anyone who looks at the Tower. Not only is it proudly perched on eight solid pillars, there are eight semicircular arches bridging those pillars.

Imagine two ancient Greeks time-traveling to visit the Tower. One might tell his friend, “this tower has η’ arches in it.”

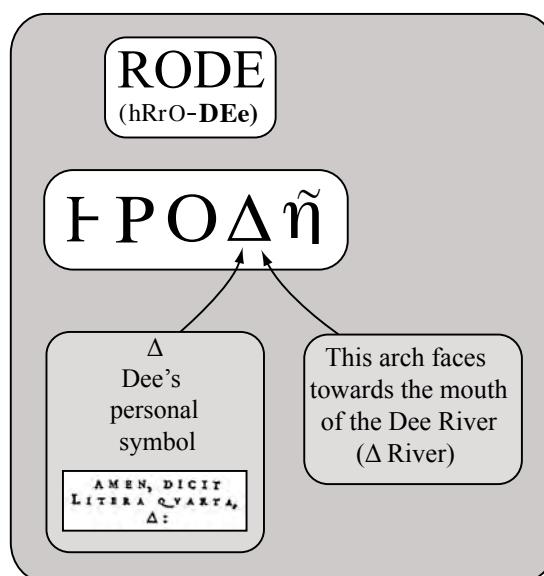


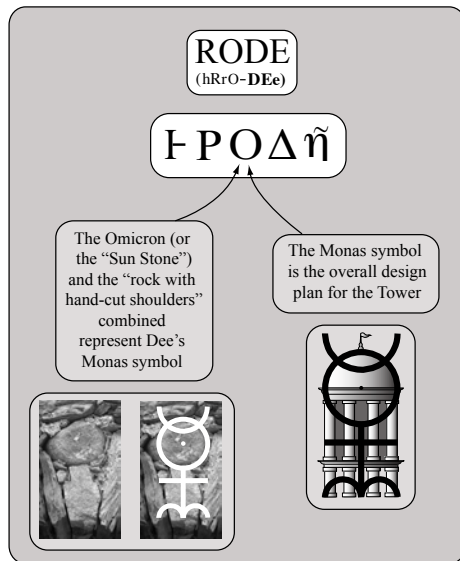
In short, Dee didn’t use the lowercase eta simply because it was a little more obscure-looking than the uppercase *Eta*. The lowercase *eta* brings a mathematical dimension to the word RODE. And he loved numbers. If Dee had used an uppercase *Eta*, it would **not** have implied “8-ness.” Only the lowercase would do.

Remember, several of the stone-letters in the other arches have multiple meanings as well.

The triangle not only represents the Δ in “ROΔE,” but it also represents Dee’s name, the triangle Δ.

And it faces the mouth of the Dee River (Δ River), which just north of the triangular Δ island of Claudia.





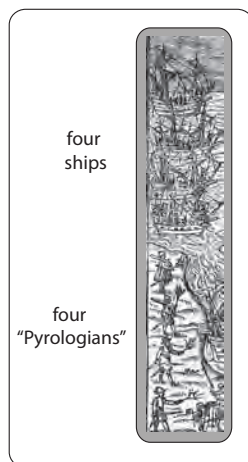
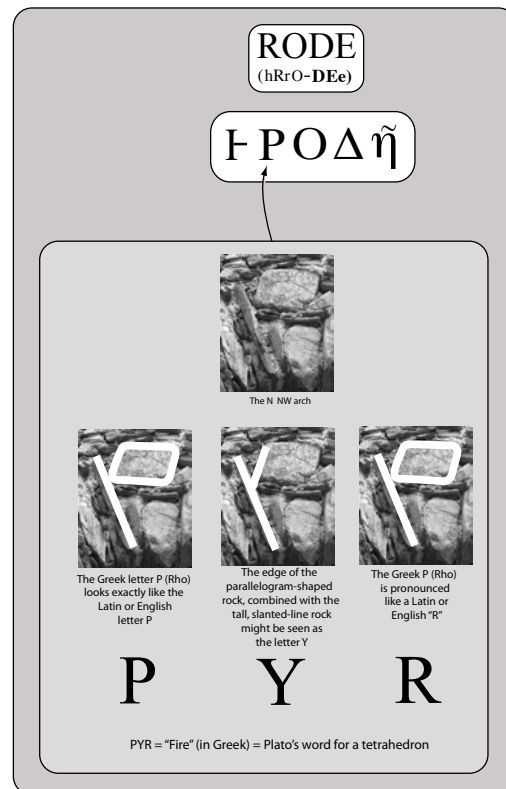
Underneath the “O” shaped “Sun Stone” is a rock with hand-chiseled “shoulders.”

Combined, I think they represent the Monas symbol, which is not only Dee’s graphic summation of his mathematical cosmology, it’s also the blueprint for the whole Tower.

Dee liked to play around with the idea that the Greek P (Rho) was pronounced like the Latin or English letter “R.” He also liked the word PYR, as in pyrologian. In Greek, PYR means “fire,” and Plato associates the Element of fire with the tetrahedron (or PYRamid).

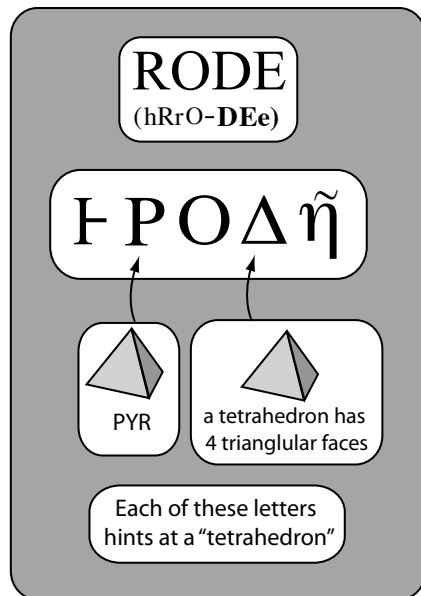
I think Dee instructed the builders of the Tower to use a parallelogram-shaped rock to make the circular part of the P (Rho) **so the letter Y might also be seen.** The left edge of the parallelogram, combined with the tall “vertical-line” rock seem to make a Y shape. Perhaps this is why the “vertical line” rock is slightly slanted. It makes a more convincing letter Y.

In other words, these “keystone area” rocks might express the letter P (Rho) or the idea of fire (PYR).



Remember that Dee drew a tetrahedron on the Title page of *General and Rare Memorials* and made a “triangle word-riddle” about each of the 4 triangular faces. He also drew 4 “pyrologians,” or men brandishing fire, again hinting at a tetrahedron.

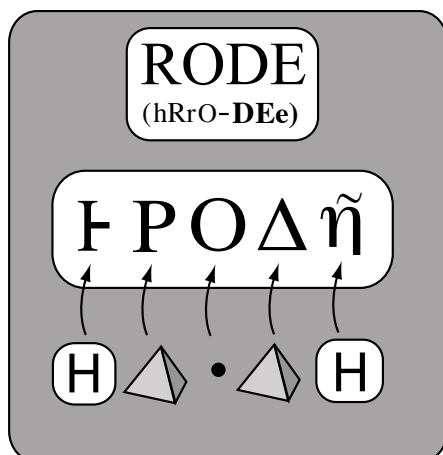
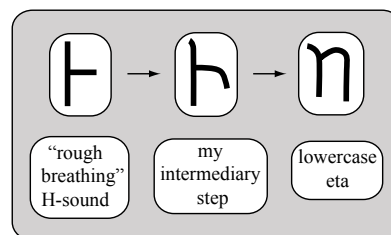
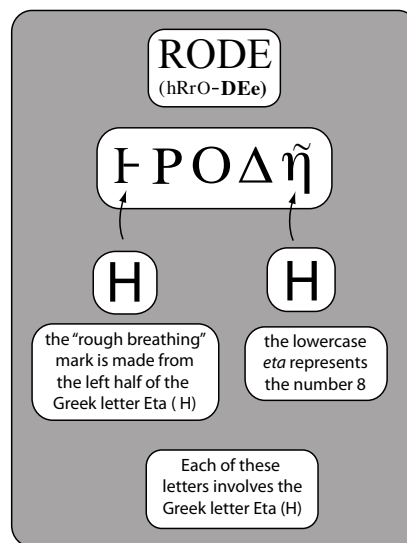
Not only does the word PYRO contain the sound “Rho,” it contains both both a P and an R. You can be sure Dee was amused by a word containing equivalent Greek and Roman letters, and that also meant “tetrahedron” to his favorite Greek philosopher.



In a similar fashion, the first and last symbols might also be “paired up.” As we’ve seen, they each involve the Greek letter *Eta* (H). The first symbol is made from the left half of letter *Eta*. The last symbol is the lowercase *eta*, which represents the number 8.

Besides being both involved with the letter Eta, the first and last symbols are related in other ways. To see their graphic connection, here I have drawn an intermediary step.

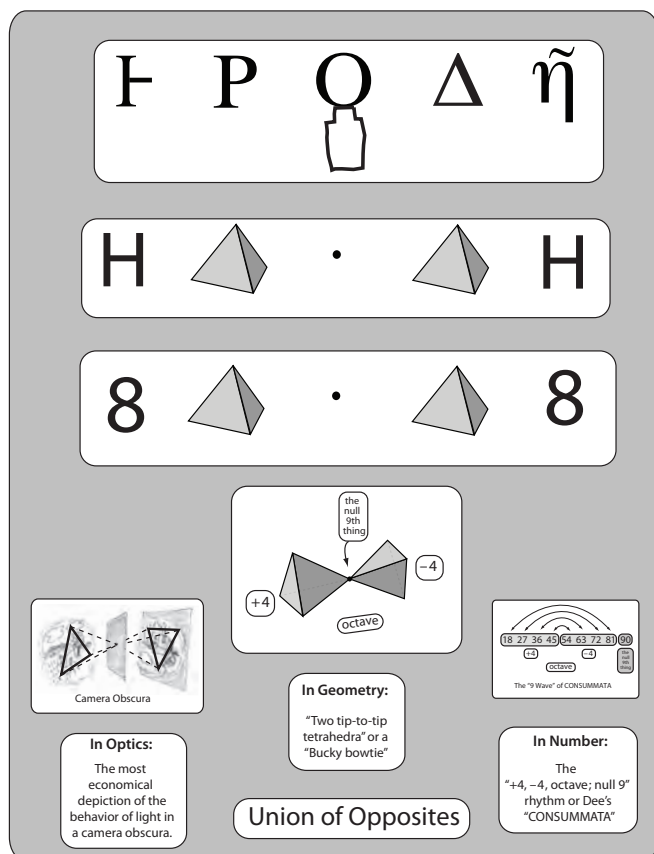
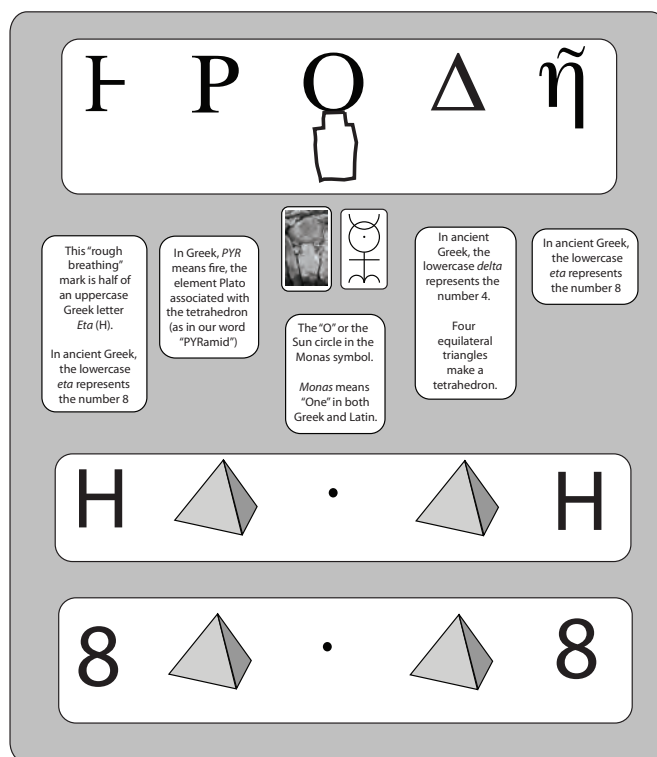
I’m not suggesting that one morphed from the other. I’m merely visually emphasizing how they are close cousins, each being a variation of the uppercase H-shape.



Thus, the P (Rho) in this arch relates to the triangle (or tetrahedron) in the arch with the triangle-shaped (Delta Δ) rock.

To summarize, there is a certain symmetry to Dee’s clue-scheme. It is centered around the circular Omicron (O), which I have depicted as a point, as Dee tells us, “the circle could not exist without the point.”

As the H represents the number 8 in ancient Greek, a picture emerges that is an echo of Dee's cosmology. It involves the octave, two tetrahedra and the idea of "oppositeness."



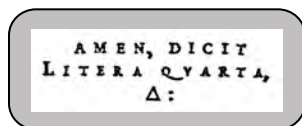
If the two tetrahedra are reoriented, they form the "Bucky bowtie" or the two tip-to-tip tetrahedra arrangement.

In **Geometry**, this is a representation of the "+4, -4, octave," and the "null 9" is the point of intersection.

In **Optics**, this is the most economical depiction of the behavior of light in a camera obscura.

And in **Number**, this is the +4, -4, octave; null 9" rhythm found in the "9 Wave, the 99 Wave, the 1089 Wave, ..." of what Dee calls CONSUMMATA.

This arrangement of “H’s” and “tetrahedra” expresses Dee’s cosmology in another mathematical way. The triangle in the word “ROΔE” can be seen as Dee’s personal symbol, which he proudly asserts is the “Fourth Letter” (in Hebrew, Greek, and Latin.)

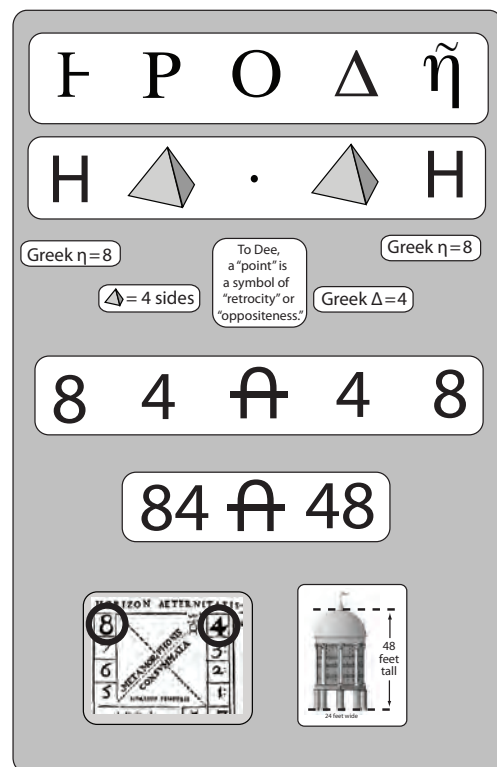


The *tetra* in tetrahedron means 4, and the *hedron* means sides. Numerically, Dee’s arrangement can be seen as 8’s and 4’s. Merge these digits to make 84 and 48, and suddenly we have a transpalindromic pair that is important in Dee’s mathematical cosmos.

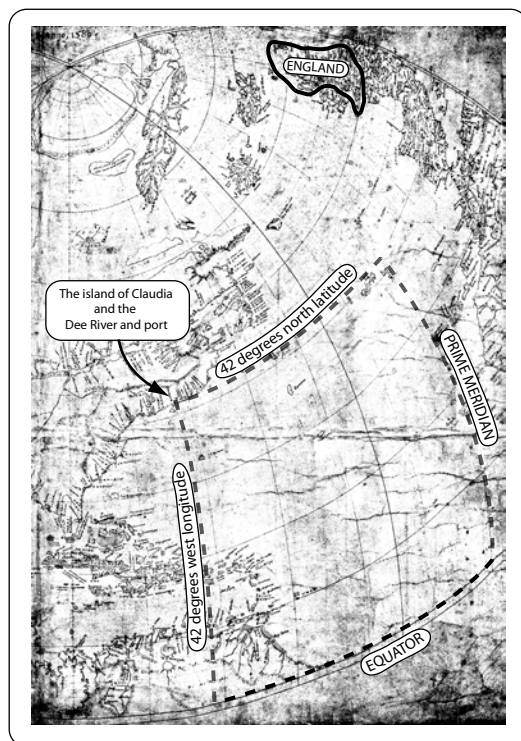
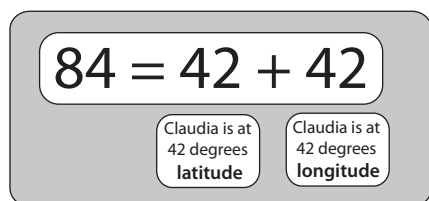
The ratio 48:84 is equivalent to 4:7, as are these related ratios which Dee calls “Gradus” or Grades, 12:21, 24:42, and 36:63. (This key 4:7 proportion can also be seen in important ratios 144:252 and 252:441).

The digits 8 and 4 are the boldest, most prominent digits on Dee’s “Thus the World Was Created” chart.

And 48 feet is what I consider to be the original height of the John Dee Tower.

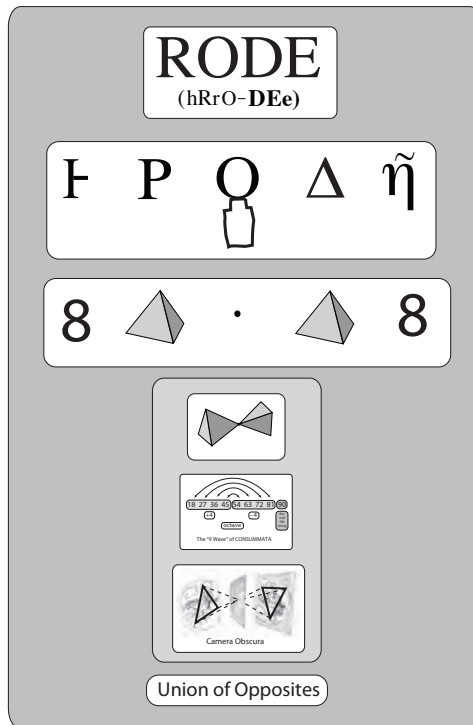


Here’s another related curiosity. Dividing 84 in half results in 42+42. This pinpoints the island of Claudia and the Dee River on Dee’s maps: 42 degrees latitude and 42 degrees longitude!



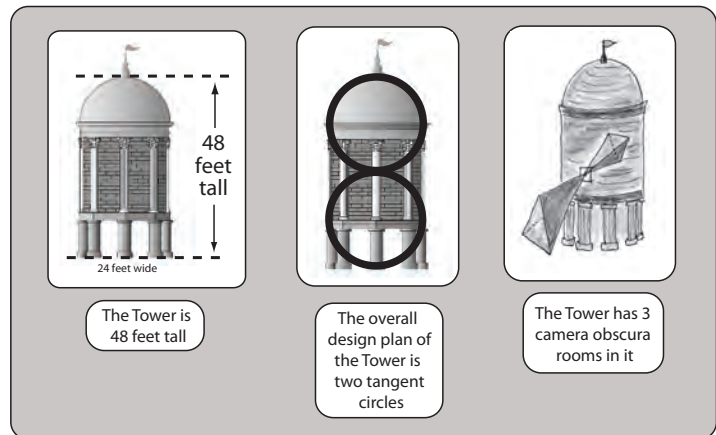
The island of Claudia and the Dee River and port at 42 degrees north latitude and 42 degrees west longitude on part of Dee’s 1580 map of North America

To visually summarize, the “hRrO-DEe” written in the stone-and-mortar Tower expresses the Union of Opposites, the main theme of Dee’s *Monas Hieroglyphica*.



Not only was the Tower originally 48 feet tall, its overall design plan was “two circles,” like Dee’s classic opposites, the Sun and the Moon. And that shape just happen to be a figure-8.

Furthermore, the Tower’s function incorporates the “Union of Opposite – it contains 3 camera obscura rooms!



In short, the letters which name this location (RODE) also explain how the building works!
That Dee was a master web-weaver.

If my analysis of the “secondary meanings “ of the 5 symbols in the arches of the Tower is correct, we should expect to find similar clues in the Title page of *General and Rare Memorials*, which is Dee’s “visual paean” to the word RODE.

(A paean is a “song of praise.” I see the Title page as Dee’s ”graphic tribute” to the name “RODE.”)

The tetrahedra in the Title page

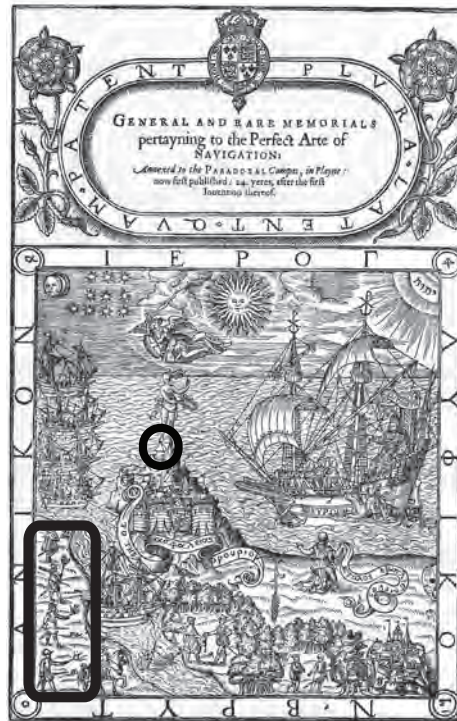
Finding one tetrahedron is pretty easy – it's under Lady Occasion's foot.

And the “4 pyrologians” are a cryptic representation of another tetrahedron.



Pyrologians

PYR = fire =
tetrahedron



The 8's, or the H's, in the Title page

8



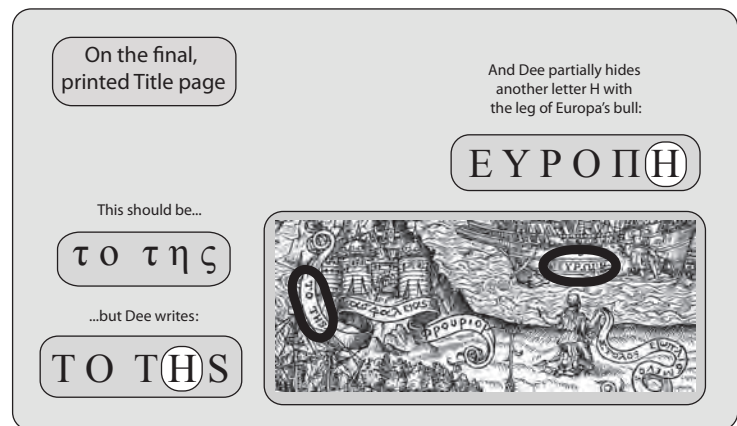
The “4 pyrologians” and the “4 ships at rode off the coast” constitute one representation of the number 8.

Another is the “two circle or the “sideways figure-8” design framework for the lozenge-shape containing the title.

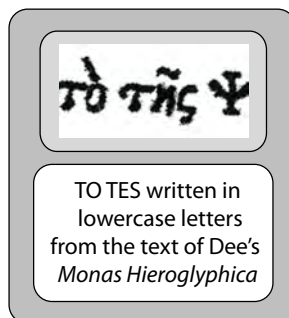
There are two prominent *Eta*'s or "H shapes" in the Greek words in the middle of Dee's illustration, each with a hint that Dee has planted them there.

Most of the letters of Dee's plea, "**Stolos explisminos TO THS asphaleais phrouriam**" are lowercase Greek letters, but a few, most notably "**TO THS**" are uppercase.

The detailed-oriented Greek-scholar Dee would not have done this by accident.



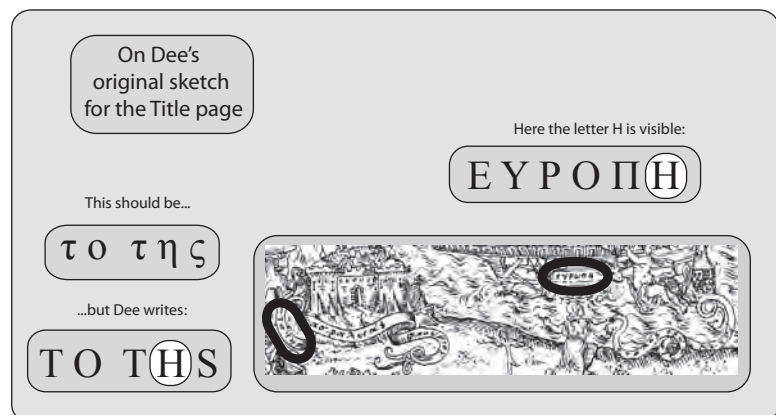
Another "disguised" H appears in the word EYPOΠH, running along the side of the Queen's ship. The final letter, H, is half hidden by the leg of Europa's bull.



In the text of the *Monas Hieroglyphica*, Dee spells these words in lowercase. By making them uppercase on the Title page of *General and Rare Memorials*, Dee seems to be "disguising" the H in THS, which should really be a lowercase eta, η, or the number 8.

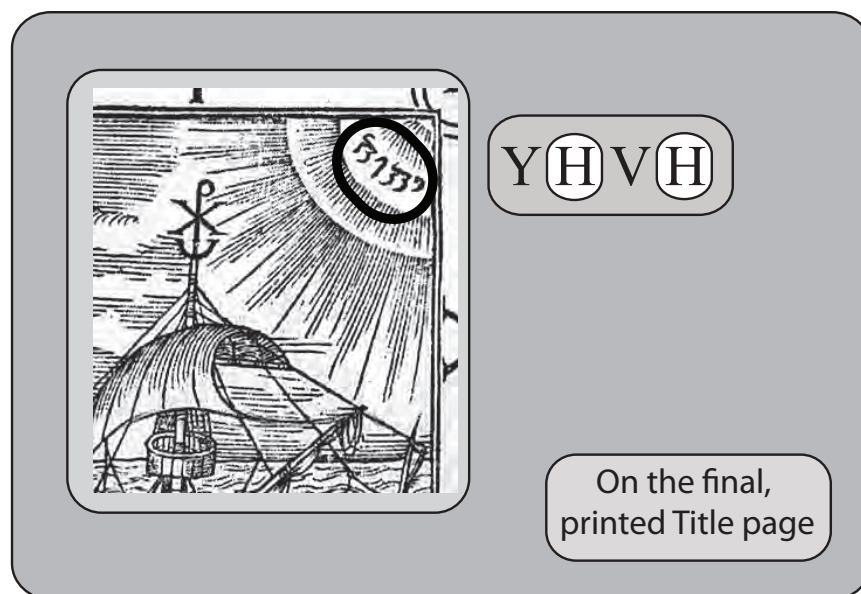
As can be seen in Dee's original sketch, this "hiding the H with the leg of Europa's bull" is a refinement made later on, in the finished illustration.

But he had already thought of making the "H" in "TO THS" uppercase.

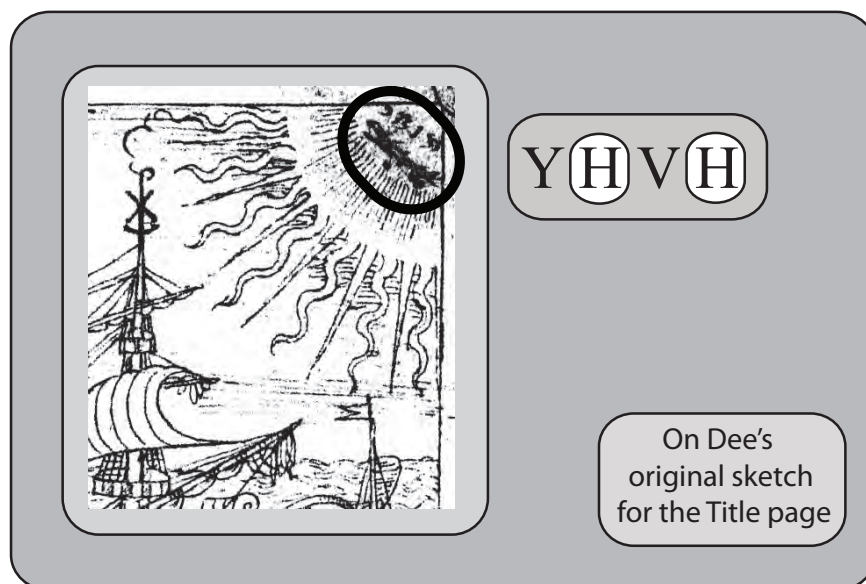


Dee cleverly concealed yet another pair of “H’s” in the Title page. Radiating out of the upper right hand corner are the letters Yod–He–Waw–He. This is the *Tetragrammaton*, or the 4 -letter name of the God in Hebrew.

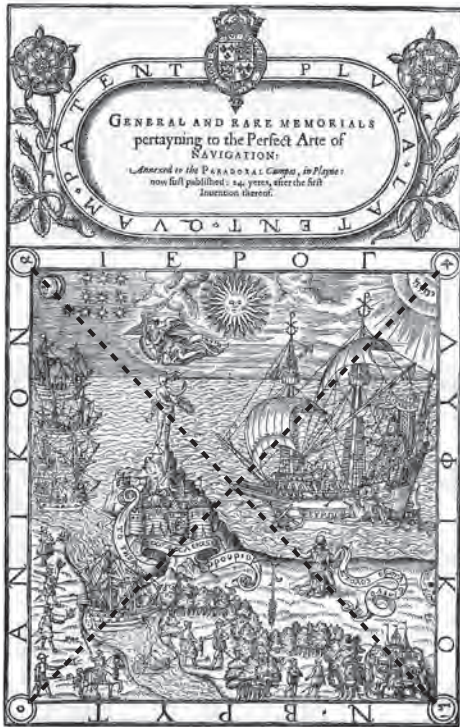
These Hebrew letters correspond to the Latin letters YHVV, which just happens to have two H’s in it. (Leave it to Dee to hide a clue in the name of God)



In his original sketch, Dee must have had some other word in mind. He crossed it out, and for some reason wrote the four Hebrew letters left-to-right-reading instead of the normal right-to-left-reading.

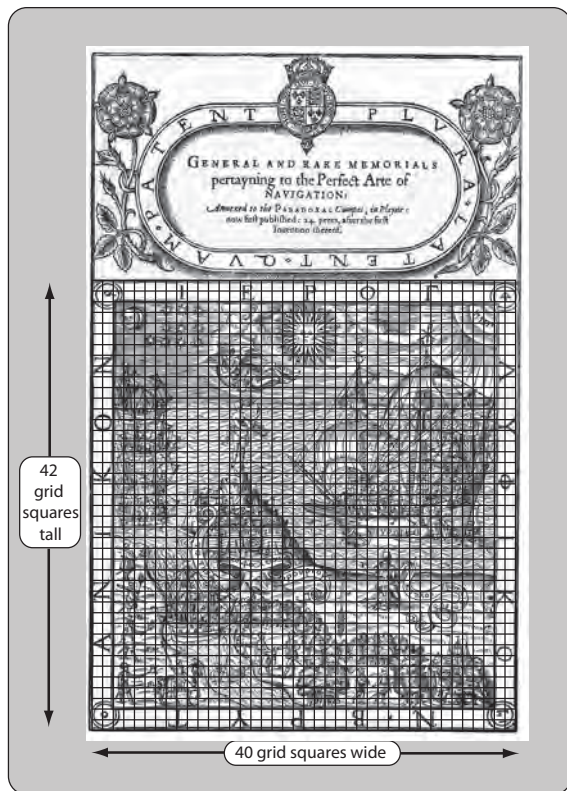


The “point” in the Title page



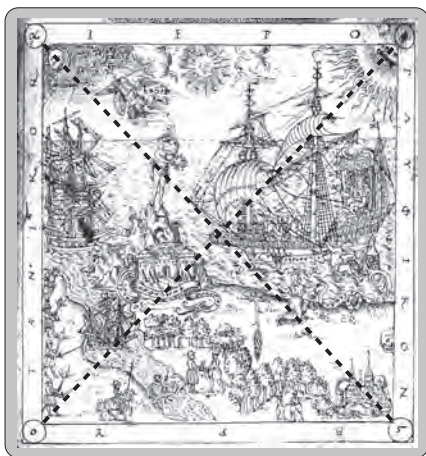
To graphically conceal the idea of “a point” is challenging. In the *Monas Hieroglyphica*, Dee writes at great length about the “point” in the center of the cross.

Making a giant “X” from the 4 corners of the illustration, the “point” of intersection coincides with the front tip of the bow the of Elizabeth’s ship of state. Metaphorically this is very important “point.” It’s like the “cutting edge” or the directional point that aims England into the future.



Note that that the two lines of this giant X are not exactly perpendicular to each other. The overall shape of the finished illustration is not square, but slightly rectangular. It seems Dee employed a grid that was 42 grid-squares tall by 40 grid-squares wide.

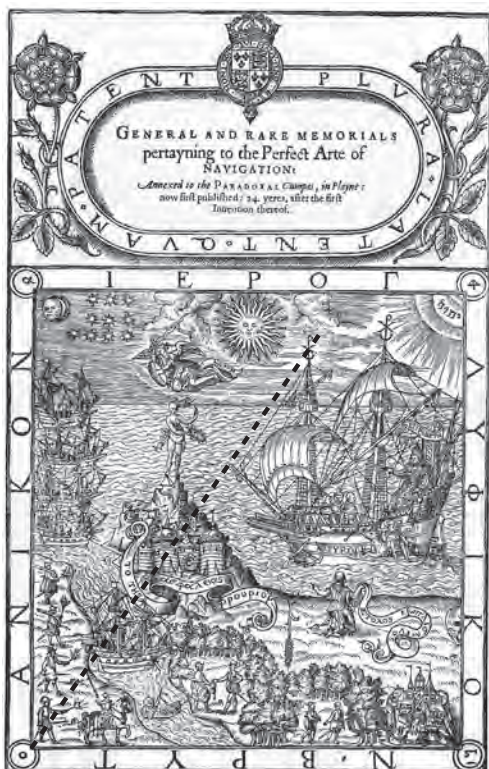
Thus, it appears that Dee is hiding another clue alluding to the fact that the Dee River is at “42” degrees latitude.



Interestingly, the tip of the prow is not exactly in the center of Dee's preliminary sketch.

He seems to have had originally envisioned a different cryptic reference to “a point.”

A line connecting the center of the “O” (or Omega) and the X in the Chi-Rho atop the forward mast, also intersects with the tips of pointy bowsprit and two of the upper wooden yards.



This “line” from the “O” – to the bowsprit tip – to the “X” can also be seen in the finished illustration. It no longer touches the (now single) wooden yard arm, but runs parallel to the bowsprit's support rope.

As can be proven geometrically, the front tip of the ship's bow is also on the vertical midline of the Title page. This midline passes through several other prominent "points."

It runs through through the center of the circular Order of the Garter emblem, the point of tangency of the two circles in the lozenge shape, and the centerpoint of the "Sun circle."

The midline passes through the "p-shaped" lowercase Greek letter *rho*, ρ in the Greek word φρουριον (*phrourion*).

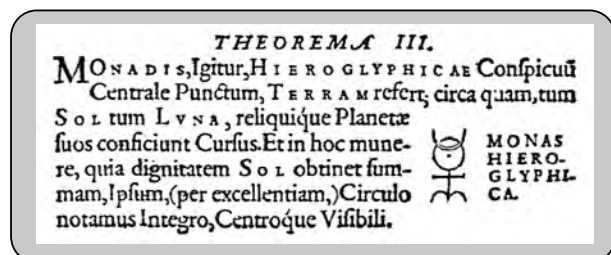
And it also passes through the only two Greek P's (*Rho*'s) in the perimeter words: ΙΕΡΟΓΛΥΦΙΚΟΝ ΒΡΥΤΑΝΙΚΟΝ (or ΗΙΕΡΟΓΛΥΦΙΚΟΝ ΒΡΥΤΑΝΙΚΟΝ)



Dee even spells out the word "POINT"

If Dee really wanted us to see these "points," he would most likely leave a confirming clue. And indeed he does.

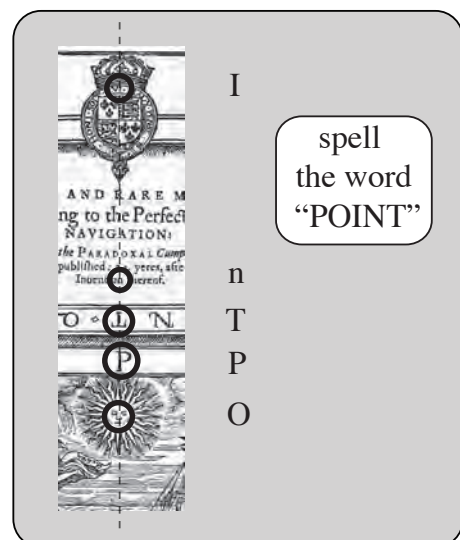
Dee emphasizes in Theorem 3 of the *Monas Hieroglyphica* that the Sun circle of his Monas symbol "is represented by a Complete Circle with a Visible Center." He calls it "the central Conspicuous Point of the HIEROGLYPHIC MONAD."



If the "Sun circle" is considered to be an English letter "O," the midline passes through all the letters needed to actually spell the word "POINT."

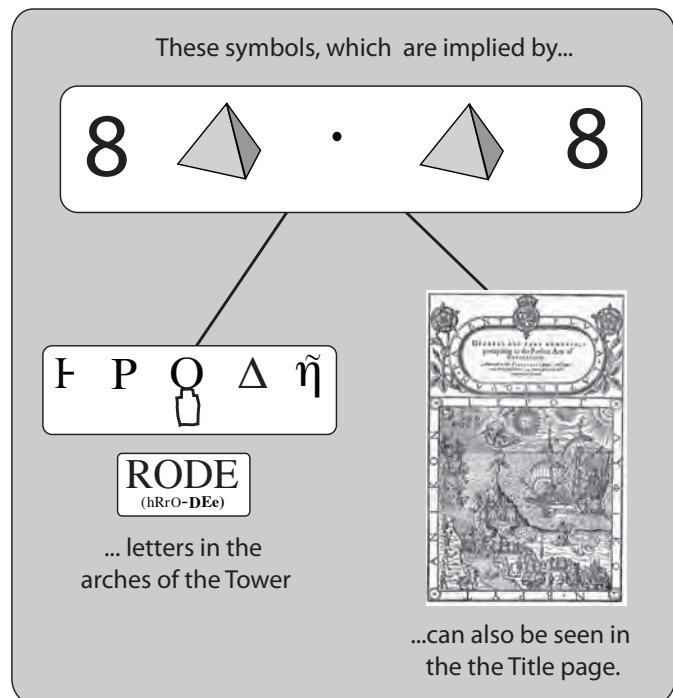
It passes through the "I" in HONI, the "n" in Invention, the "T" in LATENT, and the "P-shaped" Rho in ΙΕΡΟΓΛΥΦΙΚΟΝ (HIEROGLYPHIKON).

Dee loved to talk about the "POINT." In his cosmology, it was the very first thing to exist. In the *Monas*, he frequently refers to the "sharp, stable point." In Theorem 2, he declares that without the point, neither line nor circle could be crafted, concluding, "... things came into being by way of a point..."



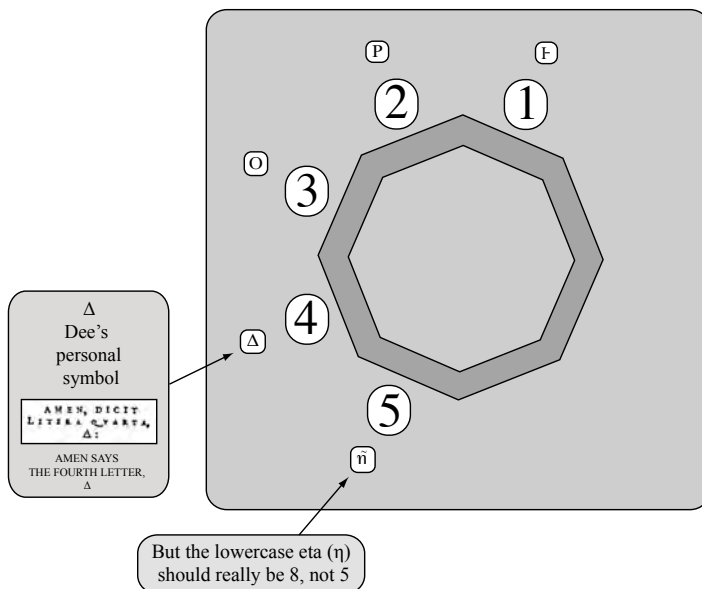
To summarize, thinking like Dee, the various letters in the arches of the Tower have symbolic meanings of the number 8, the tetrahedron, and the “point.”

Representations of these symbolic meanings can also be found in the Title page of *General and Rare Memorials*.



Let’s analyze this idea of “8-ness” a bit further.

If we were to number the arches starting at the beginning of Dee’s 5-symbol word, it might look like this:

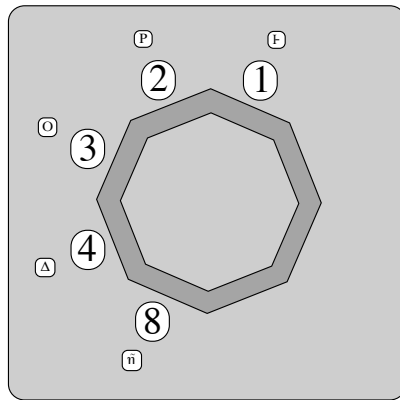


Propitiously, the fourth letter is the Greek letter Delta (Δ).

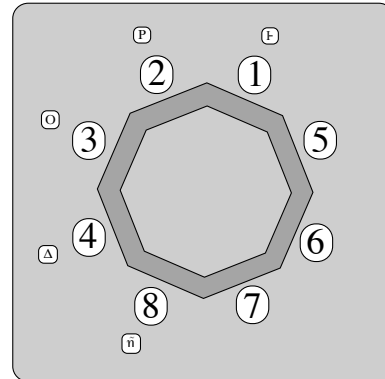
Dee was quite enthused that his name, “Dee”, was the 4th letter of the Greek, Latin and even Hebrew language. At the end of the *Monas Hieroglyphica* he simply calls himself “THE FOURTH LETTER, Δ.”

You can be certain Dee was aware the Δ was the FOURTH symbol in his 5-symbol word.

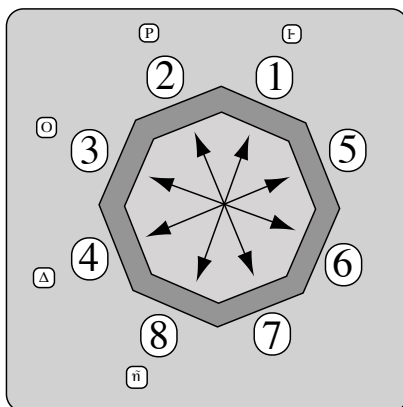
But the final letter, the lowercase *eta*, **shouldn’t** really be a numeral 5. In Greek, the lowercase *eta* means “8.”



So let's make re-
place the numeral 5 with
the numeral 8.



Now, the most logical way
of placing the missing letters
would be this:



This “4 clockwise and 4
counterclockwise” arrangement is
symbolic of the “+4, -4” nature of
the octave.

The interconnected 1 and 8 imply
the transpalindromes 18 and 81.

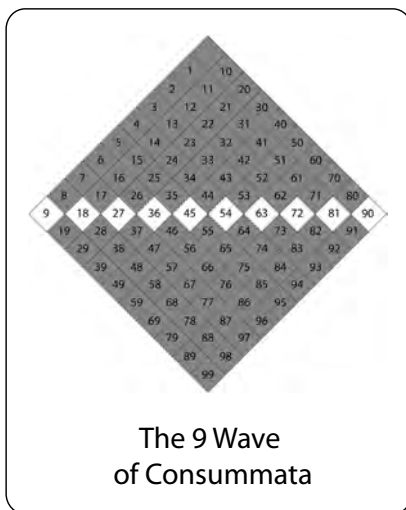
The 2 and 7 imply 27 and 72.

The 3 and 6 imply 36 and 63.

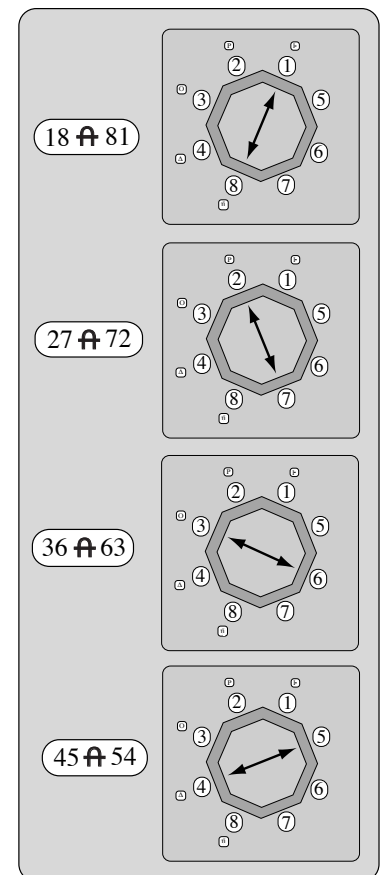
And the 4 and 5 imply 45 and 54.

This arrangement displays
the transpalindromes in the “9
Wave” of the “two digit range” of
number.

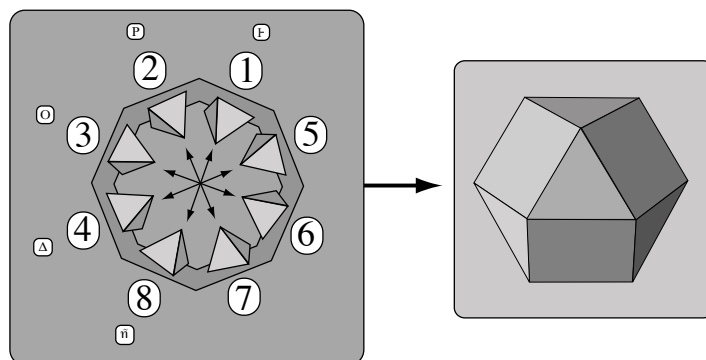
Strange as it may seem, the
arches of the Tower express what
Dee calls CONSUMMATA.



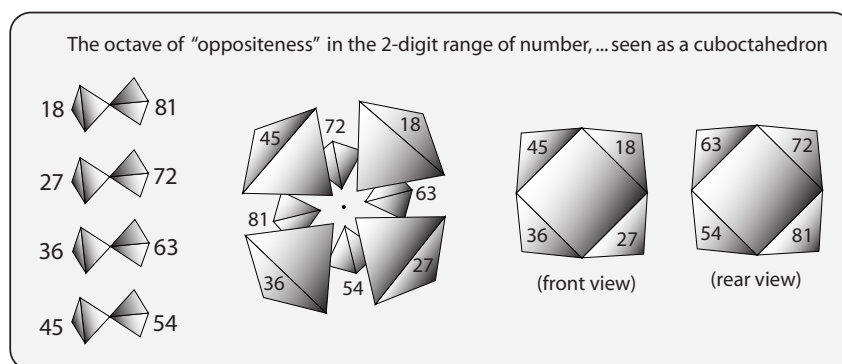
The 9 Wave
of Consummata



Using this same interconnection arrangement, let's imagine that each of the arches is a tetrahedron. Suitably arranged, they could make a cuboctahedron. (In the arch with the triangular rock, we can only see one face of that rock. Perhaps it really is a tetrahedron!)



Here's how the "9 Wave" (in number) and the cuboctahedron (in geometry) can be seen combined:



Am I reading too much into all this? Am I being over-inventive? I don't think so. It's not me who's being clever here. It's John Dee. He is the genius who conceived this letter-number-game. He loved mixing letters and numbers together to conceal clues.

In the *Monas Hieroglyphica* he uses a Latin alphabet-number code. He remarks "X is the 21st letter," and that "V is the 20th letter," and that his own personal symbol "Δ (Delta) is the 4th letter."

Here, in the arches of the Tower, he is simply using a "Greek alphabet-number" code instead of the "Latin alphabet-number" code.

Would Dee really have written the word RODE in Greek, made one of the letters lowercase to indicate the number 8, and have the whole thing sculpted out of rock? Most certainly. He was a multi-disciplinary-creative-whiz-Renaissance man. And he loved to plant clues. And he was meticulous and thorough in creating them.

Many modern people see numbers and letters as mundane and utilitarian, Dee felt they were spiritual or holy. Here's the advice he gives to grammarians in his *Letter to Maximilian*:

"We admonish them, as friends, that the first Mystical letters of Hebrew, Greek, and Latin were issued by God alone and handed down to Mortals. Furthermore, (despite what may be the custom of human arrogance to boast) the shapes of all those letters derive from points, straight lines, and circumferences of circles (by wonderful and most wise artfulness)."

(Dee, *Monas*, p.5)

Dee's clues are all as interrelated as his cosmology. He intermingles geometry, number, and letters with architecture, optics and even with name of the first colony in the British Empire. Now that's creative!

Dee's Message is Simple

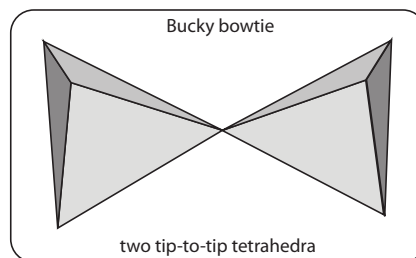
All this detailed clue-finding and mathematics should not cloud
the simple message of Dee's cosmology:

The Union of Opposites

Geometrically, Dee sees the “Union of Opposites” as 2 tip-to-tip tetrahedra.

It's the “Bucky bowtie. This is the “energy event” Buckminster Fuller described as “the tuned in or tuned out minimum structural experience of Universe.”

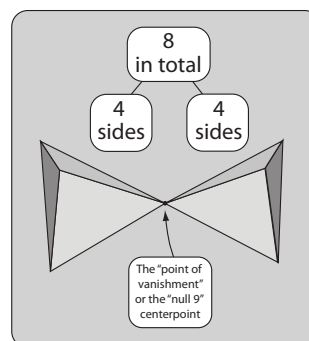
It's the most economic description of the behavior of light in a camera obscura.



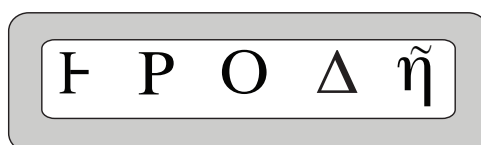
This simple idea is at the heart of Dee's most cherished work, the *Monas Hieroglyphica*.

It's at the heart of the design of the Tower. (Not just the 8 pillars, but also the three camera obscura rooms could each be described as “Bucky bowties of light.”)

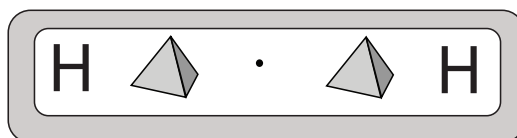
Each of the tetrahedra has 4 sides, totaling to 8 sides.



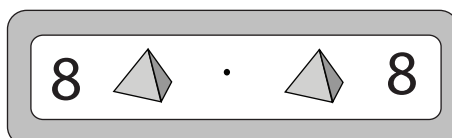
And strangely enough, the “Union of Opposites” is at the heart of the name Dee chose for the first English colony of the British Empire: “RODE” or as Greek teacher Dee creatively expressed it.



which, in a symbolic sense, means



or



A fun way to see Dee's Union of Opposites symbolism

To simplify even further, let's look at these symbols in terms of something thoroughly modern: a football game

It's going to be a great game. There is a long-standing rivalry between the "Rho Team" (P) and the "Delta Team" (Δ). We've got 50-yard line seats, so each of the H-shaped goalposts will be visible.

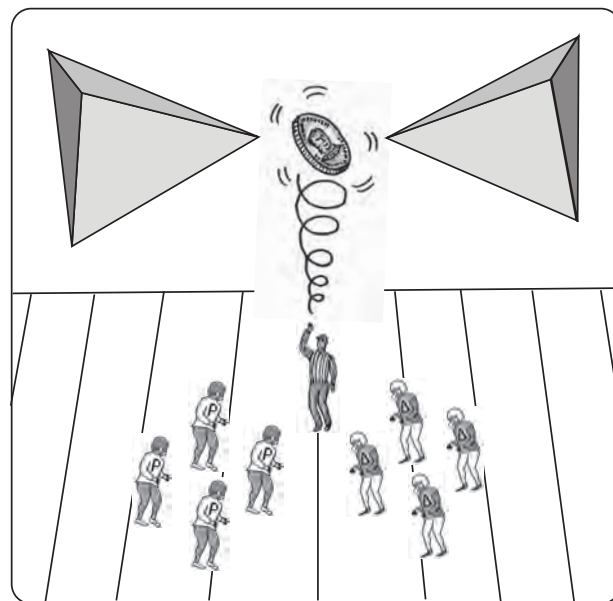
Just before kickoff, four players from each team come to midfield. The referee tosses a coin in the air.

Even though it's only one coin, it has a form that expresses the Union of Opposites. Heads and tails are truly opposites. But in another sense they are truly united, as they are each parts of the same coin. When the coin finally settles on the ground will only be one team who will get to choose whether they will kick or receive.

A symphony of opposites. Two sides of the coin.

The Rho Team in white jerseys verses the Delta Team in black jerseys. The impartial referee wears a black and white shirt.

Each team, while defending its own territory, attempts to penetrate the opponent's territory—all the way to the goal line.



Close-up view of the coin toss

Even with all this oppositeness, there is still Unity. The rival teams different, but they are similar, as they are each comprised of football players. And both teams are needed in order to play a game.

Football teams wear many different colored jerseys. But there's one color that they cannot wear. You know what that is?

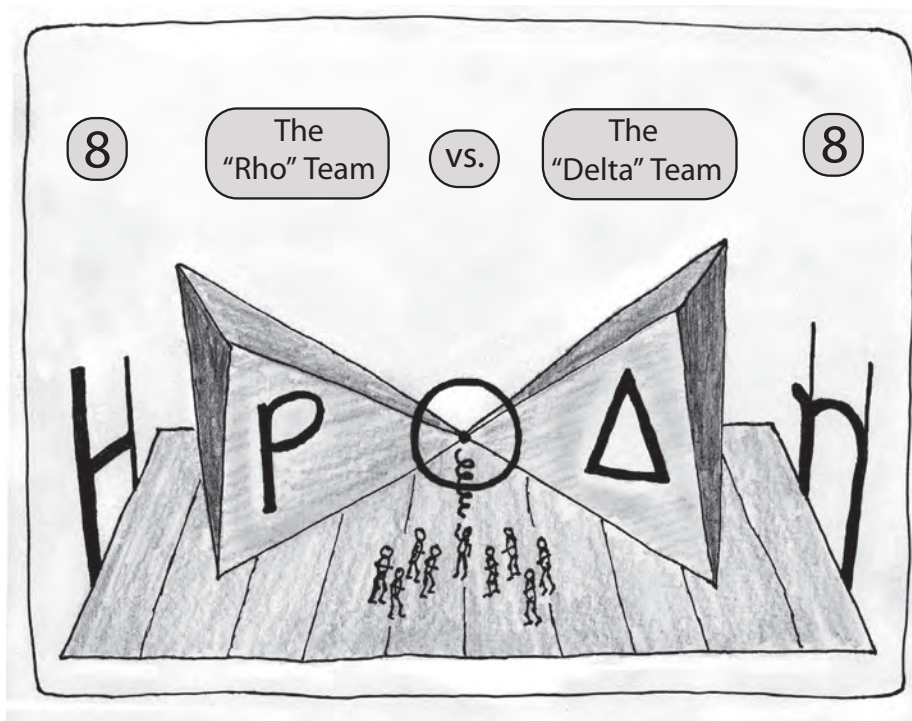
The answer is: the color the other team is wearing. If they did, there would be no visual oppositeness. Every play would be pandemonium. Still, there is unity in the sense that all the players on the field are wearing jerseys.

How does a football game say: Ƨ P O Δ ŋ

The first and last letters are forms of (H), or the two goal posts.

The second and fourth letters P and Δ each symbolize a “tetrahedron” (PYR) of football players that come out for the coin toss.

The middle letter, O, symbolizes the point of retrocity, the point of vanishment, the hole in the camera obscura, or the null 9 in number. The average guy in the street might consider a “point” to be unimportant, but to geometer Dee, it was of supreme importance. As Dee puts it, ... things came into being by way of a point...”



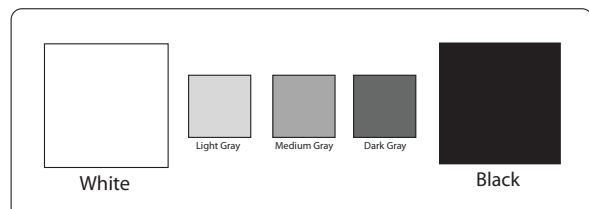
Admittedly, it seems wildly creative to say that the symbols in the rocks on the western facade of the Tower are like a football game coin-toss.



I am merely trying to help the you visualize the idea of the Union of Opposites. The more ways you visualize retrocity, the easier it is to grasp.

Some opposites are easy to visualize with tangible objects. For example, the Union of the Opposites “hot and cold” can be seen in a thermometer. The opposites of the “inside and outside” can be experienced by walking through a door.

In between white paint and black paint, one might find light gray, medium gray, and dark gray paint.



Other examples of the Union of Opposites are more abstract and harder to depict visually. Like war and peace. Or happy and sad.

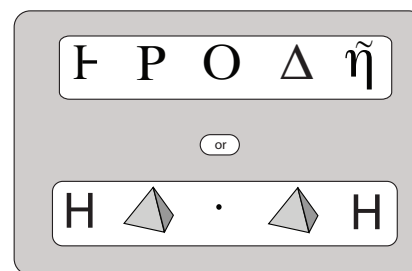
The Union of Opposites can be recognized in many fields:

rich and poor	yin and yang
wet and dry	sweet and sour
day and night	gold and silver
young and old	light and dark
acids and bases	victory and defeat
backwards and forwards	synonym and antonym

(Try to come up with a few more.
Listen for them in music lyrics.
See them in the world around you))

Dee hid his guiding principle of the Union of Opposites everywhere.

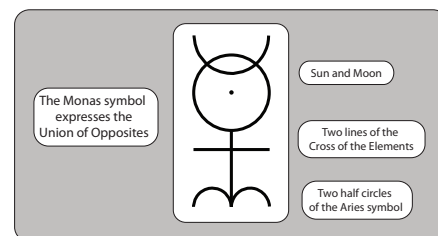
Dee was very thorough. He buried the idea of the Union of Opposites in the name of the colony. And he even buried name of the colony in the stone-and-mortar arches of the Tower.

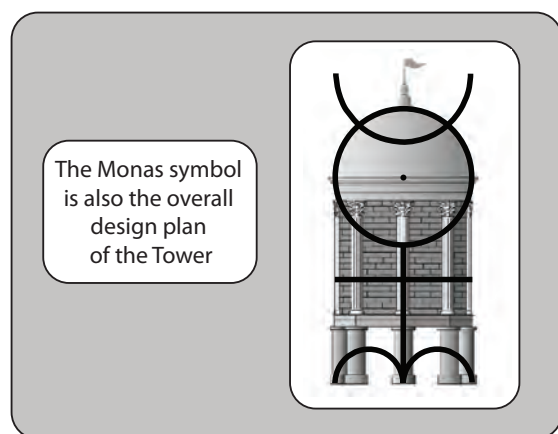


He buried the Union of Opposites in the function of the Tower (as a camera obscura).

Dee's clever Monas symbol is the epitome of oppositeness. The Sun and the Moon, the two perpendicular lines of the Cross of the Elements, and the two half circles of the Sign of Aries.

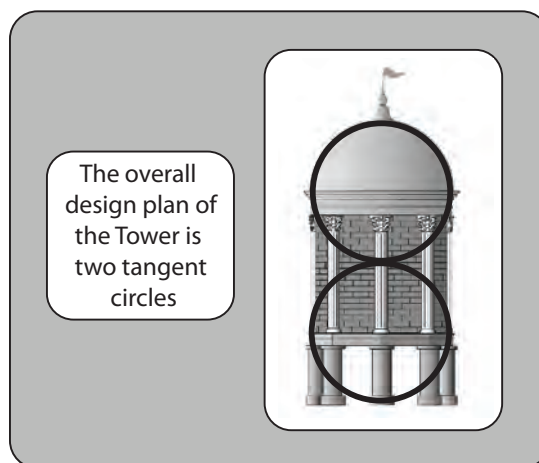
In the *Monas Hieroglyphica*, Dee emphasizes the fact that on the first of Aries, the Spring equinox, there are exactly 12 hours of light and 12 hours of darkness.





And the Monas symbol is the overall plan for the Tower. Dee's architectural wonder is a three dimensional stone-and-mortar Monas symbol.

Another way to visualize this design plan is two tangent circles. These might be seen as the Sun and the Moon. And indeed, even the shape of the number 8.



John Dee wanted the settlers of the new land to be cognizant of the Union of Opposites for moral reasons

Throughout Dee's lifetime, England was plagued by bitter infighting among its citizens.

Henry VIII split from the Catholic Church of Rome.

Under Edward VI, the Protestants persecuted Catholics.

Under Mary I, the Catholics persecuted the Protestants.

Under Elizabeth I Protestants persecuted Catholics.

By the time Dee was 35, he had been

Catholic, Protestant, Catholic, and then Protestant again.

He saw this infighting as futile, and he travailed ardently to come up with a solution.

Henry VIII	Edward VI	Mary I	Elizabeth I
Catholic	Protestant	Catholic	Protestant
1542 Dee studied in Cambridge, England	1547 Dee studied at the Louvain, in the Netherlands, then returned to tutor the English Courtiers	1553 Dee thrown in prison, then becomes a Catholic Chaplain under Bishop Bonner	1558 Dee writes his mathematical works, and becomes "the Queen's philosopher"



John Dee was instrumental (legally, politically, navigationally, and cartographically) in orchestrating this new colony where the English Protestants and English Catholics could each worship as they pleased. This new city, RODE (on the Dee River) was itself to be a “Union of Opposites.”

It was to be the seed for other colonies up and down the coast, and eventually inland, across the vast continent.

RODE was to be a place of complete religious toleration. The people of this Utopia could believe whatever they wanted, and would be free to speak their minds.

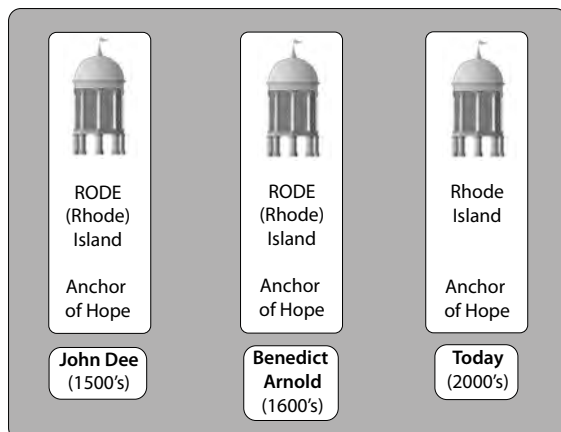
Not only does the building still exist, but the concept it symbolizes lives on

The men who actually constructed the Tower knew they were planting an important seed. They were aware of the potent symbolism of Dee’s Tower.

Benedict Arnold also was aware of the symbolism of the Tower. He knew all about Dee’s colonization effort that had taken place a scant 43 years earlier (the time between 1583 and 1636). Benedict knew about the camera obscura rooms (as can be deduced from his personal mark inscribed in the first Governor’s chair). Benedict knew that the Tower symbolized freedom of thought and the Union of opposing viewpoints. Benedict (and his comrades) insisted that this tolerance be woven into the fabric of their new colony.

The best way to carry forward what Elizabethan Dee had begun was to use the same name that Dee chose for the colony: Rhode Island. They also adopted Dee’s symbol for the colonization effort: the Anchor of Hope.

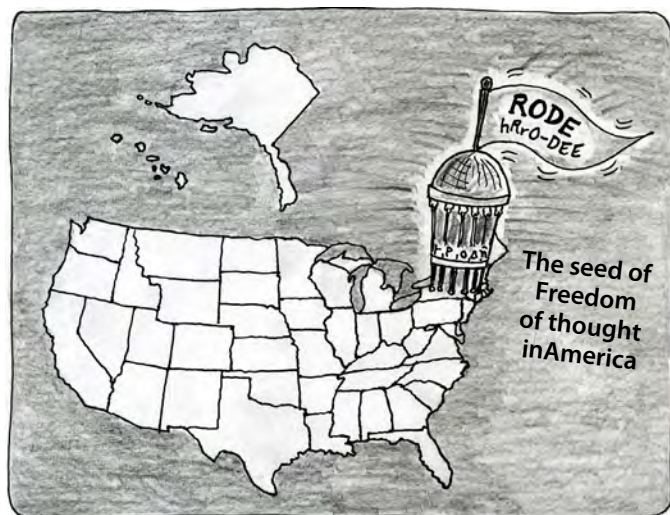
The tradition of tolerance planted by John Dee gained momentum under Benedict Arnold and the early leaders of Rhode Island. This state might have been the smallest, but it was the most religiously tolerant of all the 13 original colonies. Religious sects of all sorts were welcomed in the City by the Sea. In the late 1700’s, Rhode Island leaders insisted that the Bill of Rights be amended before they would agree to ratify the US Constitution.



Even today, dozens of churches, synagogues, and places of worship can be found all throughout Newport and Rhode Island.

The name of the state is still Rhode Island. And state symbol is still the Anchor of Hope.

And the John Dee Tower of 1583 still stands in Touro Park, still silently expressing the Union of Opposites.



Furthermore, as the Tower was the first English building in America, and as it was the 13 original British colonies that formed the United States of America, the Tower represents the Union of Opposites which is the basis of the United States government—one of the most respected democracies in the history of the world.

The Tower represents the concepts of liberty and freedom – all men are created equal and have certain inalienable rights. United States of America is a Union of Opposites.

From this acorn of a Tower sprouted the sturdy oak tree of America. Dee would be pleased.

Moreover, the Tower is important on a global scale.

John Dee coined the term the British Empire. He convinced Queen Elizabeth that she had a legal right to all of North America north of Florida. He chose what is now called “Nar-ragansett Bay” as the site of the first Elizabethan colony. And he named it after himself: the Dee River (or River of Dee or RODE).

Because Sir Humphrey Gilbert made the mid-ocean decision to land at St. John’s Bay in Newfoundland before heading to the colony at the Dee River, St. John’s rightfully proclaims their city the birthplace of the British Empire.

Dee wanted his Tower of mathematical harmony, his Renaissance Vitruvian temple, his celestial horologium, to be the first English building built in the New World. It was to be the focal point, the city center, timekeeper, and the “greeter” for future settlers—an architectural Statue of Liberty.

This was to be the birthplace of the British Empire, which Dee envisioned would spread along the East Coast of America, and eventually span the Northern Hemisphere.

And this “seed” was to have sprouted in 1583, at the beginning of the New Time, the new “Elizabethan Calendar” when “civil year” was to be realigned with “heaven.”

Dee envisioned Elizabeth reigning over a vast Sea Empire whose “Limits” went all the way to Japan and China in the Pacific.

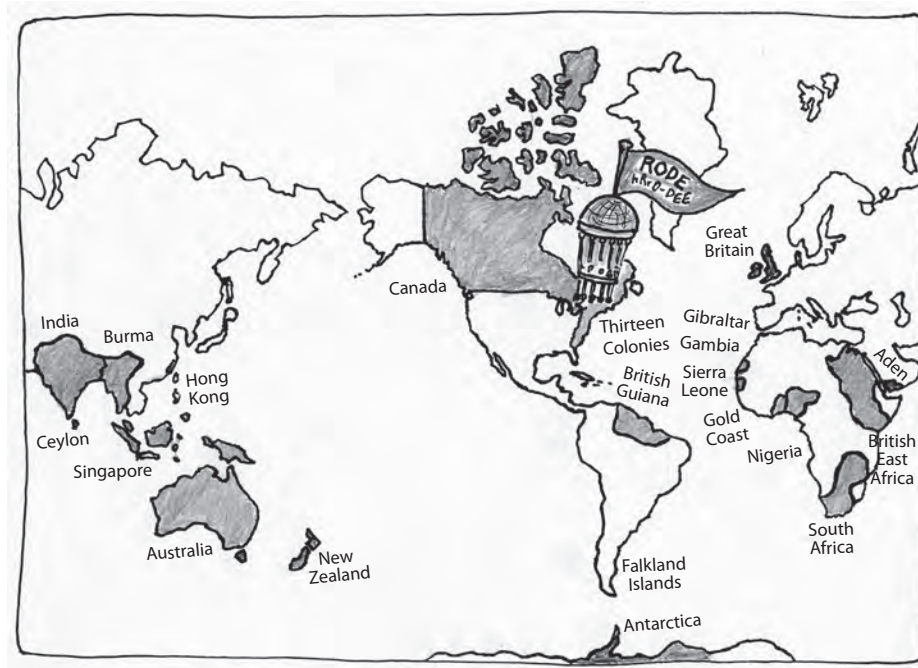


Dee envisioned the British Empire extending across the Northern Hemisphere

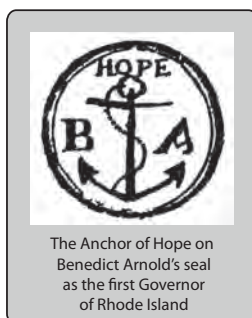
Granted, the new colony at the Dee River never took root, the Archbishop of Canterbury vetoed the Calendar Reform, and the Elizabethans never opened trade routes with China. But, the John Dee Tower of 1583 **did** actually get constructed, and over the next few centuries, the British Empire **did** grow to be the largest empire the world has ever known.

At its height, the British Empire covered one quarter of all the land mass of earth and one quarter of the earth's population.

At various times there were colonies on every continent—Australia, Asia, Africa, Europe, North America, South America, and even Antarctica.



The John Dee Tower of 1583 was the first building in the British Empire, which later grew to include all these colonies.



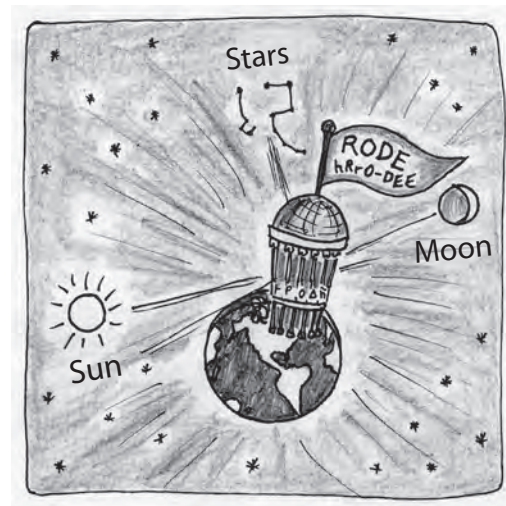
As Benedict Arnold (who claimed the tower for himself) adopted the same name (RODE) and the same symbol (Anchor of Hope) of the Elizabethan venture, he saw his 1600's colony as an extension of the Elizabethan effort of the 1500's.

Thus, Dee's "seed" of the British Empire **did** actually sprout in what is now Touro Park, Newport, Rhode Island, at the mouth of the Dee River.

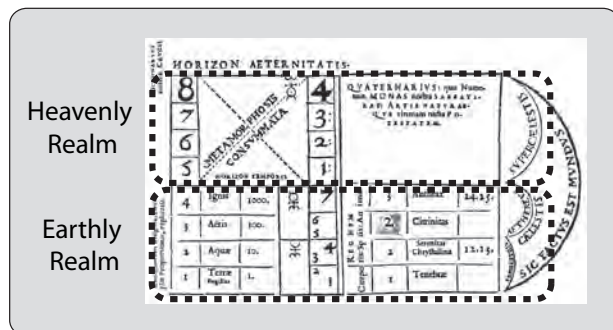
The John Dee Tower of 1583 might justifiably be considered the first building of the British Empire. This isn't just a Newport story, or a New England story, or even an American story, or even a British story. It's a global story.

*Dee designed his Tower
to be even beyond global*

And, as there are very few buildings constructed on earth that have windows that align with celestial events of the Sun, the Moon, and the Stars, the John Dee Tower of 1583 might even be seen as connecting earth with the cosmos.

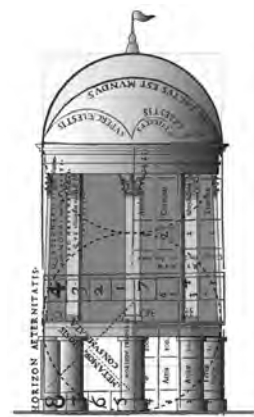


Because of the celestial alignments through the various windows, the John Dee Tower connects the Earthly Realm with Heavenly Realm.



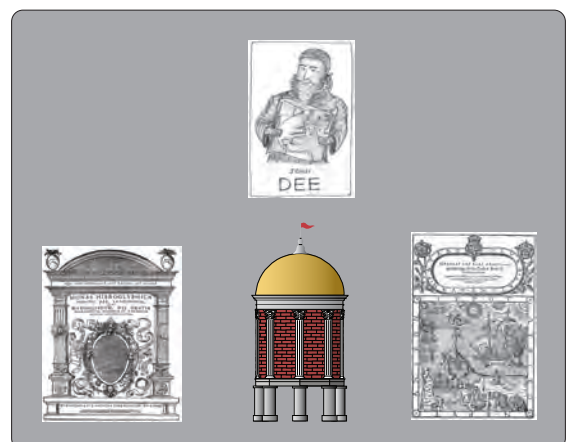
Would Dee have envisioned it this way? Most definitely. Who would be so bold as to construct a chart for the Holy Roman Emperor entitled “Thus the World Was Created.”

The bottom half of the chart is the Earthly Realm and the top part of half of the chart is the Heavenly Realm.



And the chart itself is a blueprint for his Tower.

John Dee ingeniously tied all his projects together with the same mathematical cosmology. He was truly a Renaissance man.



Epilogue

I realize that this story of the Newport Tower sounds like fiction, but it's all based on historical fact. As Lord Byron wrote, and Ripley's "Believe It or Not" confirms, "Truth is always strange. Stranger than fiction."

However, the story of the Newport Tower does have a curious association with the great work of fiction: the 1941 movie *Citizen Kane*, starring Orson Welles.



In the opening scene, the wealthy newspaper magnate Charles Foster Kane is on his deathbed. As he dies, his final word is "Rosebud."

The movie is a series of flashbacks about the great successes and the great losses in Kane's tumultuous life. Only in the final scene do we learn that "Rosebud" was the name of the sled from Kane's childhood—the only time in his life when he was truly happy.

In this history-mystery about the Newport Tower, the name Rhode Island is right in our face from the beginning.

Verrazzano in 1524 wrote that Claudia was "about the size of the Isle of Rhodes."

Clues indicate that "Rode Island" was the name for Aquidneck Island around 1637, chosen by Benedict Arnold, who went on to become the first Governor of Rhode Island in 1663.

*..called by us
Rode Island...*

(1637)

Further clues indicate it was actually coined by John Dee in the mid-1500's as the code name for the first Elizabethan colony. Finally, the Greek letters spelling "Rhode" are found in the stone-and-mortar of the the Tower, tying all the clues together.



The curious parallel here is not that *Citizen Kane* and the story of the Newport Tower both revolve around a one-word clue. The uncanny thing is that the clue is virtually the exact same word!

Rosebud is simply a "rose" that is not yet blossomed. And the word "Rhode," in Greek, means "rose."

Both John Dee and Orson Wells probably chose “rose” because it’s a colorful, yet generic thing that has many connotations: red, fragrant, beautiful, and love. Brides, leading actresses and beauty queens, and Valentine sweethearts receive bouquets of roses.

The petals and rose hips (fruit at the base of the flower) are edible and have been used in medicines since ancient times. The Greeks saw the beauty of the rose and they gave that name to the Isle of Rhodes, a strategically important sunny island in the eastern Mediterranean. The rose was the symbol of Venus, the Roman goddess of love and beauty.

Many European cathedrals have “rose windows” dedicated to the Virgin Mary, as one on her titles is “The Mystical Rose.”

The English used the rose as a Royal Symbol for centuries.

Around 1593, when Dee was 66, William Shakespeare wrote in *Romeo and Juliet*:

*“What’s in a name? That which we call a rose,
By any other name would smell as sweet.”*

The rose is the National Flower of both England and the United States. Every every year before the Rose Bowl there is a Rose Parade featuring rose-covered floats.

With so many connotations, the rose can be right in front of your face in its intended meaning might be invisible. Dee had fun with this idea on the Title page of *General and Rare Memorials*. By writing it in stone–and–mortar Greek letters, he puts it right in front of the eyes of everyone who visits Touro Park. Yet it has invisible to most people for centuries.

ROSE IS THE ROSEBUD OF RHODE ISLAND

THE “SHIBBOLETH” OR “WATCHWORD” FOR THE FIRST ELIZABETHAN COLONY IN AMERICA, AT THE DEE RIVER

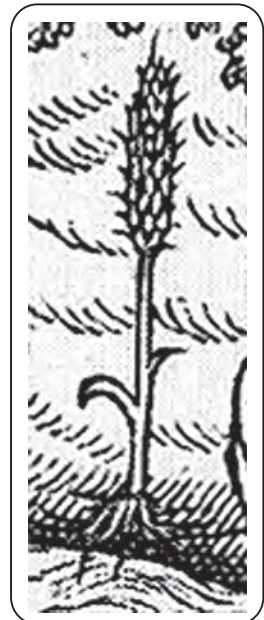


One of the most puzzling details in the Title page illustration for *General and Rare Memorials* is this “upside down plant.”

To examine it, let’s set it upright. It has roots, a stalk with two leaves, and a head containing several dozen seeds that have spiked tips.

It could be any of several species of the grass family: wheat, barley, or rye.

Upper-class Elizabethans ate “Manchet,” a loaf of bread made from wheat. The lower classes ate bread made from barley or rye.



But barley was the most common grain for making beer, which was a staple at Elizabethan meals. In the cities, water wasn’t clean enough to drink, so the average Elizabethan drank about a gallon of beer a day. (But they weren’t tipsy all the time, as their beer had a lower alcohol content than ours does today.)

What is Dee trying to express with this “stalk of grain”?

He may be implying that the colony at the Dee River (which he is depicting in the illustration) will be the “seed” of the new British Empire. Indeed the roots of the plant are right on the shoreline—some roots even extend into the sea.

There are several problems with this solution. First, wheat doesn’t grow on the shoreline. It needs rich soil and fresh water. Second, it’s not really just a “seed” that is shown here. It’s a whole plant.

Given Dee’s devout Christianity, the plant might symbolize “bread,” as in the “bread and wine,” or “body and blood” of the Eucharist. But if this was Dee’s intent, where is the wine represented?



Dee makes a reference to “wheat” on page 64 of the text of *General and Rare Memorials*.

Lauda HIERUSALEM Dominum,
Lauda Deum tuum SION.
Quoniam confortauit Seras Portarum tuarum:
Benedixit filiis tuis in te.
Qui posuit fines tuos PACEM,
Et adipe Frumenti fatiat te. &
Non fecit Taliter omni Nationi.

He also provides a translation of the prayer:

O Hierusalem, prayfe the Lord:
Prayfe thy God, O Syon.
For, he hath Strengthened the Barres of Thy Gates,
And hath blessed thy Children within thee:
He hath made all thy Borders PEACE:
And with the good Nutriment of wheat,
doth satiffy thee. &
He hath not done thus, to euery Nation, els :
Prayfe we all, the Lord therefore.
Amen.

Dee’s term, “Nutriment of wheat” suggests a bounty or an abundant harvest that would sustain the nation. But the grain from the single plant shown here won’t even make a loaf of bread, never mind feed a realm.

Only after decoding many of the other clues on the Title page was able to understand what Dee means by this inverted plant. And, strange as it may seem, it’s actually an “ear of corn” which expresses Dee’s code word: RODE.

Let me explain.

An “ear of corn”

To modern day Americans, an “ear of corn” means that sweet, golden colored, butter-slathered, summertime treat. But what we call corn is actually maize, a plant grown for centuries by North American Indians. In the 1500’s, the only maize plants in Europe were the few specimens that had been brought back by explorers. When an Elizabethan used the term “ear of corn,” he was referring to an “ear of wheat,” an “ear of barley” or “an ear of rye.” (OED., corn, p. 559)



Dee was multilingual. How many Title pages or book covers can you think of that have various words written in four languages: English, Latin, Greek, and Hebrew. Dee uses them all:

English: "General and Rare Memorial..." (the words in the Title)

Latin: “PLURA LATENT, QUAM PATENT”

Hebrew: “MYKAL” (Michael) and “YHVH” (Yahweh)

Greek:"Stolos explisMenos TO TES asphaleias phrouriom"

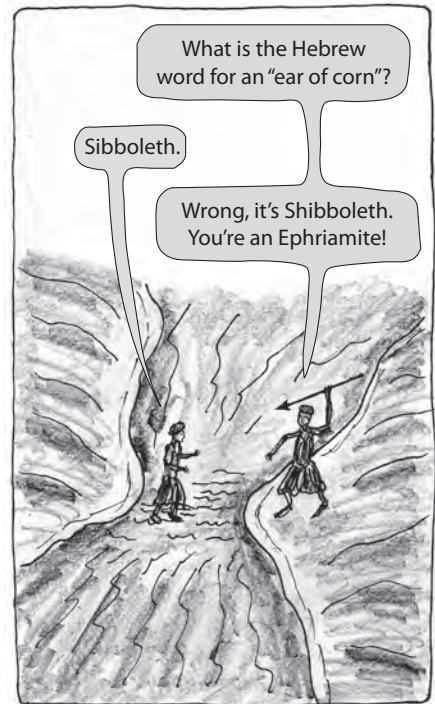
Dee was also well-versed in the Bible. In his library, he had versions of the Old Testament written in the original Hebrew, the Greek Septaugint, St. Jerome's Latin Vulgate, and English versions like John Wycliffe's 1395 translation.

Dee would have known the Hebrew word for “an ear of corn,” which is *shibboleth*. He would not have become aware of this word by happening upon it in a Hebrew dictionary, but because it is of its importance in a well-known verse in the Bible.

The seventh book of the Old Testament, Judges, covers the main events that took place in the Holy Land from 1410 BC to 1050 BC:

In a fierce battle, Jephthath and his Gileadites soundly defeated the neighboring Ephriamites, many of whom fled westward across the River Jordan.

After things had settled down, the refugees he yearned to return east to their homeland. But the Gileadites would not tolerate their return. They set up sentries at the ford, or the shallow crossing place. Anyone who wanted to travel eastward across the river was given a test.



The sentries ask them to pronounce the Hebrew word for an “ear of corn. The Gileadites pronounced it “*SHibboleth*,” but the Ephriamites had no “*SH*” sound in their dialect so they would pronounce it “*Sibboleth*.” Over time, 42,000 Ephriamites failed the test and were slaughtered on the spot.

Here's how these passages are translated in the 1611 King James Bible:

In St. Jerome's 405 A.D. Latin Vulgate translation, the Gileadites pronounce it "*Sebboleth*" and the Ephraimites pronounce it "*Tebboleth*."

Judges 12:5-6

And the Gileadites took the passages of Jordan before the Ephraimites:

and it was [so], that when those Ephraimites which were escaped said, Let me go over; that the men of Gilead said unto him, [Art] thou an Ephraimite?

If he said, Nay; Then said they unto him, Say now Shibboleth: and he said Sibboleth:

for he could not frame to pronounce [it] right. Then they took him, and slew him at the passages of Jordan:

and there fell at that time of the Ephraimites forty and two thousand.

And here is John Wycliffe's 1395 Bible translation into English:

Sei thou therfor 'Sebolech,'
which is interpretid 'an eer of corn'
which answeride 'Thebolech'

The 1535 translation by Miles Coverdale uses the terms, "*Schibboleth*" and *Sibboleth*."

So even though *shibboleth* originally meant "an ear of corn," over time it has come to mean a test word, code word, catchword, password, byword, or countersign. However, these are terms popularized after Dee's time. Dee have probably called it a "watchword."

A little history of the term "Watchword"

The English had used the word watch since around the year 1000. Both "watch" and "wake" derive from the Old English word *woc*, meaning "to remain awake when most people normally are asleep."

The Greeks and Romans divided the night into four "watches."

Around 150 BC, Polybius describes the Roman military's system for distributing new passwords to the various sentinels guarding the city.

Tudor authors like Sir Thomas More, Sir Philip Sidney, and William Shakespeare all use the term "watchword."

Eventually "watch" took on the meaning of a small timepiece carried in the pocket, then one worn on the wrist. (OED, watchword, p.155)

In short, a watchman would keep watch over a community from a watchpost, perhaps even a watchtower, and all the "good guys" would know the watchword.

By depicting an “ear of corn” on the Title page, Dee is expressing that he is visually hiding a “watchword.” And that word is RODE, the code word for the first Elizabethan colony on the the Dee River, the place Dee has chosen to “make a steadfast watch post.”

The
watchword
is RODE

Perhaps Dee even intended RODE to be a shibboleth, which enemies might incorrectly pronounce RODE (like “ROAD”), when the “correct” pronunciation was the ancient Greek pronunciation: “hRrO-DEe,” (of course, emphasizing the **DEe**).

But it’s more likely that Dee was keeping his name for the colony secret until the settlement had become well-fortified and more fully-established. Only then it might it be proudly revealed as the permanent name of the colony. (Curiously, this is exactly eventually happened.)

Confirming clues

If Dee intended his inverted “ear of corn” to mean “shibboleth,” he definitely would have left some confirming clues.

Perhaps one clue is that he inverted it. If it was upright, it might have looked like a normal wheat plant growing in the land. Its inversion suggests that it is more a symbol of something other than just a decorative plant.

In the *Monas Hieroglyphica*, Dee devotes an entire Theorem (Theorem 21) to explaining the virtues of the inverted Monas symbol. In Dee’s “Union of Opposites” way of perceiving the world, “upright” and “inverted” are basically two sides of the same coin.



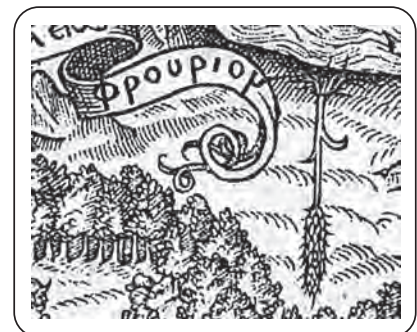
If you look closely, the gentleman in the small boat crossing the Dee River provides another confirming clue. He appears to be using a pole instead of an oar, suggesting that he is crossing a shallow part of the river. (If he was rowing, he realistically should have two oars, and be facing in the opposite direction.)

In addition, the two shorelines of the river bulge towards each other at the place where he is crossing. (Perhaps the “man with the outstretched arm” is asking the visitor for the “watchword” RODE, which echoes across the illustration in so many loud, yet cryptic and silent ways.)

But the best confirming clue is in the Greek letter which is nearest to the “ear of corn.” It’s the Greek letter mu (or “m”), the last letter in Dee’s word “*phrouriom*.”

Phrouriom, meaning “watch post” is also the last word in Dee’s plea “Send forth a sailing expedition to make a steadfast watch post.”

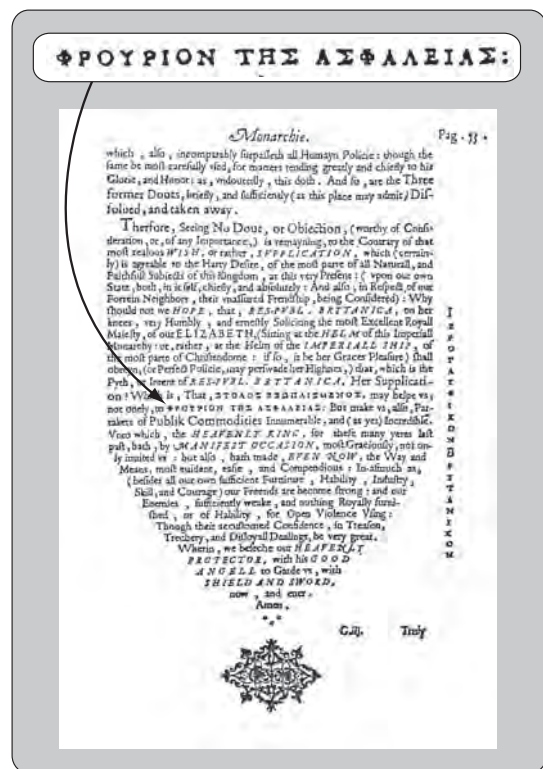
But there is something unusual about Dee’s spelling of “*phrouriom*.” In every Greek dictionary that I have consulted, this word ends with an “n” (*phrourion*) not with an “m” (*phouriom*).



Curiously, in the text of *General and Rare Memorials*, Dee even spells the word correctly within “n,” (*phourion*).

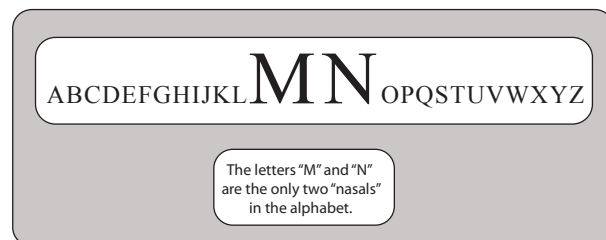
To someone who doesn’t read Greek, the difference between “*phourion*” and “*phourion*” might not seem significant. But it would be as strange as spelling the English word “idiom” as “idion.”

This is a technique that Dee has employed in his other works: He makes an “intentional error” in order to hide a clue.



And Dee plays this little game with very special letters. To most people the letters M and N might seem just like two of the 26 letters of the alphabet. But to grammarians who study the history of letters, M and N are quite closely related. And I’m not just talking about being neighbors in the middle of the alphabet.

The letters M and N are the only two “nasals” the alphabet. They are the only two letters that use the nose as a sound box.



When you say “M,” your mouth is totally shut. The air and sound comes out of your nose. [Hold your nose and try to say “M,” and you’ll see what I mean]

To pronounce the sound “N,” your mouth may be open, but your tongue blocks all air from escaping, forcing it up into your vibrating nasal cavity and out your nose. [Again, try holding your nose and you’ll have to strain to make an “N” sound.]



In his book *Letter Perfect*, David Sacks notes how some letters have been “paired off” since Roman times, “letters like C and G, B and P, and S and Z.”

But he adds, “Two letters could hardly be closer than N and M, fraternal twins in shape, name, sound and position... Basically, N is three quarters M, and the two letters have had this sort of visual kinship since at least Phoenician times 3000 years ago.”

(David Sacks, *Letter Perfect*; NY, Broadway books, Books; 2003, p. 240–241)

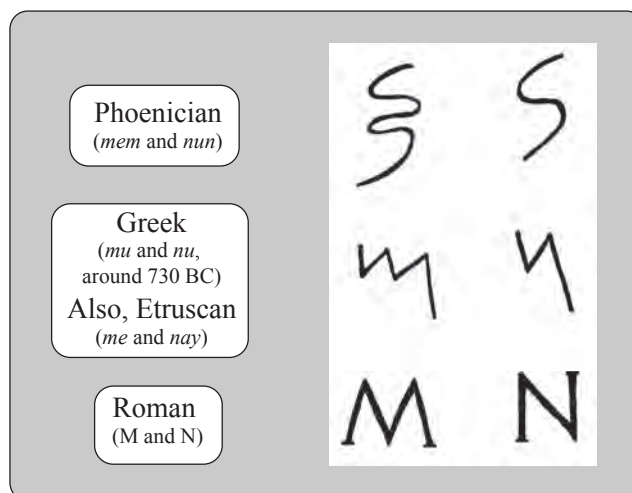
To the Phoenicians, M and N were the letters *mem* (water) and *nun* (fish).

The Greeks borrowed them for their M (pronounced *mu*) and N (pronounced *nu*).

Then the Etruscans borrowed them from the Greeks for their *me* (may) and *ne* (nay).

Then the Romans borrowed them from the Etruscans. In early Latin, M was probably pronounced “emmay” and the N, “ennay.”

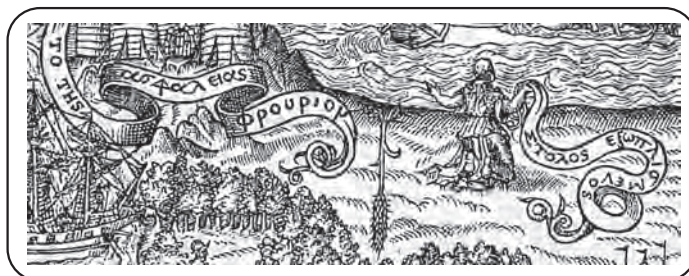
(Sacks, *Letter Perfect*, p.242-3, illustration after Sacks, p 229-245)



A summary of Dee's “intentional mistake”

To summarize, there are several ways this phrouriom/phrourion “intentional mistake” acts as a clue:

- 1 This mistake involves the last letter of the last word of Dee's plea to the Queen, “Send forth a sailing expedition to make a steadfast watch post.”
- 2 In the illustration, it is the closest letter to the “ear of corn,” or the *shibboleth*.



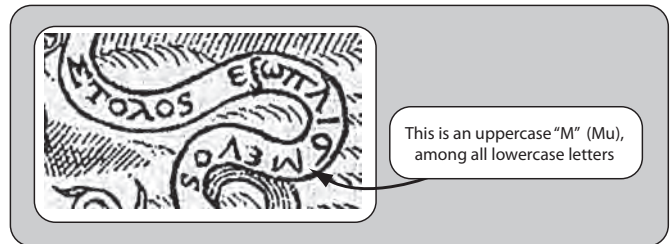
- 3 The M and the N have been perhaps the two most closely allied letters in various alphabets for over 3000 years.

I'm not suggesting that “*phrouriom*” (or *phrourion*) is Dee's code word. Dee is simply employing this M/N switcheroo in phrouriom as a reference to the Sh/S switcheroo in the *shibboleth* “ear of wheat” drawn right next to it.



4 As explained elsewhere, the only other Greek letter “M” (Mu) in Dee’s “plea on the flowing ribbons” should logically be lowercase like its neighboring letters. But it is uppercase. Dee seems to be hinting that “something’s up” with both the M’s in his sentence.

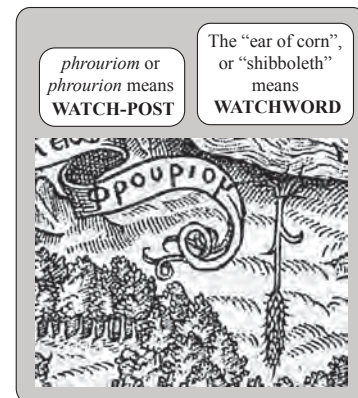
(The Σ in the word Στολος or Stolos is also capitalized, perhaps because it is the beginning word of Dee’s “plea,” but maybe because resembles an M turned 90 degrees).



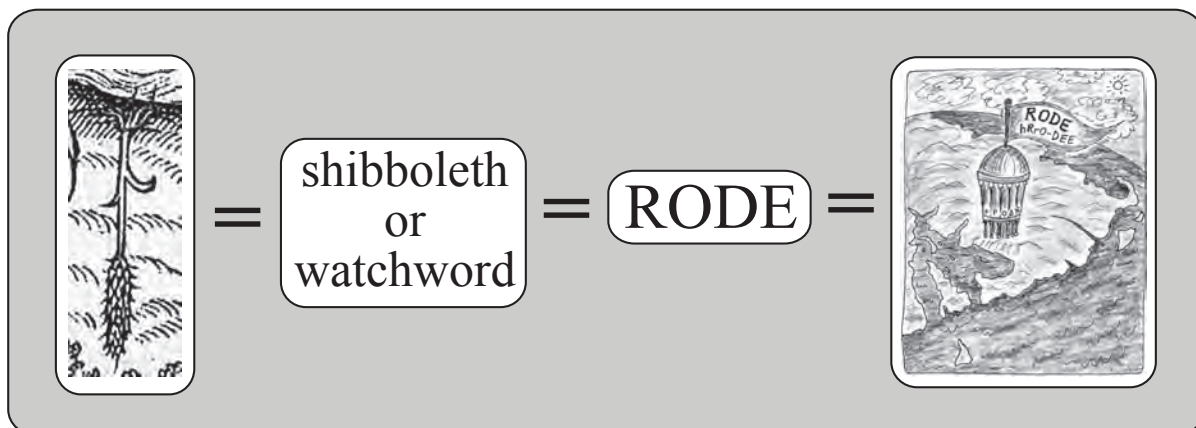
5 Dee has inverted the “ear of corn” to make it appear more like a symbol. In the *Monas Hieroglyphica*, Dee uses the upright Monas symbol and the inverted Monas symbol as an expression of the Union of Opposites. A *shibboleth* is a watchword that acts as a “sorting filter” between two opposites, like the Gileadites and the Ephriamites.



6 The word *phrouriom* (or *phrourion*) means “**watch post**,” and the “ear of corn” or *shibboleth* means “**watchword**.”



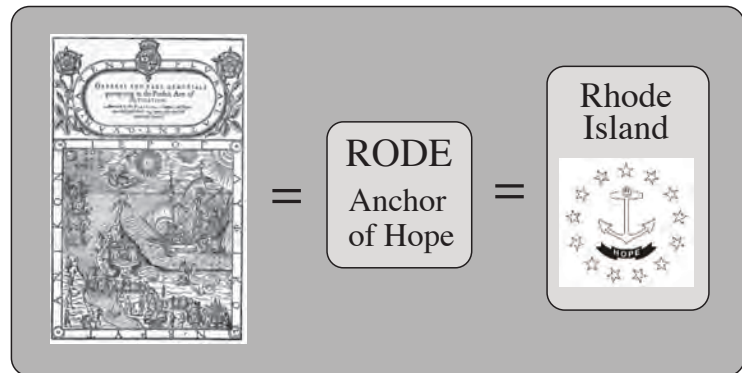
7 And that **watch post** was to be the **watch tower** built as the first building in the new colony on the river Dee, whose **watchword** was RODE.



8 Let's go a step further and connect all the links. If you are a modern-day Rhode Islander looking at Dee's 1577 drawing of an upside down "ear of corn," you might very easily see the name of your state:

Dee's "ear of corn" represents the Elizabethan watchword RODE, later adopted by the early Colonial leaders in the 1630's as the name of Aquidneck Island, and then made part of the state name in 1663. And RODE remains in the state name today.

Furthermore, Dee is hiding another code word in the illustration. Actually it's more of a code phrase or a code symbol: Anchor of Hope. Thus, looking at Dee's "ear of corn" we might also see the current day symbol and motto for the state of Rhode Island.

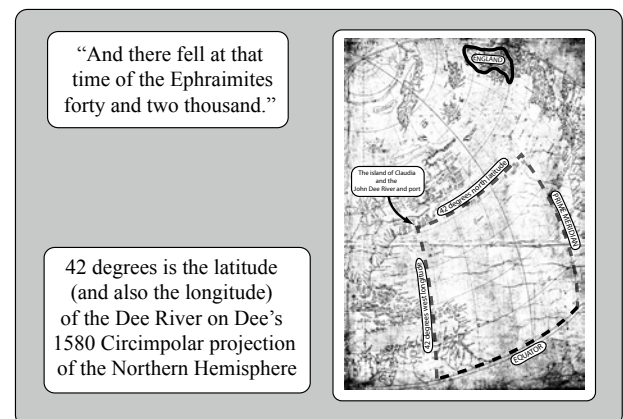


Yet another confirming clue: 42 thousand

Dee managed to work in another confirming clue that all this "watchword business" is what he had in mind.

Recall the final line of Judges 12:6, "and there fell at that time of the Ephraimites forty and two thousand." This 42,000 is a curious echo of the latitude of the Dee River, which Dee says is "about 42 degrees."

[And it is also corresponds with the longitude of the Dee River, 42 degrees west of Dee's prime meridian that runs vertically through the Azores]



Michael is Angel number 42



"Send forth a sailing expedition...
to make a steadfast watch-post."

In the illustration, the number 42 is also expressed by the Archangel Michael, who is Angel number 42 in the 72 "Names of the Angels."

Some famous shibboleths

The idea of a *shibboleth* or watchword is not just a Biblical story. These “identifying code words” have been used in battles throughout the centuries. In London, during Tyler’s rebellion of 1381, the English detected out the Dutch infiltrators who used the expression “cheese and bread” instead of the British expression “bread and cheese.”

During World War II, at the beginning of the battle of Normandy, if an American soldier shouted out word “Flash,” the proper response was “Thunder,” then the first man would reply “Welcome.” The Germans soon caught on to the Flash part, but when they replied Welcome, it sounded like “Velcome” and gave away their true identity.

In World War II, on the Pacific Front, the code words containing the letter “L” like “lol-lapalooza” were *shibboleths*. The Japanese, who pronounced “L’s” as “R’s,” would pronounce it more like lollaparooza. Another *shibboleth* was the name “Lucille Ball.”

[Some *shibboleth* humor: Imagine a herd of advertising copywriters and cows crossing at a ford. They are asked to pronounce “the most frequently used adjective in advertising,” the word “NEW.” The copywriters would get it right every time, but the cows could only say moo.]

Some famous code words

Dee's *shibboleth* or watchword, RODE, is more of a "code name" than a "test your enemy" name. Nowadays, code names or "crypyonyms" are used by the military, govenment agencies, and corporations to protect secret projects from their rivals' eyes and ears.

The secret code name for the American atomic research program in WWII was the Manhattan Project. The Germans called America “Samland,” after Uncle Sam. The Secret Service often refers to the President as POTUS (President of the United States). The computer company Apple code-names their operating systems with members of the cat family like Jaguar, Tiger, Panther, Leopard, and Snow Leopard. (Wikipedia, “code name”)

The modern meaning of shibboleth

The word *shibboleth* is still in most modern dictionaries, but its meaning has broadened. Over time, *shibboleth* has come to mean “slogan, motto, nickname” and even “handle.”

And now it doesn't necessarily just mean a "test word" to distinguish two antagonistic groups. A *shibboleth* can be any "in-crowd" word or phrase that distinguishes members of a group from outsiders. A *shibboleth* can be an "inside joke" that others don't "get."

Curiously, Dee's "ear of corn" watchword RODE is an "inside joke" that only well-connected and well-educated Elizabethans would "get." And apparently Benedict Arnold "got it" too.

In short, by putting the inverted “ear of corn” on the Title page, Dee cryptically saying, “Psst! There is a secret watchwod hidden here.”

He even tells us,
 “PLURA LATENT, QUAM PATENT”
 or
 “MORE IS HIDDEN THAN MEETS THE EYE.”

